GLOBAL EDITION

# Financial Accounting

INTERNATIONAL FINANCIAL REPORTING STANDARDS

NINTH EDITION

Walter T. Harrison Jr.
Charles T. Horngren
C. William Thomas
Themin Suwardy

ALWAYS LEARNING

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# FINANCIAL ACCOUNTING

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# International Financial Reporting Standards

*Ninth Edition*

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*Baylor University*

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*Stanford University*

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International Publisher: Laura Dent
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Cover Designer: Jodi Notowitz
Cover image: Denphumi/Shutterstock.com

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*Authorised adaptation from the United States edition, entitled Financial Accounting, 8th Edition, ISBN: 978-0-13-610886-3 by Walter T. Harrison Jr., Charles T. Horngren and C. William (Bill) Thomas, published by Pearson Education, Inc., © 2010.*



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ISBN 13: 978-0-273-77780-9
ISBN 10: 0-273-77780-7

**British Library Cataloguing-in-Publication Data**
A catalogue record for this book is available from the British Library

10 9 8 7 6 5 4 3 2 1
17 16 15 14 13

Typeset in 11/13.5pt ITC Berkeley by 35
Printed and bound by Courier/Kendallville in The United States of America

For our wives,

*Nancy, Joan, Mary Ann, and Febrita*

# About the Authors

**Walter T. Harrison, Jr.** is professor emeritus of accounting at the Hankamer School of Business, Baylor University. He received his BBA from Baylor University, his MS from Oklahoma State University, and his PhD from Michigan State University.

Professor Harrison, recipient of numerous teaching awards from student groups as well as from university administrators, has also taught at Cleveland State Community College, Michigan State University, the University of Texas, and Stanford University.

A member of the American Accounting Association and the American Institute of Certified Public Accountants, Professor Harrison has served as chairman of the Financial Accounting Standards Committee of the American Accounting Association, on the Teaching/Curriculum Development Award Committee, on the Program Advisory Committee for Accounting Education and Teaching, and on the Notable Contributions to Accounting Literature Committee.

Professor Harrison has lectured in several foreign countries and published articles in numerous journals, including *Journal of Accounting Research*, *Journal of Accountancy*, *Journal of Accounting and Public Policy*, *Economic Consequences of Financial Accounting Standards*, *Accounting Horizons*, *Issues in Accounting Education*, and *Journal of Law and Commerce*.

He is co-author of *Financial & Managerial Accounting*, second edition, 2009 and *Accounting*, eighth edition, 2009 (with Charles T. Horngren and M. Suzanne Oliver), published by Pearson Prentice Hall. Professor Harrison has received scholarships, fellowships, and research grants or awards from PricewaterhouseCoopers, Deloitte & Touche, the Ernst & Young Foundation, and the KPMG Foundation.

**Charles T. Horngren** was the Edmund W. Littlefield Professor of Accounting, emeritus, at Stanford University. A graduate of Marquette University, he received his MBA from Harvard University and his PhD from the University of Chicago. He also received honorary doctorates from Marquette University and DePaul University.

A certified public accountant, Horngren served on the Accounting Principles Board, the Financial Accounting Standards Board Advisory Council, and the Council of the American Institute of Certified Public Accountants and served as a trustee of the Financial Accounting Foundation, which oversees the Financial Accounting Standards Board and the Government Accounting Standards Board.

Horngren is a member of the Accounting Hall of Fame.

Horngren served the American Accounting Association as its president and as director of research. He received the association's first annual Outstanding Accounting Educator Award. He also received its Lifetime Contribution to Management Accounting Award.

The California Certified Public Accountants Foundation gave Horngren its Faculty Excellence Award and its Distinguished Professor Award. He is the first person to have received both awards.

The American Institute of Certified Public Accountants presented him with its first Outstanding Educator Award.

He was also named Accountant of the Year, Education, by the national professional accounting fraternity, Beta Alpha Psi.

Professor Horngren was a member of the Institute of Management Accountants, where he received its Distinguished Service Award. He was a member of the institute's Board of Regents, which administers the Certified Management Accountant examinations.

Horngren authored several other accounting books published by Pearson: *Cost Accounting: A Managerial Emphasis*; *Introduction to Financial Accounting*; *Accounting*; and *Introduction to Management Accounting*.

He was also the Consulting Editor for the Charles T. Horngren Series in Accounting.

**Charles William (Bill) Thomas** is the KPMG/Thomas L. Holton Chair, the J. E. Bush Professor of Accounting, and a Master Teacher at Baylor University. A Baylor University alumnus, he received both his BBA and MBA there and went on to earn his PhD from The University of Texas at Austin.

With primary interests in the areas of financial accounting and auditing, Bill Thomas has served as the J.E. Bush Professor of Accounting since 1995 and the KPMG/Thomas L. Holton Chair since 2006. He has been a member of the faculty of the Accounting and Business Law Department of the Hankamer School of Business since 1971, and served as chair of the department from 1983 until 1995. He was recognized as an Outstanding Faculty Member of Baylor University in 1984 and Distinguished Professor for the Hankamer School of Business in 2002. Dr. Thomas has received several awards for outstanding teaching, including the Outstanding Professor in the Executive MBA Programs in 2001, 2002, and 2006. In 2004, he received the designation as Master Teacher, an honor that has only been bestowed on 21 persons since the University's inception in 1845.

Thomas is the author of textbooks in auditing and financial accounting, as well as many articles in auditing, financial accounting and reporting, taxation, ethics and accounting education. His scholarly work focuses on the subject of fraud prevention and detection, as well as ethical issues among accountants in public practice. His most recent publication of national prominence is "The Rise and Fall of the Enron Empire" which appeared in the April 2002 *Journal of Accountancy*, and which was selected by Encyclopedia Britannica for inclusion in its *Annals of American History*. He presently serves as both technical and accounting and auditing editor of *Today's CPA*, the journal of the Texas Society of Certified Public Accountants, with a circulation of approximately 28,000.

Thomas is a certified public accountant in Texas. Prior to becoming a professor, Thomas was a practicing accountant with the firms of KPMG, LLP, and BDO Seidman, LLP. He is a member of the American Accounting Association, the American Institute of Certified Public Accountants, and the Texas Society of Certified Public Accountants.

**Themin Suwardy** is the Associate Dean (Curriculum and Teaching) and MPA Programme Director at the School of Accountancy, Singapore Management University. Prior to joining academia, Suwardy was an auditor with KPMG Peat Marwick. He graduated with a Bachelor of Business (Accountancy) (Honours) and Bachelor of Computing (Information System) and a PhD from Monash University, Australia.

At SMU, he received numerous school/university awards, most recently the 2010 SMU Distinguished Teacher award and 2009, 2010 and 2012 Best MBA Teacher award. He was also a recipient of the Hewlett-Packard Mobile Technology for Teaching Grant award (2004), the inaugural CEEMAN's Champion Award for Management Teaching (2010) and was accorded Singapore's Public Administration Medal (Bronze) in 2011 for his contribution to education.

Suwardy has been an active member of the accounting profession through his involvement in various professional bodies, including CPA Australia, Institute of Certified Public Accountants of Singapore (ICPAS), Institute of Internal Auditors Singapore (IIAS) and International Association for Accounting Education and Research (IAAER). He served as a Governor of IIAS (2009–2011) and Vice President of IAAER (2009–2013). He is currently the elected President of CPA Australia—Singapore division.

Suwardy's main research areas include financial reporting and analysis, corporate governance, and accounting education with the emphasis on technologically-enabled pedagogy. He is an Associate Editor of *Accounting Education: An International Journal*. His most recent research grant was to inform the International Accounting Education Standards Board (IAESB) on matters related to IES 7—Continuing Professional Development.

Suwardy has consulted and taught for many clients, including KPMG, DFS Galleria, Singapore Airlines, Singapore Institute of Directors, and the National Institute of Education.

# Brief Contents

# Contents

With

*Financial Accounting*

Student Text, Study Resources, and MyAccountingLab students will have more

*"I get it!"*

moments!

# Hallmark Features

*Financial Accounting: IFRS* continues the hallmark features you have come to expect of a leading introductory financial accounting textbook. Written in a manner suitable for both students of accounting and non-accounting majors, *Financial Accounting: IFRS* is the ideal text for a first course in financial accounting with a focus on IFRS.

## Emphasis on Conceptual Framework

The conceptual framework is the best way to understand accounting in an IFRS setting. Accounting produces financial statements that are useful to existing and potential investors, lenders, and other creditors. Students are introduced to the big questions of accounting: why, who, what, when, how, and so forth. The conceptual framework has been updated to include the latest pronouncements, an objective of financial reporting, and qualitative characteristics. Elements of financial statements are defined early in the text. Students see how these elements interact with each other and are reported in the financial statements.

## Integrated Coverage of International Financial Reporting Standards (IFRS)

This text has been substantially rewritten as an IFRS textbook, rather than just add-on material to a US-GAAP textbook. Students and instructors will continue to benefit from the pedagogical approaches of an established accounting text.

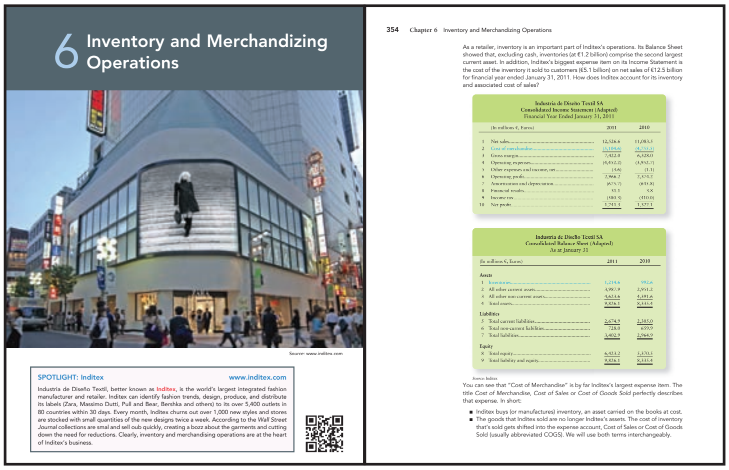
> **A CLOSER LOOK**
>
> The current *Conceptual Framework* is still a "work in progress" and is very much subject to further developments. Whilst a number of chapters are now completed, there are still certain sections that are either uncompleted or temporarily carried over from its older edition. This revision project is undertaken jointly by the IASB and FASB. Refer to www.ifrs.org/Current+Projects/IASB+Projects/Conceptual+Framework/Conceptual+Framework.htm for additional information on the various stages of the project.

The text now starts with a more detailed coverage of the accounting framework and how financial statements provide information for decision making. Selected references are made to IFRSs to get students accustomed to the way principles and rules are expressed in accounting standards. More technical details and relevant accounting updates are provided in 'A Closer Look' boxes for students and instructors. A list of resources related to IFRSs is available in Appendix D.

## Learn from over 50 real-world companies' financial statements and excerpts

Each chapter starts with excerpts of financial statements of real companies around the world, all prepared under IFRS. Students are exposed to theories and concepts of accounting they learn are reflected in financial statements, which are used for decision making.

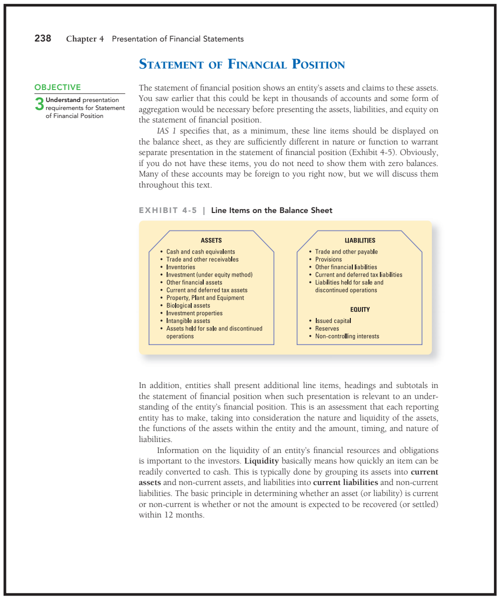
Where relevant, more in-depth excerpts of notes to the accounts are also provided to further illustrate actual financial reporting practices.



## Accounting Cycle: from start to finish

*Financial Accounting: IFRS* helps students "nail" the accounting cycle up front in order to increase success and retention later on. The concepts and mechanics students learn in the critical accounting cycle chapters are used consistently and repetitively—and with clear-cut details and explanations—throughout the remainder of the text.

Chapter 1 introduces the accounting cycle with a brief financial statement overview, using the financial statements of Samsung. This first exposure to accounting explores financial statements in depth, familiarizes students with using real business data, and points out basic relationships between the different types of statements.



238 Chapter 4 Presentation of Financial Statements

### Statement of Financial Position

OBJECTIVE

3 **Understand** presentation requirements for Statement of Financial Position

The statement of financial position shows an entity's assets and claims to these assets. You saw earlier that this could be kept in thousands of accounts and some form of aggregation would be necessary before presenting the assets, liabilities, and equity on the statement of financial position.

*IAS 1* specifies that, as a minimum, these line items should be displayed on the balance sheet, as they are sufficiently different in nature or function to warrant separate presentation in the statement of financial position (Exhibit 4-5). Obviously, if you do not have these items, you do not need to show them with zero balances. Many of these accounts may be foreign to you right now, but we will discuss them throughout this text.

EXHIBIT 4-5 | **Line Items on the Balance Sheet**



In addition, entities shall present additional line items, headings and subtotals in the statement of financial position when such presentation is relevant to an understanding of the entity's financial position. This is an assessment that each reporting entity has to make, taking into consideration the nature and liquidity of the assets, the functions of the assets within the entity and the amount, timing, and nature of liabilities.

Information on the liquidity of an entity's financial resources and obligations is important to the investors. **Liquidity** basically means how quickly an item can be readily converted to cash. This is typically done by grouping its assets into **current assets** and non-current assets, and liabilities into **current liabilities** and non-current liabilities. The basic principle in determining whether an asset (or liability) is current or non-current is whether or not the amount is expected to be recovered (or settled) within 12 months.

Chapter 2 continues the discussion of the accounting cycle by explaining how to analyze and record basic transactions, and builds in repetition to ensure that students understand the fundamentals when they prepare the trial balance.

Chapter 3 concludes the discussion of the accounting cycle with adjusting and closing entries, and preparation of the related trial balances to close the loop for students.

Chapter 4 is a brand new chapter on the presentation of financial statements. Students are guided through how businesses communicate their financial results to their stakeholders through an annual report.

## Consistent Application and Reinforcement Strategy that Maximizes Understanding

Throughout the text, the core concepts and mechanics are brought together using consistent language, format, and formulas. Students also receive thorough explanations and details that show the meaning behind each concept and how to do the computation following it, providing an in-depth understanding of the fundamentals.

Whether it's the first transaction or the last, students perform the analysis in the same way, thus reinforcing their understanding, reducing the level of confusion and frustration, and helping them capture those "I get it!" moments.

# Hallmark Features (continued)

**Summary Problems and Solutions** appear in both the middle and end-of-chapter sections, providing students with additional guided learning. By presenting these problems and solutions twice in one chapter, this text breaks up the information, enabling students to absorb and master the material in more manageable pieces.

### END-OF-CHAPTER SUMMARY PROBLEM

The Cessna Aircraft Company has an outstanding issue of 8% convertible bonds that mature in 20X8. Suppose the bonds are issued on October 1, 20X0, and pay interest each April 1 and October 1.

*Requirements*

1. Complete the following effective-interest amortization table through October 1, 20X2.
   **Bond Data**
   Maturity (face) value—$100,000
   Stated interest rate—8%
   Interest paid—4% semi-annually, $4,000 ($100,000 × 0.08 × 6/12)

### MID-CHAPTER SUMMARY PROBLEM

Assume that Estée Lauder faced the following liability situations at June 30, 20X1, the end of the company's fiscal year. Show how Estée Lauder would report these liabilities on its balance sheet at June 30, 20X1.

**a.** Salary expense for the last payroll period of the year was $900,000. Of this amount, employees' withheld income tax totaled $88,000 and employer's payroll taxes were $61,000. These payroll amounts will be paid in early July.
**b.** In fiscal year 20X1, management estimates new warranty obligation of $8 million arising from sales in 20X1. One year ago, at June 30, 20X0, provision for warranty stood at $3 million. Warranty payments were $9 million during the year ended June 30, 20X1.
**c.** The company pays royalties on its purchased trademarks. Royalties for the trademarks are equal to a percentage of Estée Lauder's sales. Assume that sales in 20X1 were $400 million and were subject to a royalty rate of 3%. At June 30, 20X1, Estée Lauder owes two-thirds of the year's royalty, to be paid in July.
**d.** Long-term debt totals $100 million and is payable in annual installments of $10 million each. The interest rate on the debt is 7%, and the interest is paid each December 31.

**Answer**

| | | |
|---|---|---|
| Liabilities at June 30, 20X1: | | |
| a. Current liabilities: | | |
| Salary payable ($900,000 – $88,000 – $61,000)................. | $ | 751,000 |
| Employee income tax payable ............................................ | | 88,000 |
| Employer payroll tax payable............................................ | | 61,000 |
| b. Current liabilities: | | |

**Stop & Think** sections relate concepts to everyday life so that students can see the immediate relevance.

### STOP & THINK . . .

Suppose Mustafa Confectionery had beginning allowance of SAR (Saudi Arabia Riyal) 600,000. During the year, it wrote off SAR 200,000 of receivables. At the end of the year, an assessment of its receivables shows that credit quality has improved, and accordingly, the required ending balance for allowance for uncollectible account is SAR 300,000. What is the bad debt expense for the year?

*Answer:*

The current balance of the allowance account after receivable write-offs is SAR 400,000. Since the required ending allowance is SAR 300,000, i.e. lower than the current allowance, Mustafa will record a "negative" expense of SAR 100,000. This negative expense will result in an increase in profit for the year.

**Demo Docs** in the accounting cycle chapters offer fully worked-through problems that weave computation and concepts together in a step-by-step format, helping students understand the "how" and "why." Additional Demo Docs are available in the study guide and in MyAccountingLab.

### Demo Doc

**The Accounting Equation and Financial Statement Preparation**

*To make sure you understand this material, work through the following demonstration "Demo Doc" with detailed comments to help you see the concept within the framework of a worked-through problem.*

*Learning Objectives 3, 4, 5*

David Richardson is the only shareholder of DR Painting, Inc., a painting business near a historical housing district. At March 31, 20X6, DR Painting had the following information:

| | |
|---|---|
| Cash | $27,300 |
| Accounts receivable | 1,400 |
| Supplies | 1,800 |
| Truck | 20,000 |
| Accounts payable | 1,000 |
| Share capital | 40,000 |
| Retained earnings (March 1) | 5,000 |
| Retained earnings (March 31) | ? |
| Dividends | 1,500 |
| Service revenue | 7,000 |
| Salary expense | 1,000 |

**Requirements**

1. Prepare the income statement (the first part of statement of comprehensive income) and statement of changes in equity for the month of March 20X6 and the balance sheet of the business at March 31, 20X6. Use Exhibits 1-8, 1-9, and 1-10 in the text as a guide.
2. Write the accounting equation of the business.

**Decision Guidelines** in the end-of-chapter material summarize the chapter's key terms, concepts, and formulas in the context of business decisions. Not only does this help students read more actively in the question and answer format, but it also reinforces how the accounting information they are learning is used to make decisions in business.

## DECISION GUIDELINES

PPE AND RELATED EXPENSES

Dairy Farm International Holdings, like all other companies, must make some decisions about how to account for its property, plant and equipment (PPE) and intangibles. Let's review some of these decisions.

| Decision | Guidelines |
|---|---|
| Capitalize or expense a cost? | General rule: Capitalize all costs that provide future benefit for the business such as a new package-handling system. Expense all costs that provide no future benefit, such as ordinary repairs to a delivery vehicle. |
| Capitalize or expense: | |
| ■ Cost associated with a new asset? | Capitalize all costs that bring the asset to its intended use, including asset purchase price, transportation charges, and taxes paid to acquire the asset. |
| ■ Cost associated with an existing asset? | Capitalize only those costs that add to the asset's usefulness or to its useful life. Expense all other costs as maintenance or repairs. |
| Which depreciation method to use: | |
| ■ For financial reporting? | Use the method that best matches depreciation expense against the revenues produced by the asset. Most companies use the straight-line method. |
| ■ For income tax? | Use the method that produces the fastest tax deductions. Depending on the applicable fax regulations, a company may be able to apply different depreciation methods for financial reporting and for income-tax purposes. |
| ■ How to account for natural resources? | Capitalize the asset's acquisition cost and all later costs that add to the natural resource's future benefit. Then record depletion expense, as computed by the units-of-production method. |

# Other Features

## Ethics in Accounting

Sound ethical judgment is important for every major financial decision—which is why this text provides consistent ethical reinforcement in every chapter. A decision making model is introduced in Chapter 1 and applied to each of the end-of-chapter cases.

Furthermore, in an age of financial scandals, understanding fraud is a key component of financial accounting. Chapter 5 now includes the concept of fraud, and introduces students to the "fraud triangle" (pressure, opportunity, and rationalization) and a discussion of internal controls as the primary way companies prevent fraud.

For example, "Cooking the Books" sections highlight real fraud cases in relevant sections throughout the text, giving students real-life business context. Examples include the following:

**COOKING THE BOOKS with Liabilities**

**Crazy Eddie, Inc.**

Accidentally understating liabilities is one thing, but doing it intentionally is quite another. When unethical management decides to cook the books in the area of liabilities, its strategy is to deliberately understate recorded liabilities. This can be done by intentionally under-recording the amount of existing liabilities, or by omitting certain liabilities altogether.

**Crazy Eddie, Inc.** (first discussed in Chapter 6) used multiple tactics to overstate its financial position from 1984 through 1987. In addition to overstating inventory (thus understating cost of goods sold and overstating income), the manage-

## Extended Coverage of Cash Flows and Ratios

The current economy has created a shift in how we view money—specifically, cash. Cash flow is the lifeblood of any business, and its coverage has been increased and highlighted across the chapters so that students can easily see the connections and understand the significance of cash flow information. Similarly, financial ratios are discussed where appropriate in each chapter rather than leaving them to the end of the textbook.

**Reporting Financing Activities on the Statement of Cash Flows**

CASH FLOW

The GSK consolidated balance sheet (p. 574) shows that the company finances 78.5% of its operations with debt. Let's examine GSK's financing activities as reported on its statement of cash flows. Exhibit 9-14 is an excerpt from GSK's consolidated statement of cash flows.

EXHIBIT 9-14 | GSK's Consolidated Statement of Cash Flows

GlaxoSmithKline (GSK) plc
Consolidated Cash Flow Statements (Adapted)
For the year ended December 31

| | (In millions €) | 2011 | 2010 |
|---|---|---|---|
| 1 | Cash flow from operating activities | | |
| 2 | Net profits after tax | 5,458 | 1,853 |
| 3 | Increase/(decrease) in trade payables | 442 | 154 |
| 4 | Increase/(decrease) in other payables | 2 | (179) |

# New to the Ninth Edition

Students and instructors will benefit from a variety of new content and features in the Ninth Global Edition of *Financial Accounting: International Financial Reporting Standards*. To reflect the most recent developments in the economy and in the accounting industry, the following content additions or changes have been made.

Each chapter features **new Company Spotlights** from different countries and industries, which help to broaden students' general knowledge of businesses. Company spotlights featured include Samsung, De Beers, Richemont, BASF, Nestlé, Inditex, Dairy Farm, Vivendi, GlaxoSmithKline, L'Occitane, Royal Philips Electronics and Vodafone. In addition, many chapters feature additional excerpts from other companies such as AirAsia, Singapore Airlines, UK's Royal Mail, Amazon.com, Lenovo, Bossini, Adidas, and many more.

Key terms have also been changed to reflect the more common practices and words used in the international accounting standards. Where relevant, students are shown **examples of financial reporting practices by 170 IFRS companies** around the world, based on a study by the American Institute of Certified Public Accountants (AICPA) in 2011.

**Financial ratio analysis** is introduced from Chapter 5 onwards, with benchmarks to prior years, peer companies and/or industry averages. A new **running case study at the end of each chapter featuring Vodafone** provides students with the opportunity to apply what they have learned in each chapter with a real-life company's financial statements.

A new convention to identify the financial year (e.g. 20X6) has been implemented. Questions, Exercises, and Problems have been updated. All Group B questions are now in € (Euros).

In this edition, we have introduced **QR (Quick Response) codes** to help you navigate to specific websites or web pages. Scan the codes using your mobile devices and your browser will open the appropriate link, with no need to type out long URLs. You may need to download a QR reader app for your mobile device. These are usually available free of charge from your device's app store or market.

The first chapter has been updated to **include the recently pronounced Conceptual Framework for Financial Reporting** by the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board. Changes related to the objective of financial reporting and qualitative characteristics have been reflected. The *Conceptual Framework* sets the foundation for students' understanding of the principle-based approach of International Financial Reporting Standards.

**Chapter 1** helps students see **financial statements as outputs of an accounting system**, on which a variety of users rely on to make their decisions. Appendix D is updated with a table highlighting the IFRS coverage topic by topic and other additional resources for further review of relevant accounting standards.

With the recent changes and events in the economy, educating students on the importance of ethics and ethical decision making is critical. The discussion of **ethics in accounting** has been updated and moved to Chapter 1, placing greater emphasis on the importance of ethics at the very beginning of the text. The Global Edition also introduces an **expanded decision making model** in Chapter 1 and integrates the model throughout the entire text with economic, legal, and ethical dimensions. The **Ethical Cases** in the end-of-chapter material have been rewritten to unify and better integrate coverage on this important topic so that the material is reinforced consistently in every chapter.

**Chapter 4** is a **new chapter on the presentation of financial statements**. It introduces students to how companies use annual reports to communicate with their stakeholders. Students see a variety of annual reports, and are introduced to the general presentation requirements of financial statements. We also discuss the presentation requirements for each financial statement (except for Statement of Cash Flows, which is covered in Chapter 11).

**Chapter 5** is a new streamlined chapter combining the topics of **internal control, cash, and receivables**. In an age of public scandals, **understanding fraud** is a key component of financial accounting. It includes the concept of fraud, and introduces students to the "fraud triangle" (pressure, opportunity, and rationalization) that leads to the discussion of internal controls as the primary way that companies prevent fraud—which has also been updated.

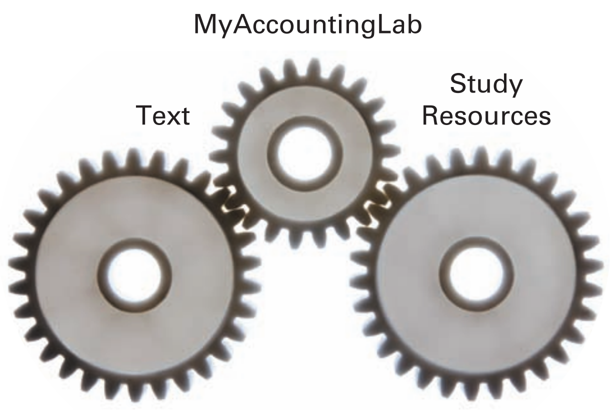
**Chapter 6** has new **additional materials on merchandizing operations**. It also has expanded discussions on IFRS use of cost formulas and net realizable value.

Other changes include:

- **Chapter 7** has been updated to better reflect the alternative measurement option for PPE under IFRS.
- **Chapter 8** now combines the discussions on short-term and long-term investments in one place.
- **Chapter 9** has been updated with more complete discussion about short-term and long-term liabilities.
- **Chapter 10** has been updated with more extracts of financial statements to help students understand equity-related transactions.
- **Chapter 11** now includes additional discussions on cash flow ratios and clarifies the use of "net profit before tax" under indirect method for cash flows from operating activities.
- **Chapter 12** now offers a better taxonomy of financial ratios, including an introduction to case flow-related ratios.

# Students Will "Get It" Anytime, Anywhere

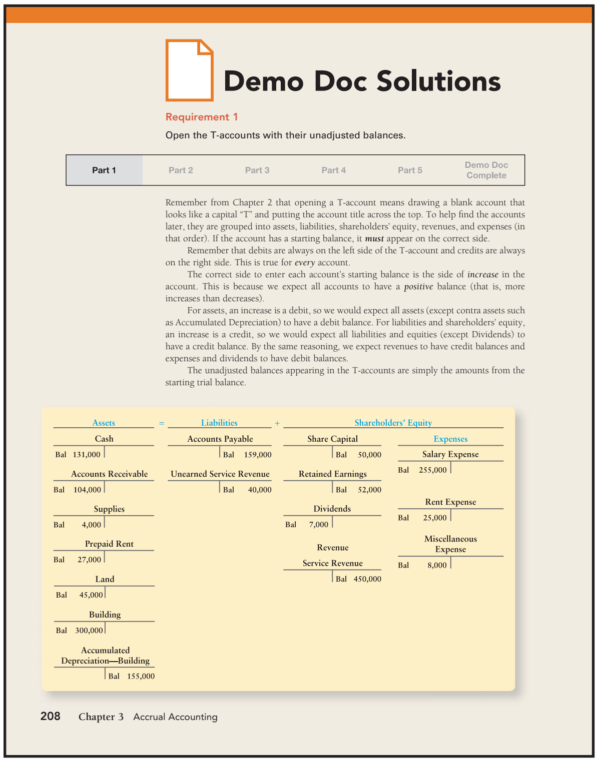
Students understand (or "get it") right after you do a problem in class. Once they leave the classroom, however, students often struggle to complete the homework on their own. This frustration can cause students to quit on the material altogether and fall behind in the course, resulting in an entire class falling behind as the instructor attempts to keep everyone on the same page.




With the *Financial Accounting*, Ninth Global Edition, **Student Learning System**, all the features of the student text, study resources, and online homework system are designed to work together to provide students with the consistency, repetition, and high level of detail that will keep both instructors and students on track, providing more "I get it!" moments inside and outside the classroom.

## Replicating the Classroom Experience with Demo Doc Examples

The Demo Doc examples consist of entire problems, worked through step-by-step, from start to finish, narrated with the kind of omments that instructors would say in class. The Demo Docs are available in the accounting cycle chapters of the text and in the study guide. Demo Docs will aid students when they are trying to solve exercises and problems on their own, duplicating the classroom experience outside of class.



**Demo Doc Solutions**

Requirement 1

Open the T-accounts with their unadjusted balances.

Part 1 | Part 2 | Part 3 | Part 4 | Part 5 | Demo Doc Complete

Remember from Chapter 2 that opening a T-account means drawing a blank account that looks like a capital "T" and putting the account title across the top. To help find the accounts later, they are grouped into assets, liabilities, shareholders' equity, revenues, and expenses (in that order). If the account has a starting balance, it ***must*** appear on the correct side.

Remember that debits are always on the left side of the T-account and credits are always on the right side. This is true for *every* account.

The correct side to enter each account's starting balance is the side of *increase* in the account. This is because we expect all accounts to have a *positive* balance (that is, more increases than decreases).

For assets, an increase is a debit, so we would expect all assets (except contra assets such as Accumulated Depreciation) to have a debit balance. For liabilities and shareholders' equity, an increase is a credit, so we would expect all liabilities and equities (except Dividends) to have a credit balance. By the same reasoning, we expect revenues to have credit balances and expenses and dividends to have debit balances.

The unadjusted balances appearing in the T-accounts are simply the amounts from the starting trial balance.

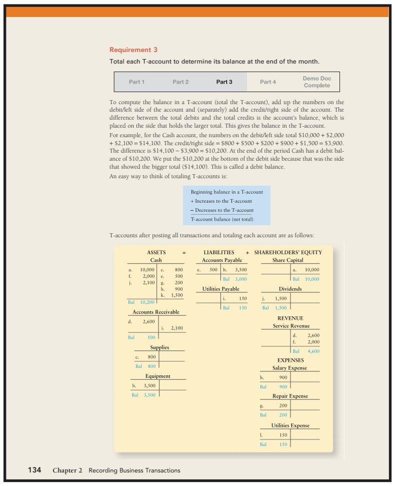
| Account | Debit | Credit |
|---|---|---|
| **Assets** | | |
| Cash | Bal 131,000 | |
| Accounts Receivable | Bal 104,000 | |
| Supplies | Bal 4,000 | |
| Prepaid Rent | Bal 27,000 | |
| Land | Bal 45,000 | |
| Building | Bal 300,000 | |
| Accumulated Depreciation—Building | | Bal 155,000 |
| **Liabilities** | | |
| Accounts Payable | | Bal 159,000 |
| Unearned Service Revenue | | Bal 40,000 |
| **Shareholders' Equity** | | |
| Share Capital | | Bal 50,000 |
| Retained Earnings | | Bal 52,000 |
| Dividends | Bal 7,000 | |
| Revenue: Service Revenue | | Bal 450,000 |
| **Expenses** | | |
| Salary Expense | Bal 255,000 | |
| Rent Expense | Bal 25,000 | |
| Miscellaneous Expense | Bal 8,000 | |

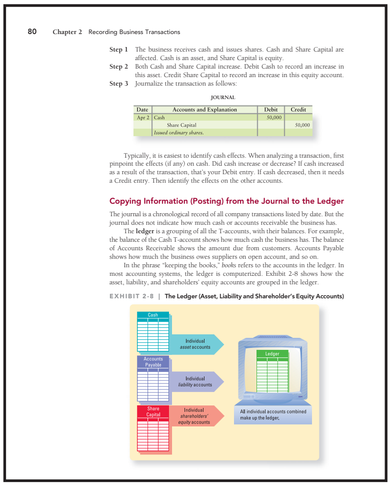
208 Chapter 3 Accrual Accounting

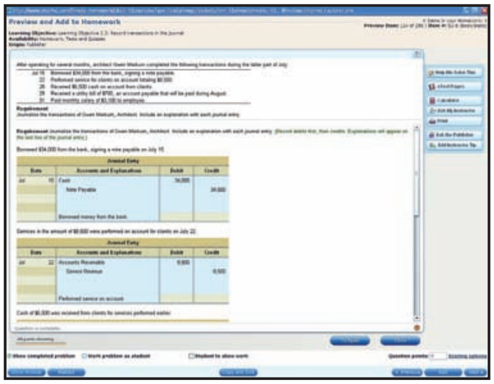
# with the Student Learning System!

## Consistency, Repetition, and a High Level of Detail Throughout the Learning Process

The concepts, materials, and practice problems are presented with clarity and consistency across all mediums—textbook, study resources, and online homework system. No matter which platform students use they will continually experience the same look, feel, and language, minimizing confusion and ensuring clarity.







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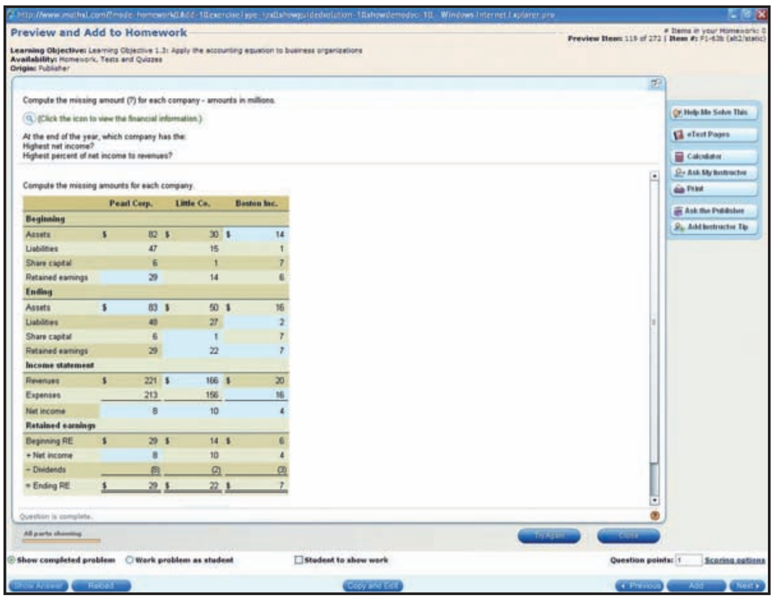

- Work on problems assigned by the instructor that are either exact matches or algorithmic versions of the end-of-chapter material.
- Use the Study Plan for self-assessment and customized study outlines.
- Use the Help Me Solve This for a step-by-step tutorial.
- Open textbook pages to find the material they need to get help on specific problems.
- See how IFRS will impact decisions in accounting.

MyAccountingLab

# Student Resources

### Study Guide with Demo Docs

This chapter-by-chapter learning aid helps students get the maximum benefit from their study time. For each chapter there is an explanation of each Learning Objective; additional Demo Docs; Quick Practice, True/False, and Multiple Choice questions; Quick Exercises; and a Do It Yourself question, all with solutions.

MyAccountingLab

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MyAccountingLab is Web-based tutorial and assessment software for accounting that gives students more "I get it!" moments. MyAccountingLab provides students with a personalized interactive learning environment where they can complete their course assignments with immediate tutorial assistance, learn at their own pace, and measure their progress.

In addition to completing assignments and reviewing tutorial help, students have access to the following resources in MyAccountingLab:

- The Flash-based eText
- Study Guide
- Student PowerPoints
- Flashcards
- IFRS Readings

# Instructor Resources

**The primary goal of the Instructor Resources is to help instructors deliver their course with ease, using any delivery method—traditional, self-paced, or online.**

MyAccountingLab

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**MyAccountingLab** is web-based tutorial and assessment software for accounting that not only gives students more "I get it!" moments, but also provides instructors the flexibility to make technology an integral part of their course. And, because practice makes perfect, **MyAccountingLab** offers exactly the same end-of-chapter material found in the text with algorithmic options that instructors can assign for homework. **MyAccountingLab** also replicates the text's exercises and problems with journal entries and financial statements so that students are familiar and comfortable working with the material.

**Instructor's Manual**

The Instructor's Manual offers course-specific content including a guide to available resources, a road map for using **MyAccountingLab**, as well as content-specific material including chapter overviews, teaching outlines, student summary handouts, lecture outline tips, assignment grids, ten-minute quizzes, and more!

**Instructor Resource Center: www.pearsonglobaleditions.com/harrison**

For your convenience, our instructor supplements are available for download from the textbook's catalog page or your **MyAccountingLab** account. Available resources include the following:

- Solutions Manual containing the fully worked-through and accuracy-checked solutions for every question, exercise, and problem in the text
- Test Item File with TestGen Software providing multiple choice, true/false, and problem-solving questions correlated by Learning Objective and difficulty level
- Instructor's Manual

# Acknowledgments

We have had the help of instructors from across the world who have participated in online surveys, chapter reviews, and focus groups. Their comments and suggestions for both the text and the supplements have been a great help in planning and carrying out revisions, and we thank them for their contributions.

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**Videos:** Beverly Amer, Northern Arizona University; Lanny Nelms, The Landor Group

The authors would like to thank the following faculty members at Baylor University who provided valuable input for improvements in various sections of the eighth edition of this text: Suzanne Abbe, Jane Baldwin, Scott Bryant, Gia Chevis, Carie Ford, DavidHurtt, Becky Jones, and Betsy Willis. The author would like to extend special thanks to Dr. Marty Stuebs, who helped develop the model for ethical decision making introduced in Chapter 1 and used in problems throughout the remainder of the eighth edition.

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# Accounting Careers: Much More Than Counting Things

**What kind of career can you have in accounting? Almost any kind you want. A career in accounting lets you use your analytical skills in a variety of ways, and it brings both monetary and personal rewards.**

Accounting is widely believed to have been documented by Fra Luca Bartolomeo de Pacioli, an Italian mathematician and Franciscan friar in the 16th century. Pacioli was a close friend of Leonardo da Vinci, and collaborated with him on many projects.

Accounting as the profession we know today has its roots in the Industrial Revolution during the 18th and 19th centuries, mostly in England. However, accounting did not attain the stature of other professions such as law, medicine, or engineering until early in the 20th century. Professions are distinguished from trades by the following characteristics: (1) a unifying body of technical literature; (2) standards of competence; (3) codes of professional conduct; and (4) dedication to service to the public.

Today's accountants obtain years of formal education at the college level which, for most, culminates in taking a very rigorous professional exam that qualifies them to hold the designation certified public accountant (CPA) or chartered accountant (CA). There are other professional designations that accountants may obtain as well, each with its own professional exam and set of professional standards. Examples are certified management accountant (CMA), certified internal auditor (CIA), and certified fraud examiner (CFE).

## Where Accountants Work

Where can you work as an accountant? There are four kinds of employers.

### Public Practice

You can work for a public accounting firm, which could be a large international firm or a variety of medium to small-sized firms. Within the CPA firm, you can specialize in areas such as audit, tax, or consulting. In this capacity, you'll be serving as an external accountant to many different clients. At present, the largest six international firms are Deloitte, Ernst & Young, KPMG, PricewaterhouseCoopers, Grant Thornton, and RSM McGladrey. However, there are many other firms with international and national scope of practice. Most CPAs start their career at a large CPA firm. From there, they move on to obtain positions of leadership in the corporate finance world, industry, or just about anywhere there is a demand for persons who like solving complex problems.

### Managerial Accounting

Instead of working for a wide variety of clients, you can work within one corporation or non-profit enterprise. Your role may be to analyze financial information and communicate that information to managers, who use it to plot strategy and make decisions. You may be called upon to help allocate corporate resources or improve financial performance. For example, you might do a cost-benefit analysis to help decide whether to acquire a company or build a factory. Or you might describe the financial implications of choosing one strategy over another. You might work in areas such as internal auditing, financial management, financial reporting, treasury management, and tax planning. The highest position in management accounting is the chief financial officer (CFO) position, with some CFOs rising to become chief executive officers (CEOs).

## Government and Not-for-Profit Entities

As an accountant, you might work for the government—federal, state, or local. Like your counterparts in public accounting and business, your role as a government accountant includes responsibilities in the areas of auditing, financial reporting, and management accounting. You'll evaluate how government agencies are being managed. You may advise decision makers on how to allocate resources to promote efficiency. Many countries have agencies that hire CPAs to investigate the financial aspects of white-collar crime. You might find yourself working for tax authorities, national accounting or audit agencies, security commissions or stock exchanges, ministry of finance or treasury, or even the parliament.

As an accountant, you might also decide to work in the not-for-profit sector. Colleges, universities, public and private primary and secondary schools, hospitals, and charitable organizations all have accounting functions. Accountants for these types of entities prepare financial statements as well as budgets and projections. Most have special training in accounting standards specially designed for work in the not-for-profit sector.

## Education

Finally, you can work at a college or university, advancing the thought and theory of accounting and teaching future generations of new accountants. On the research side of education, you might study how companies use accounting information. You might develop new ways of categorizing financial data, or study accounting practices in different countries. You then publish your ideas in journals and books and present them to colleagues at meetings around the world. On the education side, you can help others learn about accounting and give them the tools they need to be their best.

### CPA: THREE LETTERS THAT SPEAK VOLUMES

When employers see the CPA designation, they know what to expect about your education, knowledge, abilities, and personal attributes. They value your analytic skills and extensive training. Your CPA credential gives you a distinct advantage in the job market and instant credibility and respect in the workplace. It's a plus when dealing with other professionals such as bankers, attorneys, auditors, and federal regulators. In addition, your colleagues in private industry tend to defer to you when dealing with complex business matters, particularly those involving financial management.

## The Hottest Growth Areas in Accounting

Recent legislation, such the US Sarbanes-Oxley Act of 2002, or similar legislation in many other parts of the world, has brought rising demand for accountants of all kinds. In addition to strong overall demand, certain areas of accounting are especially hot.

### Sustainability Reporting

Sustainability reporting involves reporting on an organization's performance with respect to health, safety, and environmental (HSE) issues. As businesses take a greater interest in environmental issues, CPAs are getting involved in reporting on such matters as employee health, on-the-job accident rates, emissions of certain pollutants, spills, volumes of waste generated, and initiatives to reduce and minimize such incidents and releases. Utilities, manufacturers, and chemical companies are particularly affected by environmental issues. As a result, they turn to CPAs to set up a preventive system to ensure compliance and avoid future claims or disputes or to provide assistance once legal implications have arisen.

Corporate social responsibility (CSR) reporting is similar to HSE reporting but with a broadened emphasis on social matters such as ethical labor practices, training, education, and diversity of workforce and corporate philanthropic initiatives. Most of the world's largest corporations have extensive CSR initiatives.

### Assurance Services

Assurance services are services provided by a CPA that improve the quality of information, or its context, for decision makers. Such information can be financial or non-financial, and it can be about past events or about ongoing processes or systems. This broad concept includes audit and attestation services and is distinct from consulting because it focuses primarily on improving information rather than on providing advice or installing systems. You can use your analytical and information-processing expertise by providing assurance services in areas ranging from electronic commerce to elder care, comprehensive risk assessment, business valuations, entity performance measurement, and information systems quality assessment.

### Information Technology Services

Companies can't compete effectively if their information technology systems don't have the power or flexibility to perform essential functions. Companies need accountants with strong computer skills who can design and implement advanced systems to fit a company's specific needs and to find ways to protect and insulate data. CPAs skilled in software research and development (including multimedia technology) are also highly valued.

### International Accounting

Globalization means that cross-border transactions are becoming commonplace. Countries in Eastern Europe and Latin America, which previously had closed economies, are opening up and doing business with new trading partners. The passage of the North American Free Trade Agreement (NAFTA) and the General Agreement on Tariffs and Trade (GATT) facilitates trade, and the economic growth in areas such as the Pacific Rim further brings greater volumes of trade and financial flows.

Organizations need accountants who understand international trade rules, accords, and laws; cross-border merger and acquisition issues; and foreign business customs, languages, cultures, and procedures.

## Forensic Accounting

Forensic accounting is in growing demand after scandals such as the collapse of Enron and WorldCom, which are featured in this text. Forensic accountants look at a company's financial records for evidence of criminal activity. This could be anything from securities fraud to overvaluation of inventory to money laundering and improper capitalization of expenses.

Whether you seek a career in business, government, the not-for-profit sector, or a charity, **accounting** has a career for you. Every organization, from the smallest mom-and-pop music retailer to the biggest government in the world, needs accountants to help manage its resources. Global trade demands accountability, and ever-more complex tax laws mean an ever-increasing need for the skills and services of accountants.

# 1 Conceptual Framework and Financial Statements


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**SPOTLIGHT: Samsung Electronics** www.samsung.com

From its inception in 1938 as a small export business in Korea, Samsung Electronics has grown from selling dried fish, vegetables, and fruit to become one of the world's leading electronics companies. Samsung, which means "three stars" in Korean, now specializes in digital appliances and media, semiconductors, memory, and system integration. The digital age has brought revolutionary change—and opportunity—to global business, and Samsung has responded with advanced technologies, competitive products, and constant innovation.

As you would expect, Samsung sells a lot of products, from television, audio and video equipment, home appliances to various computer-related products and accessories. In fact, Samsung's total sales revenue in the financial year ended December 31, 2011 was in excess of 165,000 billion Korean Won (abbreviated KRW, or denoted by ₩, which translates to about 143 billion United States Dollars, or USD). After deducting the cost of sales and other expenses, Samsung's 2011 net income was ₩13,734 billion. From its operating activities, Samsung generated cash flows of about ₩22,918 billion. Its assets grew from ₩134,289 in 2010 to ₩155,631 billion in 2011.

These terms may be foreign to you now, but after you read this chapter, you will gain more understanding of financial statements. Welcome to the world of accounting!

Each chapter of this text begins with adapted extracts of an actual financial statement. In this chapter, it's the Consolidated Income Statement of Samsung. We will continue to explore various examples of financial statements (and their notes to the accounts) throughout this text, so you can relate the theories and concepts to actual financial accounting practices and disclosures.

**Samsung Electronics Co. Ltd.**
**Consolidated Income Statement (Adapted)**
Financial Year Ended December 31, 2011 and 2010

| | (In billions of Korean Won, KRW or ₩) | 2011 | 2010 |
|---|---|---|---|
| 1 | Sales | 165,001.8 | 154,630.3 |
| 2 | Cost of sales | 112,145.1 | 102,666.8 |
| 3 | Gross profit | 52,856.7 | 51,963.5 |
| 4 | Research and development expenses | 9,979.8 | 9,099.4 |
| 5 | Selling, general and administrative expenses | 27,421.9 | 26,243.1 |
| 6 | Other operating income | 2,421.9 | 1,755.4 |
| 7 | Other operating expenses | 1,627.1 | 1,079.9 |
| 8 | Operating profit | 16,249.7 | 17,296.5 |
| 9 | Share of profit or loss of associates and joint ventures | 1,399.2 | 2,267.1 |
| 10 | Finance income | 7,403.5 | 7,465.1 |
| 11 | Finance expense | 7,893.4 | 7,700.1 |
| 12 | Profit before income tax | 17,159.0 | 19,328.6 |
| 13 | Income tax expense | 3,424.9 | 3,182.1 |
| 14 | Profit for the year | 13,734.1 | 16,146.5 |

*Source*: Samsung

The core of financial accounting revolves around the following financial statements:

- Statement of Comprehensive Income (which includes the above Income Statement)
- Statement of Financial Position (more commonly called Balance Sheet)
- Statement of Cash Flows
- Statement of Changes in Equity

**Financial statements** are the business documents that companies use to report the results of their activities to various user groups, which can include managers, investors, creditors, and regulatory agencies. In turn, these parties use the reported information to make a variety of decisions, such as whether to invest in or loan money to the company, amongst many others. To learn accounting, you must learn to focus on decisions. In this chapter we explain the conceptual framework of financial reporting, which underpins how a financial phenomenon is recognized, measured and disclosed to users of financial statements. We will also look at the bodies responsible for issuing accounting standards. We discuss the judgment process that is necessary to make good accounting decisions. We also discuss the contents of the four basic financial statements that report the results of those decisions. In later chapters, we will explain in more detail how to construct the financial statements, as well as how user groups typically use the information contained in them to make business decisions.

## LEARNING OBJECTIVES

1. **Understand the role of** accounting in communicating financial information
2. **Learn** underlying concepts, assumptions and principles of accounting
3. **Apply** the accounting equation to business organizations
4. **Evaluate** business operations
5. **Use** information in financial statements to make business decisions, which are informed by economic, legal, and ethical guidelines

## Business Decisions

Samsung's shareholders and potential investors make many financial decisions. They decide when to buy, hold, or sell their investment. They assess the stewardship and accountability of the company's management. They assess the profitability, efficiency, liquidity, and cash flows of the company. Samsung's management also use financial information to help it decide on its sources of funding and capital, they make costing and pricing decisions and analyze the performance of various business groups within the company. Accounting helps companies, their shareholders, and management make these decisions.

Take a look at Samsung's Consolidated Income Statement. Let's start with its "bottom line" on line 14. Samsung calls it "Profit for the year" but other businesses may use terms such as net income or net profit. Net income is the excess of revenues over expenses. We can see that Samsung earned ₩13,734 billion profit for the year ended December 31, 2011. That's good news because it means that Samsung had ₩13,734 billion more revenues than expenses for the year, despite the tough economic conditions since the global financial crisis of 2008. Despite an increase in sales revenue of almost 7%, Samsung's 2011 net income was ₩2,412 billion (about 15%) less than the results achieved in 2010, as cost of sales, research and development, selling, and general and administrative expenses all went up as well.

Suppose we have ₩1 billion to invest. What information would we need before deciding to invest in Samsung? Let's see how accounting works!

## Accounting is the Language of Business

**OBJECTIVE**

**1** **Understand the role of** accounting in communicating financial information

Italian merchants in Genoa, Florence, and Venice were at the epicentre of trade between Europe and the Middle East in the 13th and 14th centuries. As trading ventures grew, individual merchants were not able to provide the capital necessary to conduct business ventures on their own. The concept of "shareholders" was thus born, and along with it the need to report on the venture's financial status to investors. Luca Pacioli, a contemporary of Leonardo da Vinci, documented the so-called "Venice method" in 1494 and it quickly spread to become what we now know as double-entry accounting, which forms the basis of financial reporting to shareholders.

## A CLOSER LOOK

If you want to know more about the history of accounting (it can be quite fascinating!), check out this article by John R. Alexander at www.acaus.org and click on "The History of Accounting" on the menu. Alternatively, you can go to this URL directly: www.acaus.org/content.aspx?page_id=22&club_id=825456&module_id=39138.

Accounting today is clearly more complex and sophisticated than what was prescribed by Pacioli. But at its heart, **accounting** is an information system. It records and measures business activities, processes data into information, and communicates them to decision makers who make decisions that will impact on business activities. Indeed, accounting is "the language of business." The better our understanding of the language, the better we can understand what is happening with our finances, our businesses, or our investments!

Don't confuse bookkeeping and accounting. Bookkeeping is a mechanical part of accounting, just as arithmetic is a part of mathematics. Accounting includes some elements of bookkeeping, but accounting extends to the use of information produced by bookkeeping. Exhibit 1-1 illustrates the flow of accounting information and helps illustrate accounting's role in business. The accounting process begins and ends with people making decisions.

**EXHIBIT 1-1 | The Flow of Accounting Information**

## Two Perspectives of Accounting: Financial Accounting and Management Accounting

Both *external* and *internal users* of accounting information exist. We can therefore classify accounting into two branches. **Financial accounting** provides information for decision makers outside the **reporting entity**, such as investors, creditors, government agencies, and the public. This text focuses on financial accounting.

**Management accounting** provides information for Samsung's managers. Examples of management accounting information include budgets, forecasts, and projections that are used in making strategic decisions of the entity. Managers of an entity have the ability to determine the form and content of financial information in order to meet their own needs. Internal information must still be reliable and relevant for their decision needs.

You may be doing this course as an accounting student or non-accounting student. Regardless of your eventual career ambitions, knowledge of accounting will help you understand how organizations operate. Many accounting graduates work in professional accounting services, typically with the public accounting firms. These firms offer various services to the business and government sectors, such as audit and assurance, taxation advice, consultancy, and advisory. Those who venture into the corporate world may work in various accounting functions, from treasury and finance, to internal audit and risk management. Even if you are not an accounting student, in almost all lines of work and industry you will have to make decisions in your day-to-day activities, most of which will require you to understand, prepare, or work within constraints of some form of financial reports and budgets. On an individual level, you may also find that accounting helps you manage your own finances and investments better.

## Organizing a Business

Accounting is used in every type of business. A business generally takes one of the following forms:

- proprietorship
- partnership
- corporation

Exhibit 1-2 compares ways to organize a business.

**EXHIBIT 1-2 | The Various Forms of Business Organization**

| | Proprietorship | Partnership | Corporation |
|---|---|---|---|
| 1. *Owner(s)* | Proprietor—one owner | Partners—two or more owners | Shareholders—generally many owners |
| 2. *Personal liability of owner(s) for business debts* | Proprietor is personally liable | General partners are personally liable; limited partners are not | Shareholders are *not* personally liable |

**Proprietorship.** A **proprietorship** typically has a single owner, called the proprietor. Facebook started out in the Harvard University's college dormitory room of Mark Zuckerberg; it was originally intended as internal Harvard software to help students recognize faces on campus. Proprietorships tend to be small retail stores or individual providers of professional services—physicians, attorneys, software programmers or accountants. Legally, the business is the proprietor, and the proprietor is personally liable for all the business's debts. But for accounting purposes, a proprietorship is a distinct entity, separate from its proprietor. Thus, the business records should not include the proprietor's personal finances.

**Partnership.** A **partnership** has two or more parties as co-owners, and each owner is a partner. Individuals, corporations, partnerships, or other types of entities can be partners. Income and loss of the partnership "flows through" to the partners and they recognize it based on their agreed-upon percentage interest in the business. In general, a partnership is not a taxpaying entity. Instead, each partner takes a proportionate share of the entity's taxable income and pays tax according to that partner's individual or corporate rate. Many retail establishments, professional service firms (law, accounting, etc.), real estate, and oil and gas exploration companies operate as partnerships. Many partnerships are small or medium-sized, but some are very large, with thousands of partners. Partnerships are governed by agreement, usually spelled out in writing in the form of a contract between the partners. General partnerships have mutual agency and unlimited liability, meaning that each partner may conduct business in the name of the entity, and can make agreements that legally bind all partners without limit for the partnership's debts. Partnerships are therefore quite risky, because an irresponsible partner can create large debts for the other general partners without their knowledge or authorization. This feature of general partnerships has spawned the creation of limited-liability partnerships (LLPs).

A *limited-liability partnership* is one in which a wayward partner cannot create a large liability for the other partners. In LLPs, each partner is liable for partnership debts only up to the extent of his or her investment in the partnership, plus his or her proportionate share of the liabilities. Each LLP, however, must have one general partner with unlimited liability for all partnership debts. Many of the accounting firms, such as the "Big 4" accounting firms (**Deloitte**, **Ernst & Young**, **KPMG** and **PricewaterhouseCooopers**) are now organized as LLPs.

**Corporation.** A **corporation** is a business owned by the **shareholders**, who own shares representing ownership in the corporation. One of the major advantages of doing business in the corporate form is the ability to raise capital from issuance of shares to the public. Mark Zuckerberg and other Facebook founders incorporated their company in late 2004 and received initial investments from a group of people, including Peter Thiel, the co-founder of **PayPal**. All types of entities (individuals, partnerships, corporations, or other types) may be shareholders in a corporation. Even though proprietorships and partnerships are more numerous, corporations do many more business transactions and are larger in terms of assets, income, and number of employees. Most well-known companies, such as Samsung Group, **Starbucks**, **Google**, **Toyota**, and **Nokia**, are corporations. Their full names usually indicate that they are structured as a company. The most common labels include Corporation, Incorporated, or simply Company. This depends very much on the local and legal practices in the country of incorporation. For example, in Australia you often see Pty Ltd (proprietary limited), in the UK you will see PLC (public limited company), in Germany AG (Aktiengesellschaft), in Italy SpA (società per azioni), in Malaysia Sdn Bhd (Sendirian Berhad), in Singapore Pte Ltd (Private Limited), in Belgium SA (Société Anonyme), in Brazil Ltda (Sociedade Limitada), etc.

A corporation is formed under the relevant legislation in the country of incorporation. Unlike proprietorships and partnerships, a corporation is legally distinct from its owners. The corporation is like an artificial person and possesses many of the same rights that a person has. The shareholders have no personal obligation for the corporation's debts and have limited liability. Ultimate control of a corporation rests with the shareholders, who generally get one vote for each share they own. In general, shareholders elect the board of directors, which sets policy and appoints management officers such as the chief executive officer (CEO), chief operating officer (COO) and chief financial officer (CFO), and other key functions as necessary.

## Accounting Standards

In science, we assign numerals to represent properties of material systems according to scientific laws that govern those properties. For example, we can measure the size of an object, the temperature of a room, the speed of a car, and so on. Similarly, in accounting, we assign monetary amounts to represent elements of financial statements in accordance to some accounting standards. Accounting standards are necessary because without them, users of financial statements would have to learn the basis of accounting for each company, making comparisons to other companies' financial statements difficult.

Unfortunately, unlike scientific laws which apply throughout the universe, accounting rules tend to vary in different jurisdictions. Until recently, one of the major challenges of conducting global business has been the fact that different countries have adopted different accounting standards for business transactions. Historically, the major developed countries (the United States, the UK, Japan, Germany, Australia, etc.) have all had their own versions of accounting standards (usually referred to in general as GAAP, **Generally Accepted Accounting Principles**). As investors seek to compare financial results across entities from different countries, they have had to restate and convert accounting data from one country to the next in order to make them comparable. This takes time and can be expensive, especially in a globalized world with multinationals operating across many countries.

The potential solution to this problem lies with the International Accounting Standards Board (IASB) and **International Financial Reporting Standards** (IFRSs). The IASB was formed in 2001 to replace the International Accounting Standards Committee (IASC) with the objective of developing a single set of high quality, understandable and enforceable accounting standards to help participants in the world's capital markets and other users make economic decisions. Whilst IASB now produces IFRSs, previously issued International Accounting Standards (IASs) by the IASC continue to remain effective. This is why, in our study of accounting, we will see some standards labeled IAS or IFRS. Collectively, they are simply referred to as IFRSs. In addition, these standards may be relabeled somewhat differently in different countries. For example, in Singapore, they are called FRS (Financial Reporting Standards), in Australia, they are labeled AASB after its national Australian Accounting Standards Board, in South Africa, they are called GRAP (Generally Recognized Accounting Principles), and so forth. Throughout this book, we will make references to accounting standards by their original IAS and IFRS numbers and titles. You can access IFRSs from the IASB's website at www.ifrs.org after completing a free registration process. If you are interested in comparisons between your local accounting standards and IFRS, you can refer to Appendix D which contains a listing of IFRSs and some other useful resources.

These standards are now being used by most countries around the world. Since its inception, more than 120 countries and territories around the world have either required or permitted the use of IFRSs for financial reporting, especially for listed companies. Other major economies, including the United States, Japan, India, and China, are on different pathways of IFRS convergence. As this gains momentum, you can expect to hear more about the adoption and use of IFRSs, as well as global harmonization of accounting standards, in the future. When you do, the most important things to remember will be that these changes will be beneficial for financial statement users in the long run, and that most of what you learned in this accounting course will still apply.

### A CLOSER LOOK

The IASB and United States' Financial Accounting Standards Board (FASB) signed a Memorandum of Understanding in 2002 to achieve convergence of IFRSs and US GAAP, resulting in a common set of high-quality global standards. Since 2007, non-US companies listed in the United States are able to report using IFRS (without reconciliation to US GAAP). Despite progress in many joint projects, the convergence progress seemed to have suffered some setbacks with FASB promoting alternative strategies to convergence, including a "condorsement" (a made-up word meant to be somewhere between convergence and endorsement) approach.

The advantages to adopting one common set of standards are clear. Companies in jurisdictions that have mandated or allowed the use of IFRS compliant standards, such as Australia, Hong Kong, the United Arab Emirates, Europe, Japan and the United States, will have financial statements that are more comparable with each other. It will be far easier for investors and other financial statement users to evaluate the information of various companies in the same industries from across the globe, and companies will only have to prepare one set of financial statements, instead of multiple versions. Thus, in the long run, global use of IFRS should reduce costs of doing global business.

## The Conceptual Framework

**OBJECTIVE**

**2** **Learn** underlying concepts, assumptions, and principles of accounting

A **conceptual framework** lays the foundation for resolving the big issues in accounting. You can think of it as the "Why, Who, What, How" of financial reporting. The *Conceptual Framework for Financial Reporting* (we will refer to it as the "Conceptual Framework") prescribes the nature, function, and boundaries within which financial accounting and reporting operate. The *Conceptual Framework* (last updated in 2010) is a joint publication by the IASB and FASB in the review of existing and development of new accounting standards. You can access the *Conceptual Framework* from the IASB's website (www.ifrs.org). In this chapter, references are made to the *Conceptual Framework* (2010) paragraphs in square brackets. Your instructor may alternatively direct you to a copy of the Framework as applicable in your jurisdiction.

## A CLOSER LOOK

The current *Conceptual Framework* is still a "work in progress" and is very much subject to further developments. Whilst a number of chapters are now completed, there are still certain sections that are either uncompleted or temporarily carried over from its older edition. This revision project is undertaken jointly by the IASB and FASB. Refer to www.ifrs.org/Current+Projects/IASB+Projects/Conceptual+Framework/Conceptual+Framework.htm for additional information on the various stages of the project.

The *Conceptual Framework's* focus is on **general purpose financial statements**, which are prepared and presented (at least) annually and are directed toward the common information needs of a wide range of financial statement users. Many of these users rely on the financial statements as their major source of financial information and such financial statements should, therefore, be prepared and presented with their needs in view. Special purpose financial reports, such as computations for taxation purposes or other regulatory reporting requirements, are outside the scope of the *Conceptual Framework*. Exhibit 1-3 gives an overview of the *Conceptual Framework*.

**EXHIBIT 1-3 | Conceptual Framework of Accounting**

| | |
|---|---|
| Objective | To provide financial information that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity |
| Financial Information | General purpose financial reports which provide information on the entity's economic resources, claims, and changes in resources and claims |
| Qualitative Characteristics | Fundamental: Relevance and Faithful Representation<br>Enhancing: Comparability, Verifiability, Timeliness, Understandability |
| Constraint and Assumptions | Cost Constraint; Accrual Accounting; Going Concern |
| Elements | Assets; Liabilities; Equity; Income; Expenses |
| | Definition, Recognition, Measurement, Presentation and Disclosure |

## Why is Financial Reporting Important?

The *Conceptual Framework* [OB2] states that the objective of financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders, and other creditors. This includes information about the entity's resources and claims to those resources, and the effects of transactions and other events and conditions that change those resources and claims [OB12]. Users evaluate financial statements to make decisions such as whether or not to make additional investment into the entity, provide credit and financing, or assess management's performance.

## A CLOSER LOOK

The draft definition of a reporting entity proposed by the IASB in its exposure draft (issued in March 2010) was "a circumscribed area of business activities of interest to present and potential equity investors, lenders and other capital providers." The IASB is expected to finalize the reporting entity definition in the near future.

Whilst financial statements can be used to help users assess the value of an entity, as well as its strengths and weaknesses, they are not designed to show the "value" of an entity [OB7], which depends on many other factors besides financial statements, such as general economic conditions and expectations, political events and climate, industry and company outlooks [OB6].

## Who are the Users of Accounting Information?

Different users make different types of economic decisions, based on their relationship with the entity. In your personal and professional life, you are very likely to assume any of these user roles. Here are some examples of users that may be interested in Samsung's financial statements:

- Investors in Samsung would want to know if they are getting adequate returns for the risks they are taking when they invest in the company. They may decide to increase, hold, or decrease their ownership of Samsung by buying or selling Samsung shares in the stock exchange. Samsung is listed on the Seoul, London, and Luxembourg stock exchanges.
- Employees of Samsung may be interested in its financial information for many reasons. Job security, salary increments, and compensation bonuses are usually worse off when a company has declining profits, or worse, experiences losses.
- Creditors, such as bankers or other financial institutions, may need to decide if they will grant Samsung additional loans for its expansion plans. They would want to know if Samsung has the ability to service the interest payments and eventually repay the loan principal.
- Suppliers and trade creditors often grant credit terms to their customers. They would want to know that Samsung will be able to pay their invoices as and when they become due.
- It is unlikely that retail customers would demand financial information before buying merchandise from Samsung. However, if you know that Samsung is experiencing financial difficulties or suffering losses, you may be worried that it will not be able to offer warranty support or repair services for its products.
- Government and its agencies are interested in various aspects of a business, for example, tax collection and allocation of grants or subsidies. Listed companies would also need to comply with the stock exchange's disclosure requirements or "listing rules."
- And with increasing expectations of corporate social responsibility, members of the public may be interested in Samsung's executive remuneration, health and safety issues, or even the environmental impact of its business operations.

It is important to note that the *Conceptual Framework* [OB6] specifically states that general purpose financial reports do not (and cannot possibly) satisfy all the potential information needs of financial statement users. The *Conceptual Framework* focuses on primary users of financial statements, which includes existing and potential investors, lenders and creditors. The IASB uses the *Conceptual Framework* in setting accounting standards that provide the information set that will meet the needs of the maximum number of primary users [OB8]. Other non-primary users, such as government regulators, may find financial statements useful, but the financial statements are not primarily directed towards them.

## What Makes Accounting Information Useful?

The *Conceptual Framework* uses the term **qualitative characteristics** to describe the attributes that will most likely make the information provided in financial statements useful to users. The *Conceptual Framework* [QC4] suggests that if financial information is to be useful, it must first be relevant and faithfully represent what it purports to represent (these two are termed "fundamental qualitative characteristics"). Information that is relevant and has faithful representation may be further enhanced if it is comparable, verifiable, timely, and understandable (these are called "enhancing qualitative characteristics"). Enhancing qualitative characteristics will never make information that is not relevant become relevant, and similarly, will not make information that is not faithfully representative be so.

### Fundamental Characteristic: Relevance

To be relevant [QC6–10], information must be capable of making a difference to the decision maker. Typically, this is when financial information is used to help users in making their own predictions of future outcomes (predictive value) or in assessing previous evaluations (confirmatory value). Information that has predictive value often also has confirmatory value. For example, Samsung's revenue for 2011, ₩165,001 billion, can be used as the basis for predicting revenue in 2012 and compared against earlier predictions.

The degree of relevance may be influenced by the **materiality** of the information [QC11]. Materiality means that the information must be important enough to the user so that, if it were omitted or erroneously declared, it would make a difference to the user's decision. Only information that is material needs to be separately disclosed (listed or discussed) in the financial statements. An item may be material due to its nature or magnitude, or both. For example, all entities are required to disclose finance expense (or borrowing costs, interest expense), regardless of their magnitude. Immaterial items are not required to be disclosed separately and may be combined with other information. Materiality thus depends on the size of the item or error judged in the particular circumstances of its omission or misstatement. The *Conceptual Framework* did not prescribe a fixed level of materiality as it is entity-specific—what is material for one entity may not be material for another.

### Fundamental Characteristic: Faithful Representation

Financial statements represent **economic phenomena** (i.e. resources, claims to the resources and changes in resources and claims) in words and numbers. Information that faithfully represents the underlying economic phenomenon should be complete, neutral and free from error [QC12]. Completeness means that the financial reports should include all necessary information for a user to understand the economic phenomenon being depicted, including all necessary descriptions and explanations. Neutrality means that the information must be depicted without bias. Freedom from error means there are no errors or omissions in depicting the economic phenomenon. If you were to discover that Samsung's 2011 total expenses were not complete or were riddled with errors, you would not rely on Samsung's financial statements.

**Enhancing Characteristic: Comparability**

Users usually compare financial statements of an entity over a period of time in order to identify trends in its financial position and performance. Thus, it is important that the basis of preparation and presentation remains comparable over time. For example, the comparison between Samsung's sales in 2011 and 2010 only makes sense if you know that there has been no material change in the way sales are recognized in the financial statements. Similarly, you may want to compare Samsung's performance to another retailer, and in doing so you would want to be sure that net sales are derived in the same way for both companies before drawing any conclusions. To be comparable, "like things must look alike, and different things must look different" [QC23]. Comparability does not force an entity to continue using the same accounting principles, policies, or estimates when more relevant and newer information surfaces.

**Enhancing Characteristic: Verifiability**

Verifiability helps assure users that information faithfully represents the economic phenomenon it purports to represent [QC26]. It means that given the same economic phenomenon and its depiction, two different knowledgeable and independent parties can come to a consensus that the depiction is a faithful representation of the economic phenomenon.

**Enhancing Characteristic: Timeliness**

Timeliness means that the information must be made available to users early enough to help them make decisions, thus making the information more relevant to their needs. By providing information about its financial position and financial performance to financial statement users in a timely manner, Samsung allows investors to readily make decisions about their investments in the company. Normally, the stock exchange on which a company is listed will determine how often and how quickly a company must publish its financial results.

**Enhancing Characteristic: Understandability**

We discussed earlier that accounting is the language of business. And just like any language, you will need some basic knowledge before you can converse, read, or write about it. Understandability means that accounting information must be classified, characterized, and presented clearly and concisely [QC30]. The framework assumes that users have a reasonable knowledge of business, economic activities and accounting, and a willingness to study the information with reasonable diligence. Thus, whilst you may not have the knowledge right now, by the end of this course you will be able to understand accounting vocabulary and use accounting information for decision making.

## What Constraints do We Face in Providing Useful Information?

In providing information that can be useful to our users, a pervasive constraint we face is cost. Financial information is not produced without cost, for example, cost of data collection, cost of data processing, cost of verifying and disseminating the information, etc. Naturally, higher costs result in lower returns to shareholders. Businesses will need to assess whether the benefits of reporting particular information are likely to outweigh the costs incurred in providing or using the information [QC38].

## What are Our Assumptions in Financial Reporting?

The *Conceptual Framework* states that in order meet the objectives of financial reporting, there are assumptions we need to make. Firstly, that we prepare our financial statements on an **accrual basis**. In short, this means that transactions and other events are recognized when they occur and not when cash is received or paid. We will explore more about accrual accounting later (in Chapter 3).

In measuring and reporting accounting information, we also assume that the entity will continue to operate long enough to use existing assets—land, buildings, equipment, and supplies—for its intended purposes. In other words, the business has neither the intention nor the need to liquidate or curtail materially the scale of its operations. This is called the **going concern** assumption which would normally apply to most entities. This is how a business can buy assets with expectations to derive benefits from the use of the assets beyond the current financial period. An entity that is not continuing would be accounted for very differently from one that is a going concern.

## What Exactly are We Accounting for?

Samsung's financial statements tell us how the business is performing and where it stands. But how do we arrive at the financial statements? Let's examine the elements of financial statements, which are the building blocks on which these statements rest:

- **Assets** are economic resources controlled by the entity which are expected to produce future economic benefits to the entity. Examples of assets include cash, inventory, account receivables (money owed to the entity by its debtors), machinery, equipment, and properties.
- **Liabilities** are present obligations of the entity which are expected to result in an outflow of economic benefits from the entity. Examples of liabilities include bank loans, account payables (money owed by the entity to its creditors), and other obligations.
- **Equity** is the residual interest in the entity's assets after deducting liabilities; it represents shareholder's residual claim to the entity's assets. You will find two major sub-parts in the equity section: **share capital** and **retained earnings**. Share capital is the amount shareholders have invested in the entity (usually in the form of shares) and retained earnings is the amount earned by income-producing activities and kept for use in the business.
- **Income** refers to increases in economic benefits during an accounting period (i.e. increases in assets or decreases in liabilities) that result in an increase in equity, other than those related to transactions with shareholders. The *Conceptual Framework* further separates income into **revenue** and **gains**. Revenue arises from the ordinary course of business (such as sales revenue), whereas gains are typically outside the ordinary course of business (such as gain on disposal of a subsidiary).
- **Expenses** are decreases in economic benefits during an accounting period (i.e. decreases in assets or increases in liabilities) that result in a decrease in equity, other than those related to transactions with shareholders. Similarly, expenses can be incurred in the ordinary course of business (such as salaries and wages, rent expense), whereas **losses** may or may not be in the ordinary course of business (losses suffered because of natural disasters).

The *Conceptual Framework* also provides guidance on when to recognize these elements of financial statements. An item that meets the definition of an element financial statement is recognized if: (a) it is probable that any future economic benefit associated with the item will flow to or from the entity; and (b) the item has a cost or value that can be measured with reliability.

Information about financial position (assets, liabilities, and equity) is primarily provided in a **Balance Sheet**, whereas information about financial performance (income and expenses) is primarily provided in an **Income Statement**. We will examine financial statements later in this chapter.

Now that you have a basic understanding of the *Conceptual Framework*, let's see how the elements of financial statements are interconnected and reported.

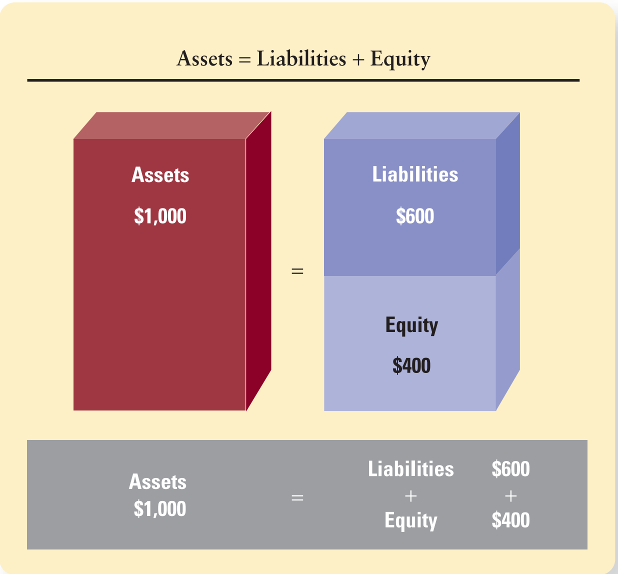
## The Accounting Equations

**OBJECTIVE**

**3** **Apply** the accounting equation to business organizations

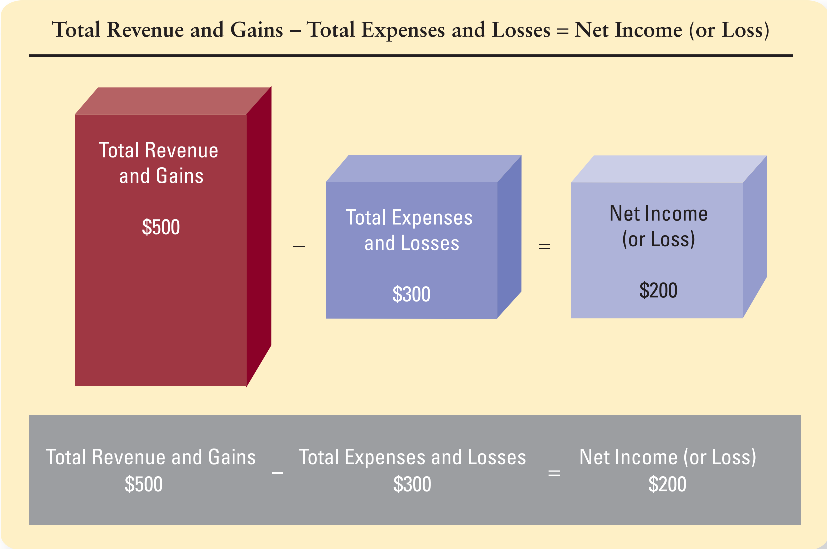
The basic **accounting equation** shows the relationship among assets, liabilities, and equity. Assets appear on the left side and liabilities and owners' equity on the right. The accounting equation can be written as Assets = Liabilities + Equity, or alternatively, Assets − Liabilities = Equity. As Exhibit 1-4 shows, the two sides must be equal. In this example, the entity's assets of $1,000 are financed by liabilities of $600 and equity of $400.

**EXHIBIT 1-4 | The Accounting Equation (1)**



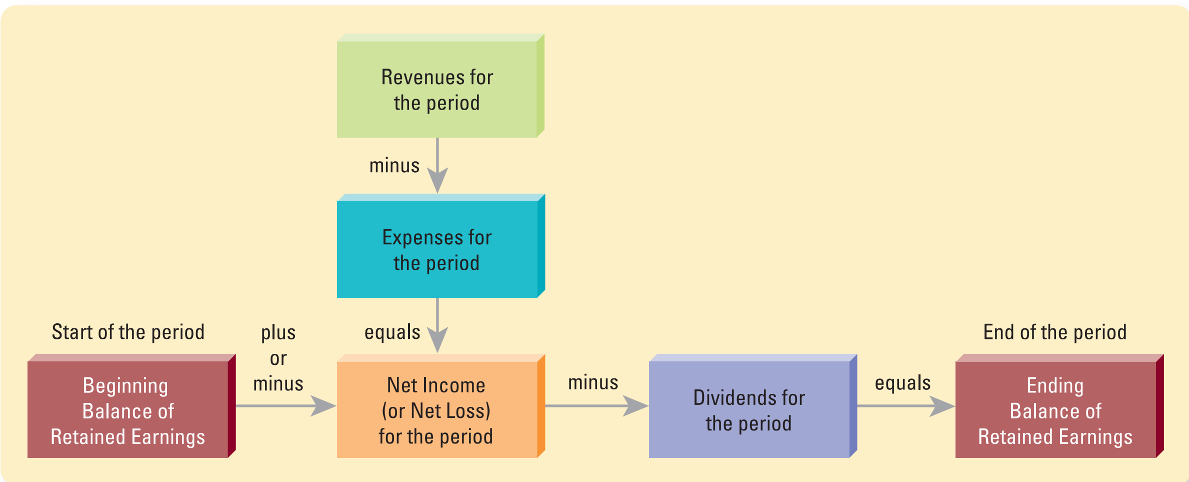

A second accounting equation relates to the calculation of profits earned by an entity during a financial period. Profit is simply Income (Revenue and Gains) less Expenses (Expenses and Losses). Exhibit 1-5 shows that a profit of $200 resulted from total revenue of $500 and expenses of $300. When total revenues exceed total expenses, the result is called **net income**, or **net profit**. When expenses exceed revenues, the result is a **net loss**. In accounting, the word "net" refers to an amount after a subtraction. Net income is thus the profit left over after subtracting expenses and losses from revenues and gains.

**EXHIBIT 1-5 | The Accounting Equation (2)**




Recall that the *Conceptual Framework* states that income increases equity, whereas expenses decrease equity. This is usually shown as an increase to retained earnings for net income or a decrease to retained earnings for net loss. A successful business usually pays **dividends** to shareholders as a return on their investments, usually in the form of cash. Dividends are recorded as direct reductions of retained earnings. Remember that just as capital contribution from shareholders to the company is not income, dividend distribution is not an expense and will never affect net income. Exhibit 1-6 shows the movement in retained earnings over an accounting period.

**EXHIBIT 1-6 | The Components of Retained Earnings**



## STOP & THINK . . .

1. If the assets of a business are $240,000 and the liabilities are $80,000, how much is the owners' equity?
2. If the owners' equity in a business is $160,000 and the liabilities are $130,000, how much are the assets?
3. A company reported monthly revenues of $129,000 and expenses of $85,000. What is the result of operations for the month?
4. If the beginning balance of retained earnings is $100,000, revenue is $75,000, expenses total $50,000, and the company pays a $10,000 dividend, what is the ending balance of retained earnings?

*Answers:*

1. $160,000 ($240,000 – $80,000)
2. $290,000 ($160,000 + $130,000)
3. Net income of $44,000 ($129,000 – $85,000); revenues minus expenses
4. $115,000 [$100,000 beginning balance + net income $25,000 ($75,000 – $50,000) – dividends $10,000]

# Financial Statements

**OBJECTIVE**

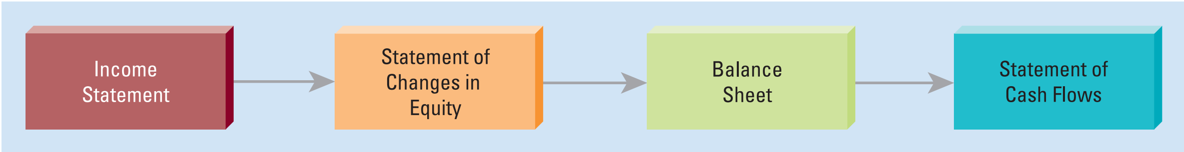
**4 Evaluate** business operations

The financial statements present an entity to the public in financial terms. Each financial statement relates to a specific date or time period. What would investors want to know about Samsung at the end of its financial year? Exhibit 1-7 lists four questions decision makers may ask. Each answer comes from one of the financial statements.

**EXHIBIT 1-7 | Questions from Decision Makers**

| Question | Financial Statement | Answer |
|---|---|---|
| 1. How well did the company perform during the year? | Statement of Comprehensive Income (which consists of two parts: the Income Statement plus Other Comprehensive Income) | Revenues<br>– Expenses<br>Net income (or Net loss)<br>± Other Comprehensive Income<br>= Total Comprehensive Income |
| 2. Why did the company's equity change during the year? | Statement of Changes in Equity | Beginning Equity<br>+ Total Comprehensive Income<br>– Dividends<br>± Capital Transactions with owners<br>= Ending Equity |
| 3. What is the company's financial position at financial year end? | Statement of Financial Position (usually called Balance Sheet) | Assets = Liabilities + Equity |
| 4. How much cash did the company generate and spend during the year? | Statement of Cash Flows | Operating Cash Flows<br>± Investing Cash Flows<br>± Financing Cash Flows<br>= Net Cash Flows |

To learn how to use financial statements, let's work through Samsung's statements for the 2011 financial year (ended December 31, 2011). For your first reading of financial statements, we have simplified some of the items in the financial statements. You will get to see more detailed disclosures as you progress in your study of financial accounting. The following diagram shows how the financial information flows from one financial statement to the next. The order is important.




We begin with the Income Statement, shown earlier at the start of this chapter, duplicated as Exhibit 1-8.

**EXHIBIT 1-8 | Samsung's Income Statement**

**Samsung Electronics Co. Ltd.**
**Consolidated Income Statement (Adapted)**
Financial Year Ended December 31, 2011 and 2010

| | (In billions of Korean Won, KRW or ₩) | **2011** | **2010** |
|---|---|---|---|
| 1 | Sales | 165,001.8 | 154,630.3 |
| 2 | Cost of sales | 112,145.1 | 102,666.8 |
| 3 | Gross profit | 52,856.7 | 51,963.5 |
| 4 | Research and development expenses | 9,979.8 | 9,099.4 |
| 5 | Selling, general and administrative expenses | 27,421.9 | 26,243.1 |
| 6 | Other operating income | 2,421.9 | 1,755.4 |
| 7 | Other operating expenses | 1,627.1 | 1,079.9 |
| 8 | Operating profit | 16,249.7 | 17,296.5 |
| 9 | Share of profit or loss of associates and joint ventures | 1,399.2 | 2,267.1 |
| 10 | Finance income | 7,403.5 | 7,465.1 |
| 11 | Finance expense | 7,893.4 | 7,700.1 |
| 12 | Profit before income tax | 17,159.0 | 19,328.6 |
| 13 | Income tax expense | 3,424.9 | 3,182.1 |
| 14 | Profit for the year | 13,734.1 | 16,146.5 |

*Source*: Samsung

## The Income Statement Shows a Company's Financial Performance

The Income Statement, which is part of the **Statement of Comprehensive Income**, reports revenues and expenses for the period. The bottom line is net income or net loss for the period. At the top of Exhibit 1-8 is the company's name, Samsung Electronics Company. On the second line is the term "Consolidated Income Statement." Samsung is actually made up of several corporations that are owned by a common group of shareholders. Commonly controlled corporations like this are required to combine, or consolidate, all of their revenues, expenses, assets, liabilities, and shareholders' equity, and to report them all as if they were one combined entity.

The dates of Samsung's Consolidated Income Statement are for "Financial Year Ended December 31, 2011 and 2010." In this case, the financial year is the same as calendar year, and this happens to be the most common financial period for most companies. But you will also see many other companies using different year-end dates. For example, **Wal-Mart** uses 31 January as its fiscal year-end, **Lenovo** uses 31 March, **FedEx** uses 31 May and **Steinhoff** (South Africa) uses 30 June. Other companies use a 52- or 53-week financial period ending nearest to a particular date, for example, **Ahold NV** (Netherlands) uses the Sunday nearest to December 31 as its year-end and Marks and Spencer uses the last Saturday in March as its financial year-end.

You will also notice that Samsung presented its accounts in billions of Korean Won (KRW or ₩). It also presented two years of information, 2011 and 2010, to show comparable figures for revenues, expenses, and net income. We shall focus our discussions on the 2011 financial year, but the numbers are clearly more meaningful if you compare them to what was achieved in 2010. Let's examine the Income Statement in more detail.

**Income.** Samsung's first line in its Consolidated Income Statement was simply the total (sales) revenue for the period of ₩165,001 billion. Other income items include other operating income (line 6) and finance income (line 10). Revenues do not always carry the word "revenue" in their titles. For example, net sales revenue is often abbreviated as net sales. Net sales means sales revenue after subtracting all the goods customers have returned to the company. Other revenue or other income may consist of other peripheral income generation activities, such as financial and travel services, rental income, royalty fees, etc. You can't quite figure this out from the Income Statement, but additional information is usually disclosed in the reporting entity's Notes to the Accounts, which gives additional information about accounting policies, breakdown of totals, etc. You will see examples of Notes to the Accounts in later chapters. Samsung's total revenue has increased from ₩154,630 to ₩165,001 billion, an increase of ₩10,371 billion or 7%, which is a remarkable achievement given the state of the worldwide economy since the global financial crisis in 2008.

**Expenses.** Similarly, not all expenses have the word "expense" in their title. For example, Samsung's largest expense is for cost of sales (line 2). Another title for this expense is cost of goods sold (or COGS). This expense represents the direct cost of making sales. This includes Samsung's cost of the merchandise it sold to customers. For example, suppose merchandise costs Samsung $30, and this merchandise was sold for $75. Sales revenue is $75, and cost of goods sold is $30. Cost of goods sold is the major expense of merchandising entities such as **The Bodyshop**, **Wal-Mart**, and **Marks and Spencer**. The difference between total income and cost of sales is called gross profit (line 3). Whilst total income has risen by ₩103,715, cost of sales has also increased to ₩112,145 billion, resulting in a gross profit ₩52,857 billion in 2011.

Samsung has some other expenses:

- Research and development expenses (line 4) are the expenses related to Samsung's R&D efforts. As you can see, Samsung spends about ₩9,980 billion or 6% of its total revenue in R&D expenses. This is expected as Samsung has been busy launching many electronic products in the past few years and researching on software, product designs, and other innovations.
- Selling, general and administrative expenses (line 5) are the costs of everyday operations that are not directly related to merchandise purchases. Many expenses may be included in this category, including labor costs, property rentals,

maintenance and repairs, fees, advertising, consumables, and other general expenses. Samsung's selling, general, and administrative expenses amounted to ₩24,422 billion in 2011.

- Other operating expenses (line 7) consist of other expenses such as losses from disposing its assets and donations.
- Finance costs, or interest expense (line 11) was ₩7,893 billion for 2011. This is Samsung's cost of borrowing money.
- Income tax expense (line 13) is the expense levied on Samsung's, income by the tax authorities. Samsung's tax expense was ₩3,425 billion in 2011, compared to ₩3,182 billion in 2010. Taxation rules can be complicated, especially for a global corporation with businesses around the world, and taxable income is not always equal to net income. We will discuss this a little further later (see Chapter 9).
- Samsung's bottom line (line 14) showed a net income or profit for the year of ₩13,734 billion, a decrease of ₩2,412 billion from 2010's net income.

## A CLOSER LOOK

*IAS 1—Presentation of Financial Statements* (effective January 1, 2009) has introduced some changes that will affect how financial statements are presented. The key changes in the revised *IAS 1* are:

**Names of Financial Statements**
Officially, the new terminologies are Statement of Financial Position, Statement of Comprehensive Income, Statement of Changes in Equity, and Statement of Cash Flows. However, the Standard allows other titles to be used. You may find that some companies will continue to use the more common names such as Balance Sheet.

**Statement of Comprehensive Income and Statement of Changes in Equity**
*IAS 1* requires that only transactions with owners (in their capacity as owners) are presented in the Statement of Changes in Equity. All other non-owner changes in equity are now presented in the Statement of Comprehensive Income, which can be shown as a single statement (i.e. Statement of Comprehensive Income) or two statements (Income Statement, followed by Statement of Comprehensive Income which will begin with the net profit or loss from the Income Statement).

For simplicity, we shall continue to use the term Balance Sheet for Statement of Financial Position and Income Statement to refer to the first portion of the Statement of Comprehensive Income. We shall discuss more of this distinction later in Chapter 4.

Now, let's examine the Statement of Changes in Equity.

## The Statement of Changes in Equity Shows a Company's Transactions with its Owners

Recall that the equity is the owner's residual interest in the entity after deducting liabilities. Profits that a company generates ultimately belong to the owners of the company. Shareholders are happy when their wealth in the company increases. In 2011, Samsung generated profit of ₩13,734 billion. Let's see how this is reflected in its **Statement of Changes in Equity** (see Exhibit 1-9).

**EXHIBIT 1-9 | Samsung's Statement of Changes in Equity**

**Samsung Electronics Co. Ltd.**
**Consolidated Statement of Changes in Equity (Adapted)**
Financial Year Ended December 31, 2011

| | (In billions of Korean Won, KRW or ₩) | **Total equity** |
|---|---|---|
| 1 | Balance at January 1, 2010 | 73,045.2 |
| 2 | Profit for the year | 16,146.5 |
| 3 | Other comprehensive income | 1,141.5 |
| 4 | Total comprehensive income (*sum of line 2–3*) | 17,288.0 |
| 5 | Dividends | (1,930.9) |
| 6 | Other transactions with owners | 946.8 |
| 7 | Balance at December 31, 2010 and January 1, 2011 | 89,349.1 |
| 8 | Profit for the year | 13,734.1 |
| 9 | Other comprehensive income | (502.3) |
| 10 | Total comprehensive income (*sum of line 8–9*) | 13,231.8 |
| 11 | Dividends | (980.9) |
| 12 | Other transactions with owners | 243.3 |
| 13 | Balance at December 31, 2011 | 101,845.3 |

*Source*: Samsung

Samsung started the 2011 financial year with the 2010 ending balance of total equity (line 7) of ₩89,349 billion (and similarly for the previous financial year, from line 1). Net income or net loss flows from the Income Statement to the Statement of Changes in Equity (lines 2 and 8 in Exhibit 1-9). Take a moment to trace these two amounts from the statement of changes in equity to the income statement (line 14). You can see that net income increases total equity, and if you have any net losses, it will decrease total equity.

Lines 3 and 9 contain items that are beyond our scope right now (for example, this is where Samsung accounts for the impact of fluctuations of foreign currency, fair value changes in financial instruments, etc). Together with the net income, they form the total comprehensive income (line 4 and line 10) for the year.

After a company earns its net income, its board of directors decides if the company should pay a dividend to the shareholders. Corporations are not obligated to pay dividends unless their boards decide to pay (i.e. declare) them. Usually, companies who are in development stages or growth mode elect not to pay dividends, opting instead to plough the money back into the company to expand operations or purchase property, plant, and equipment. Established companies usually have regular earnings (and cash) to pay dividends. Dividends decrease retained earnings because they represent a distribution of a company's assets (usually cash) to its shareholders. Samsung paid dividends amounting to ₩1,931 billion in 2010 and ₩981 billion in 2011 to its shareholders (lines 5 and 11).

Sometimes you will also see companies issuing or buying back shares in their Statement of Changes in Equity. This has been simplified and summarized in lines 6 and 12 of Exhibit 1-9. At the end of the 2011 financial year, Samsung's total equity stood at ₩101,845 billion.

## The Balance Sheet Shows a Company's Financial Position

A company's Balance Sheet, also called the **Statement of Financial Position**, reports three groups of items: assets (lines 1–12), liabilities (lines 13–22), and shareholders' equity (lines 23–26). Samsung's Consolidated Balance Sheet, shown in Exhibit 1-10, is dated December 31, 2011 and 2010, as financial position is always for a specific point in time, unlike an Income Statement which covers a period of time.

**EXHIBIT 1-10 | Samsung's Balance Sheet**

**Samsung Electronics Co. Ltd.**
**Consolidated Balance Sheet (Adapted)**
As at December 31, 2011

| | (In billions of Korean Won, KRW or ₩) | 2011 | 2010 |
|---|---|---|---|
| | **Assets** | | |
| 1 | Cash and cash equivalents | 14,691.8 | 9,791.4 |
| 2 | Trade and other receivables | 24,153.0 | 21,308.8 |
| 3 | Other current financial assets | 12,185.9 | 12,688.5 |
| 4 | Inventories | 15,716.7 | 13,364.5 |
| 5 | Other current assets | 4,754.7 | 4,249.3 |
| 6 | Total current assets | 71,502.0 | 61,402.6 |
| 7 | Associates and joint ventures | 9,204.2 | 8,335.3 |
| 8 | Property, plant and equipment | 62,044.0 | 52,964.6 |
| 9 | Intangible assets | 3,355.2 | 2,779.4 |
| 10 | Other non-current assets | 9,525.8 | 8,806.8 |
| 11 | Total non-current assets | 84,129.2 | 72,886.2 |
| 12 | Total assets | 155,631.2 | 134,288.7 |
| | **Liabilities** | | |
| 13 | Trade and other payables | 18,509.5 | 16,049.8 |
| 14 | Borrowings | 9,653.7 | 9,553.7 |
| 15 | Tax payable | 1,262.8 | 2,051.5 |
| 16 | Other current liabilities | 14,893.0 | 12,289.8 |
| 17 | Total current liabilities | 44,319.0 | 39,944.7 |
| 18 | Long-term trade and other payables | 1,024.8 | 1,072.7 |
| 19 | Long-term borrowings | 4,962.6 | 1,221.7 |
| 20 | Other non-current liabilities | 3,479.5 | 2,700.6 |
| 21 | Total non-current liabilities | 9,466.9 | 4,994.9 |
| 22 | Total liabilities | 53,785.9 | 44,939.7 |
| | **Equity** | | |
| 23 | Share capital | 5,301.4 | 5,301.4 |
| 24 | Retained earnings | 97,542.5 | 85,014.6 |
| 25 | Other equity items | (998.6) | (966.9) |
| 26 | Total equity | 101,845.3 | 89,349.1 |
| 27 | Total liabilities and equity | 155,631.2 | 134,288.7 |

*Source*: Samsung

Before we proceed, let's just make sure Samsung's accounting equation is correct. At December 31, 2011, it has total assets of ₩155,631 billion (line 12), which is financed by total liabilities of ₩53,786 billion (line 22) and equity of ₩101,845 billion (line 26). Assets = Liabilities + Equity. Alternatively, we can say that Samsung's shareholders have a net claim of ₩101,845 billion to the total assets of ₩155,631 billion after deducting liabilities of ₩155,631 billion. This relationship will always remain true at all times.

**Assets.** There are two main categories of assets: current and non-current (sometimes referred to as long-term) assets. **Current assets** are assets that are expected to be converted to cash, sold, or consumed during the next 12 months or within the business' operating cycle. Current assets typically include cash, short-term investments, receivables (also called debtors), inventory, and prepaid expenses. Samsung's total current assets at December 31, 2011 were ₩71,502 billion (line 6). Typically, current assets are presented in some order of liquidity. In this adapted example, they are presented in decreasing order of liquidity for ease of discussion. Let's examine each current asset that Samsung holds:

- All companies have cash. **Cash** is the liquid asset that's the medium of exchange, and cash equivalents include money-market accounts or other financial instruments that are easily convertible to cash. Samsung owns ₩14,692 billion in cash and cash equivalents at December 31, 2011 (line 1).
- Account receivables are amounts the company expects to collect from its debtors. Samsung has trade and other receivables totaling ₩24,153 billion (line 2). Sometimes you may see some companies use the term "debtors" to describe account receivables. Often, companies will also distinguish between trade and other receivables. Trade receivables are usually amounts due from customers, in the context of trading activities. We'll discuss accounts receivable further in Chapter 5. Occasionally, you may see the term notes receivable, which are amounts a company expects to collect from a party who has signed a promissory note to that company and therefore owes it money. Samsung doesn't own any notes receivable.
- For simplicity, we have grouped a number of items into line 3 and labeled it "other current assets." This includes items beyond the scope of this chapter, such as financial instruments, available for sale financial assets, and other items.
- Merchandise **inventory** (line 4) of ₩15,717 billion comprises all raw materials and unsold products at the end of the year. Recall that the cost of all products sold was disclosed in the income statement (see Exhibit 1-8, line 2). It's Samsung's second largest current asset after trade and other receivables. We will discuss how to account for inventory and its related Cost of Goods Sold (in the Income Statement) later (in Chapter 6).
- For simplicity, we have summarized other current assets into one line (line 5). Typically, this could include items such as prepaid expenses, loans to employees, etc. Prepaid expenses or prepayments represent amounts paid in advance for advertisements, rent, insurance, and supplies. Prepaid expenses are current assets because Samsung will benefit from these expenditures in the next financial year. We will discuss more about prepayments and accruals later (in Chapter 3).

The main categories of long-term or non-current assets are **property, plant and equipment (PPE)** (line 8), intangible assets (line 9) and long-term investments (such as investment in associated entities and joint ventures) and other long-term assets. We will examine PPE and intangibles in greater detail later (in Chapter 7), and also investments (in Chapter 8). Let's have a quick look at what non-current assets Samsung has on its Balance Sheet:

- Net Property, Plant, and Equipment (PPE, sometimes also called fixed assets) of ₩62,044 billion (line 8) includes Samsung's land, buildings, equipment, fixtures, fittings and installations, etc. PPE is Samsung's largest asset (about 75% of total non-current assets or about 40% of total assets). PPE conveys economic benefits over the useful lives of its components, and their acquisition costs are allocated systematically throughout their useful lives. This process is called depreciation. The cumulative amounts that have been previously allocated are called accumulated depreciation. Samsung's Notes to the Accounts (you will need to obtain the full annual report from Samsung's website) show that the gross PPE was ₩133,972 billion and accumulated depreciation was ₩71,928 billion as at December 31, 2011. On the balance sheet, it is shown net at ₩62,044 billion (line 8).
- Intangibles are assets with no physical form, such as patents, trademarks, and goodwill. Samsung has ₩3,355 billion of intangibles (line 9), mostly in the form of intellectual property rights and goodwill on acquisitions of subsidiaries.
- Again, for simplicity, we have combined various other non-current assets into one account (line 10). These include long-term prepayments, deferred tax assets, and other non-current financial assets.

Overall, Samsung reports total assets of ₩155,631 billion at December 31, 2011 (line 12).

**Liabilities.** Liabilities are also divided into current and non-current categories. Current liabilities (lines 13–16) are obligations or debts payable within one year. **Current liabilities** typically include accounts such as accounts payable, taxes payable, and other liabilities like short-term notes payable, and salaries/wages payable. Non-current liabilities are obligations that are likely to require an outflow of economic benefits after one financial year:

- Trade and account payables (line 13) are the amount due to Samsung's creditors, most likely suppliers of its raw materials inventory and other service providers. This amounts to ₩18,510 billion, clearly Samsung's largest current liability. Similar to receivables, sometimes you will see companies further classifying Payables into trade payables (or Creditors), note payable, and other payables.
- Samsung has total borrowings of ₩14,616 billion, of which ₩9,654 billion is due within the next financial year (line 14) and ₩4,963 billion of long-term debt due beyond the next financial year (line 19). Whilst you see two line items on this Balance Sheet, it does not necessarily mean that Samsung has two (and only two) distinct loans. Even if Samsung only has one financing arrangement, as long as there is some amount due in the next financial year, it will disclose the current portion separately from the non-current portion. Similarly, Samsung may have a number of long-term loans, and the figures on the balance sheet are the aggregate amounts of the various long-term loans it has.
- Tax payable (line 15) of ₩1,263 billion is the amount due to various tax authorities.
- Other liabilities (line 16 and 20) comprise provisions, pre-collected revenue (or unearned revenue), and deferred tax liabilities.

Overall, Samsung reports total liabilities of ₩53,786 billion as at December 31, 2011 (line 22). You may recall earlier that the total assets were ₩155,631 billion. This means that almost 35% of Samsung's assets are financed by liabilities.

**Shareholders' Equity.** Earlier you have seen the reconciliation of movement in total equity in the last two financial years (Exhibit 1-9). You can check that the total equity figures at the end of 2010 and 2011 (line 27 of Exhibit 1-10) tally with lines 7 and 13 of Exhibit 1-19. Samsung's equity consists of:

- Capital. **Paid-in capital** (sometimes labeled share capital or simply, capital) of ₩5,301.4 billion (line 23). Samsung has preference and ordinary shares (also called "preferred stock" and "common stock," respectively). We will examine equity items and transactions later (in Chapter 10).
- Retained earnings totaled ₩97,543 billion (line 24). Recall our earlier discussions on retained earnings (see Exhibit 1-6). Retained earnings records the earnings of the entity less the dividends it pays out.
- In Samsung's Balance Sheet, we have combined a number of items under the headings "Other equity items" (which includes various reserves and non-controlling interests). The detailed breakdown of the other items is beyond what we want to cover for now. We will explore more in Chapter 10.

Last but not least, the Statement of Cash Flows is the fourth required financial statement.

## The Statement of Cash Flows Shows a Company's Cash Receipts and Payments

CASH FLOW

Companies engage in three basic types of activities: **operating activities**, **investing activities** and **financing activities**. The **statement of cash flows** reports cash flows under each of these activities. Think about the cash flows (receipts and payments) in each category:

- Companies operate by selling goods and services to customers. Operating activities result in net income or net loss, and they either increase or decrease cash. The Income Statement tells us whether the company is profitable but this does not necessarily mean the company has been able to generate cash from operations. Sooner or later, to be successful, a company will need to bring in cash from its operations. For now, we will calculate cash flow from operating activities as an adjustment (line 3 in Exhibit 1-11) to net income.
- Companies also invest in non-current assets such as Property, Plant and Equipment. You saw earlier that Samsung's largest asset is its PPE of ₩62,044 billion. Both purchases and sales of long-term assets are investing cash flows. Cash flows from investing activities show a company's investments into its production capacity.
- Companies need money for financing. Financing comes from both equity owners and borrowings. Samsung's cash flows from financing activities would include any issuance of shares, repurchase of shares, dividend payments as well as proceeds and repayments of borrowings.

Have a look at Samsung's simplified Statement of Cash Flows in Exhibit 1-11. We will examine the components of various cash flow activities in greater detail later (in Chapter 11).

**EXHIBIT 1-11 | Samsung's Statement of Cash Flows**

**Samsung Electronics Co. Ltd.**
**Consolidated Statement of Cash Flows (Adapted)**
As at December 31, 2011

| | (In billions of Korean Won, KRW or ₩) | 2011 | 2010 |
|---|---|---|---|
| 1 | Profit for the year | 13,734.1 | 16,146.5 |
| 2 | Reconciliations | 9,183.8 | 7,680.3 |
| 3 | Net cash generated from operating activities | 22,917.9 | 23,826.8 |
| 4 | Net cash used in investing activities | 21,112.6 | (23,984.9) |
| 5 | Net cash used in financing activities | 3,109.7 | (152.3) |
| 6 | Effect of exchange rate changes | (14.7) | (48.1) |
| 7 | Net (decrease) increase in cash and cash equivalents | 4,900.4 | (358.5) |
| 8 | Cash and cash equivalent beginning of the year | 9,791.4 | 10,149.9 |
| 9 | Cash and cash equivalent end of the year | 14,691.8 | 9,791.4 |

*Source*: Samsung

Overall, Samsung's cash increased by about ₩4,900 billion during 2011 (line 7) and ended the year at ₩14,692 billion (line 9). Trace ending cash back to the balance sheet in Exhibit 1-10 (line 1). Cash links the statement of cash flows to the balance sheet.

Let's now summarize the relationships that link the financial statements.

# Relationships Among the Financial Statements

**OBJECTIVE**

**5** **Use** information in financial statements to make business decisions, which are informed by economic, legal, and ethical guidelines

Exhibit 1-12 summarizes the relationships among the financial statements of ABC Company for 20X6. These statements are summarized with all amounts assumed for the illustration. Study the exhibit carefully because these relationships apply to all organizations. Specifically, note the following:

1. The Income Statement for the year ended December 31, 20X6
   a. Reports revenues and expenses of the year. Revenues and expenses are reported only on the income statement.
   b. Reports net income if total revenues exceed total expenses. If expenses exceed revenues, there is a net loss.
2. The Statement of Changes in Equity for the year ended December 31, 20X6
   a. Opens with the beginning equity balance.
   b. Adds net income (or subtracts net loss). Net income comes directly from the Income Statement (arrow ① in Exhibit 1-12).
   c. Subtracts dividends.
   d. Reports the equity balance at the end of the year.
3. The Balance Sheet at December 31, 20X6, end of the accounting year
   a. Reports assets, liabilities, and equity at the end of the year. Only the balance sheet reports assets and liabilities.
   b. Reports that assets equal the sum of liabilities plus equity. This balancing feature follows the accounting equation and gives the balance sheet its name.
   c. Reports total equity, which comes from the Statement of Changes in Equity (arrow ② in Exhibit 1-12).

**EXHIBIT 1-12 | Relationships Among the Financial Statements**

**ABC Company**
**Income Statement**
**Year Ended December 31, 20X6**

| | |
|---|---|
| Revenues | $700,000 |
| Expenses | 670,000 |
| Net income | $ 30,000 |

**ABC Company**
**Statement of Changes in Equity**
**Year Ended December 31, 20X6**

| | |
|---|---|
| Beginning equity | $160,000 |
| Net income | 30,000 |
| Cash dividends | (10,000) |
| Ending equity | $180,000 |

**ABC Company**
**Balance Sheet**
**December 31, 20X6**

| | |
|---|---|
| **Assets** | |
| Cash | $ 35,000 |
| All other assets | 265,000 |
| Total assets | $300,000 |
| **Liabilities** | |
| Bank loan | $ 50,000 |
| All other liabilities | 70,000 |
| Total liabilities | 120,000 |
| **Shareholders' Equity** | |
| Share capital | 40,000 |
| Retained earnings | 140,000 |
| Total shareholders' equity | 180,000 |
| Total liabilities and shareholders' equity | $300,000 |

**ABC Company**
**Statement of Cash Flows**
**Year Ended December 31, 20X6**

| | |
|---|---|
| Net cash provided by operating activities | $ 55,000 |
| Net cash used for investing activities | (15,000) |
| Net cash provided by financing activities | (10,000) |
| Net increase in cash | 30,000 |
| Cash balance, December 31, 20X5 | 5,000 |
| Cash balance, December 31, 20X6 | $ 35,000 |

4. The Statement of Cash Flows for the year ended December 31, 20X6
   a. Reports cash flows from operating, investing, and financing activities. Each category results in net cash provided (an increase) or used (a decrease).
   b. Reports whether cash increased (or decreased) during the year. The statement shows the ending cash balance, as reported on the balance sheet (arrow ③ in Exhibit 1-12).

## DECISION GUIDELINES

### IN EVALUATING A COMPANY, WHAT DO DECISION MAKERS LOOK FOR?

These Decision Guidelines illustrate how people use financial statements. Decision Guidelines appear throughout the text to show how accounting information aids decision making.

Suppose you are considering an investment in Samsung. How do you proceed? Where do you get the information you need? What do you look for?

| Decision | Guidelines |
|---|---|
| 1. Can the company sell its products? | 1. Sales revenue on the income statement. Are sales growing or falling? |
| 2. What are the main income measures to watch for trends? | 2. a. Gross profit (Sales – Cost of goods sold)<br>b. Operating income (Gross profit – Operating expenses)<br>c. Net income (bottom line of the income statement)<br>All three income measures should be increasing over time. |
| 3. What percentage of sales revenue ends up as profit? | 3. Divide net income by sales revenue. Examine the trend of the net income percentage from year to year. |
| 4. Can the company collect its receivables? | 4. From the balance sheet, compare the percentage increase in accounts receivable to the percentage increase in sales. If receivables are growing much faster than sales, collections may be too slow, and the risk of defaults increases. |
| 5. Can the company pay its<br>a. Current liabilities?<br>b. Current and long-term liabilities? | 5. From the balance sheet, compare<br>a. Current assets to current liabilities. Current assets should be somewhat greater than current liabilities.<br>b. Total assets to total liabilities. Total assets must be somewhat greater than total liabilities. |
| 6. Where is the company's cash coming from? How is cash being used? | 6. On the cash-flows statement, operating activities should provide the bulk of the company's cash during most years. Otherwise, the business will fail. Examine investing cash flows to see if the company is purchasing long-term assets—property, plant and equipment and intangibles (this usually signals potential growth). |

## ETHICS IN BUSINESS AND ACCOUNTING DECISIONS

Good business requires decision making, which in turn requires the exercise of good judgment, both at the individual and corporate levels. For example, you may work for or eventually run a company like **Starbucks** that has decided to devote 5 cents from every cup of coffee sold to helping save the lives of AIDS victims in Africa. Can that be profitable in the long run?

Perhaps as an accountant, you may have to decide whether to record a $50,000 expenditure for a piece of equipment as an asset on the balance sheet or an expense on the income statement. Alternatively, as a sales manager for a company like **SAP**, you may have to decide whether $25 million of goods and services delivered to customers in 2013 would be more appropriately recorded as revenue in 2013 or 2014.

IFRSs are "principles-based," as opposed to US GAAP that are largely more "rules-based." This put greater emphasis on the importance of judgment in determining the appropriate accounting recognition, measurement, and presentation. Depending on the type of business, the facts and circumstances surrounding accounting decisions may not always make them clear cut, and yet the decision may determine whether the company shows a profit or a loss in a particular period! What are the factors that influence business and accounting decisions, and how should these factors be weighed? Generally, three factors influence business and accounting decisions: economic, legal, and ethical.

The economic factor states that the decision being made should the economic benefits to the decision maker. Based on most economic theory, every rational person faced with a decision will choose the course of action that maximizes his or her own welfare, without regard to how that decision impacts others. In summary, the combined outcome of each person acting in his or her own self-interest will maximize the benefits to society as a whole.

The legal factor is based on the proposition that free societies are governed by laws. Laws are written to provide clarity and to prevent abuse of the rights of individuals or society. Democratically enacted laws both contain and express society's collective moral standards. Legal analysis involves applying the relevant laws to each decision, and then choosing the action that complies with those laws. A complicating factor for a global business may be that what is legal in one country might not be legal in another. In that case, it is usually best to abide by the laws of the most restrictive country.

The ethical factor states that while certain actions might be both economically profitable and legal, they may still not be right. Therefore, most companies, and many individuals, have established standards for themselves to enforce a higher level of conduct than that imposed by law. These standards govern how we treat others and the way we restrain our selfish desires. This behavior and its underlying beliefs are the essence of ethics. **Ethics** are shaped by our cultural, socioeconomic, and religious backgrounds. An ethical analysis is needed to guide judgment for making decisions.

The decision rule in an ethical analysis is to choose the action that fulfills ethical duties—responsibilities of the members of society to each other. The challenge in an ethical analysis is to identify specific ethical duties and stakeholders to whom you owe these duties. As with legal issues, a complicating factor in making global ethical decisions may be that what is considered ethical in one country is not considered ethical in another.

Among the questions you may ask in making an ethical analysis are:

- *Which options are most honest, open, and truthful?*
- *Which options are most kind, compassionate, and build a sense of community?*
- *Which options create the greatest good for the greatest number of stakeholders?*
- *Which options result in treating others as I would want to be treated?*

Ethical training starts at home and continues throughout our lives. It is reinforced by the teaching that we receive in our churches, temples, synagogues, or mosques; the schools we attend; and by the persons we associate with and by the company we keep. A thorough understanding of ethics requires more study than we can accomplish in this book. However, remember that when making accounting decisions, do not leave your ethics at the door!

# DECISION GUIDELINES

## DECISION FRAMEWORK FOR MAKING ETHICAL JUDGMENTS

Weighing tough ethical judgments in business and accounting requires a decision framework. Answering the following four elements will guide you through tough decisions:

| Decision | Guidelines |
|---|---|
| 1. What is the issue? | 1. The issue will usually deal with making a judgment about an accounting measurement or disclosure that results in economic consequences, often to numerous parties. |
| 2. Who are the stakeholders, and what are the consequences of the decision to each? | 2. Stakeholders are anyone who might be impacted by the decision—you, your company, and potential users of the information (investors, creditors, regulatory agencies). Consequences can be economic, legal, or ethical in nature. |
| 3. Weigh the alternatives. | 3. Analyze the impact of the decision on all stakeholders, using economic, legal, and ethical criteria. Ask "Who will be helped or hurt, whose rights will be exercised or denied, and in what way?" |
| 4. Make the decision and be prepared to deal with the consequences. | 4. Exercise the courage to either defend the decision or to change it, depending on its positive or negative impact. How does your decision make you feel afterward? |

To simplify, we might ask three questions:

**1.** Is the action legal? If not, steer clear, unless you want to go to jail or pay monetary damages to injured parties. If the action is legal, go on to questions (2) and (3).
**2.** Who will be affected by the decision and how? Be as thorough about this analysis as possible, and analyze it from all three standpoints (economic, legal, and ethical).
**3.** How will this decision make me feel afterward? How would it make me feel if my family were to read about it in the newspaper?

In later chapters throughout the text, we will apply this model to different accounting decisions.

In the business setting, ethics work best when modeled from the top. **Ethisphere Institute** (www.ethisphere.com) has recently established the Business Ethics Leadership Alliance (BELA), aimed at "reestablishing ethics as the foundation of everyday business practices." BELA members agree to embrace and uphold four core values that incorporate ethics and integrity into all their practices: (1) Legal compliance; (2) Transparency; (3) Conflict identification; and (4) Accountability. Each year, Ethisphere Institute publishes a list of the World's Most Ethical Companies. The 2011 list includes corporations like **Adidas, Standard Chartered Bank, Symantec Corporation, Accenture, Colgate-Palmolive Company, Singapore Telecom, Ricoh** and **Vestas Wind**. As you begin to make your decisions about future employers, put these companies on your list! It's easier to act ethically when those you work for recognize the importance of ethics in business practices. These companies have learned from experience that, in the long run, ethical conduct pays big rewards, not only socially, morally, and spiritually, but economically as well!

# END-OF-CHAPTER SUMMARY PROBLEM

ShineBrite Car Wash, Inc., began operations on April 1, 20X6. During April, the business provided services for customers. It is now April 30, and investors wonder how well ShineBrite performed during its first month. The investors also want to know the company's financial position at the end of April and its cash flows during the month.

The following data are listed in alphabetical order. Prepare the ShineBrite financial statements at the end of April 20X6.

| | | | |
|---|---|---|---|
| Accounts payable | $ 1,800 | Land | $18,000 |
| Accounts receivable | 2,000 | Payments of cash: | |
| Adjustments to reconcile net income to net cash provided by operating activities | (3,900) | Acquisition of land | 40,000 |
| Cash balance at beginning of April | 0 | Dividends | 2,100 |
| Cash balance at end of April | ? | Rent expense | 1,100 |
| Cash receipts: | | Retained earnings at beginning of April | 0 |
| Issuance (sale) of shares to owners | 50,000 | Retained earnings at end of April | ? |
| Sale of land | 22,000 | Salary expense | 1,200 |
| Share capital | 50,000 | Service revenue | 10,000 |
| | | Supplies | 3,700 |
| | | Utilities expense | 400 |

### Requirements

1. Prepare the income statement, the statement of changes in equity, and the statement of cash flows for the month ended April 30, 20X6, and the balance sheet at April 30, 20X6. Draw arrows linking the statements.
2. Answer the following questions:
   a. How well did ShineBrite perform during its first month of operations?
   b. Where does ShineBrite stand financially at the end of April?

## Answers

### Requirement 1

Financial Statements of ShineBrite Car Wash, Inc.

**ShineBrite Car Wash, Inc.**
**Income Statement**
Month Ended April 30, 20X6

| | | |
|---|---|---|
| Revenue: | | |
| Service revenue | | $10,000 |
| Expenses: | | |
| Salary expense | $1,200 | |
| Rent expense | 1,100 | |
| Utilities expense | 400 | |
| Total expenses | | 2,700 |
| Net income | | $ 7,300 |

①

**ShineBrite Car Wash, Inc.**
**Statement of Changes in Equity**
Month Ended April 30, 20X6

| | |
|---|---|
| Total equity, April 1, 20X6 | $ 0 |
| Add: Issurance of share capital | 50,000 |
| Add: Net income for the month | 7,300 |
| | 57,300 |
| Less: Dividends | (2,100) |
| Total equity, April 30, 20X6 | $55,200 |

②

**ShineBrite Car Wash, Inc.**
**Balance Sheet**
April 30, 20X6

| *Assets* | | *Liabilities* | |
|---|---|---|---|
| Cash | $33,300 | Accounts payable | $ 1,800 |
| Accounts receivable | 2,000 | | |
| Supplies | 3,700 | *Shareholders' Equity* | |
| Land | 18,000 | Share capital | 50,000 |
| | | Retained earnings | 5,200 |
| | | Total shareholders' equity | 55,200 |
| | | Total liabilities and | |
| Total assets | $57,000 | shareholders' equity | $57,000 |

③

**ShineBrite Car Wash, Inc.**
**Statement of Cash Flows**
Month Ended April 30, 20X6

| | | |
|---|---|---|
| Cash flows from operating activities: | | |
| Net income | | $ 7,300 |
| Adjustments to reconcile net income to net cash | | |
| provided by operating activities | | (3,900) |
| Net cash provided by operating activities | | 3,400 |
| Cash flows from investing activities: | | |
| Acquisition of land | $(40,000) | |
| Sale of land | 22,000 | |
| Net cash used for investing activities | | (18,000) |
| Cash flows from financing activities: | | |
| Issuance (sale) of shares | $ 50,000 | |
| Payment of dividends | (2,100) | |
| Net cash provided by financing activities | | 47,900 |
| Net increase in cash | | $33,300 |
| Cash balance, April 1, 20X6 | | 0 |
| Cash balance, April 30, 20X6 | | $33,300 |

*Requirement 2*

**a.** ShineBrite performed rather well in April. Net income was $7,300—very good in relation to service revenue of $10,000. The company was able to pay cash dividends of $2,100.

**b.** ShineBrite ended April with cash of $33,300. Total assets of $57,000 far exceed total liabilities of $1,800. Shareholders' equity of $55,200 provides a good cushion for borrowing. The business's financial position at April 30, 20X6, is strong.

# REVIEW THE FINANCIAL STATEMENTS

## Quick Check (Answers are given at the end of the chapter.)

1. All of the following statements are true except one. Which statement is false?
   **a.** The organization that formulates IFRSs is the International Accounting Standards Board.
   **b.** Users of financial information are limited to shareholders of the company.
   **c.** Professional accountants are held to a high standard of ethical conduct.
   **d.** Bookkeeping is only a part of accounting.
2. Which of the following items are fundamental qualitative characteristics of financial information?
   **a.** Going concern and accrual accounting
   **b.** Relevance and faithful representation
   **c.** Materiality and Cost-benefits
   **d.** Assets and Liabilities
3. The accounting equation can be expressed as:
   **a.** Assets = Liabilities − Owners' Equity
   **b.** Assets + Liabilities = Owners' Equity
   **c.** Assets − Liabilities = Owners' Equity
   **d.** Owners' Equity − Assets = Liabilities
4. The nature of an asset is best described as:
   **a.** an economic resource that's expected to benefit future operations
   **b.** something with physical form that's valued at cost in the accounting records
   **c.** something owned by a business that has a ready market value
   **d.** an economic resource representing cash or the right to receive cash in the future
5. Which financial statement covers a period of time?
   **a.** Balance sheet
   **b.** Income statement
   **c.** Statement of cash flows
   **d.** Both b and c
6. How would net income be most likely to affect the accounting equation?
   **a.** Increase assets and increase liabilities
   **b.** Decrease assets and decrease liabilities
   **c.** Increase liabilities and decrease shareholders' equity
   **d.** Increase assets and increase shareholders' equity
7. During the year, EcoWash has $120,000 in revenues, $50,000 in expenses, and $4,000 in dividend payments. Shareholders' equity changed by:
   **a.** +$66,000
   **b.** +$70,000
   **c.** −$66,000
   **d.** +$74,000
8. EcoWash in question 7 had a:
   **a.** net loss of $50,000
   **b.** net income of $70,000
   **c.** net income of $66,000
   **d.** net income of $120,000

9. Rochester Corporation holds cash of $11,000 and owes $27,000 on accounts payable. Rochester has accounts receivable of $40,000, inventory of $34,000, and land that cost $55,000. How much are Rochester's total assets and liabilities?

| | *Total assets* | *Liabilities* |
|---|---|---|
| **a.** | $129,000 | $27,000 |
| **b.** | $27,000 | $140,000 |
| **c.** | $140,000 | $27,000 |
| **d.** | $140,000 | $93,000 |

10. Which item(s) is (are) reported on the balance sheet?
    - **a.** Inventory
    - **b.** Accounts payable
    - **c.** Retained earnings
    - **d.** All of the above
11. During the year, McKenna Company's shareholders' equity increased from $38,000 to $50,000. McKenna earned net income of $18,000. How much in dividends did McKenna declare during the year?
    - **a.** $0 (no dividends were paid)
    - **b.** $6,000
    - **c.** $12,000
    - **d.** $7,000
12. Javis Company had total assets of $340,000 and total shareholders' equity of $130,000 at the beginning of the year. During the year assets increased by $70,000 and liabilities increased by $25,000. Shareholders' equity at the end of the year is:
    - **a.** $95,000
    - **b.** $175,000
    - **c.** $200,000
    - **d.** $155,000
13. Which of the following is a true statement about International Financial Reporting Standards?
    - **a.** They are newer than US financial reporting standards.
    - **b.** They require less judgement than other accounting standards.
    - **c.** They have been adopted (or allowed as an alternative) by many countries and territories around the world.
    - **d.** They are worse than local accounting standards as they do not understand local business conditions and practices.
14. Which of the following is the most accurate statement regarding ethics as applied to decision making in accounting?
    - **a.** Ethics involves making difficult choices under pressure, and should be kept in mind in making every decision, including those involving accounting.
    - **b.** Ethics has no place in accounting, since accounting deals purely with numbers.
    - **c.** It is impossible to learn ethical decision making, since it is just something you decide to do or not to do.
    - **d.** Ethics is becoming less and less important as a field of study in business.

## Accounting Vocabulary

**accounting** (p. 4) The information system that measures business activities, processes that information into reports and financial statements, and communicates the results to decision makers.

**accounting equation** (p. 14) The most basic relationship in accounting: Assets = Liabilities + Equity, or Assets − Liabilities = Equity. Also Revenue − Expenses = Profit (Loss).

**accrual basis** (p. 13) Business transactions and other events are recognized when they occur and not when cash is received or paid.

**asset** (p. 13) An economic resource that is expected to be of benefit in the future.

**balance sheet** (p. 14) List of an entity's assets, liabilities, and owners' equity as at a specific date. Also called the statement of financial position.

**cash** (p. 22) Money or any medium of exchange that a bank accepts at face value.

**conceptual framework** (p. 8) The basic objective, principles and assumptions guiding the presentation and preparation of general purpose financial statements.

**corporations** (p. 6) A business owned by shareholders. A corporation is a legal entity, an "artificial person" in the eye of the law.

**current asset** (p. 22) An asset that is expected to be converted to cash, sold, or consumed during the next 12 months.

**current liability** (p. 23) A debt due to be paid within one year.

**dividends** (p. 15) Distributions (usually in the form of cash) by a corporation to its shareholders.

**economic phenomena** (p. 11) Information about the reporting entity's economic resources, claims against the reporting entity, and the effects of transactions and other events and conditions that change those resources and claims.

**equity** (p. 13) The owners' residual claim to the assets of the business (i.e. after deducting outstanding liabilities). Also called owners' equity, shareholders' equity, or net assets.

**ethics** (p. 28) Standards of right and wrong that transcend economic and legal boundaries. Ethical standards deal with the way we treat others and restrain our own actions because of the desires, expectations, or rights of others, or with our obligations to them.

**expenses** (p. 13) Decrease in equity that results from operations; the cost of doing business; opposite of revenues.

**financial accounting** (p. 5) The branch of accounting that provides information to people outside the firm.

**financial statements** (p. 2) Business documents that report financial information about a business entity to decision makers.

**financing activities** (p. 24) Activities that obtain from investors and creditors the cash needed to launch and sustain the business; a section of the statement of cash flows.

**gains** (p. 13) Usually separated from revenues. Part of income and result in an increase in equity.

**general purpose financial statements** (p. 9) The common set of financial statements prepared for all users of financial statements.

**Generally Accepted Accounting Principles** (GAAP) (p. 7) Accounting guidelines, usually in reference to US standards as formulated by the Financial Accounting Standards Board. By 2014, US GAAP is expected to converge with IFRS.

**going concern** (p. 13) An assumption that an entity will remain in operation for the foreseeable future.

**income** (p. 13) Increases in equity from revenue and gains.

**income statement** (p. 14) A financial statement listing an entity's revenues, expenses, and net income or net loss for a specific period. Part of the Statement of Comprehensive Income.

**International Financial Reporting Standards (IFRS)** (p. 7) Accounting guidelines, formulated by the International Accounting Standards Board (IASB).

**inventory** (p. 22) The merchandise that a company holds for sale to customers.

**investing activities** (p. 24) Activities that increase or decrease the long-term assets available to the business; a section of the statement of cash flows.

**liability** (p. 13) An economic obligation payable to an individual or an organization outside the business.

**losses** (p. 13) Usually separated from expenses, results in a reduction in equity.

**management accounting** (p. 5) The branch of accounting that generates information for the internal decision makers of a business, such as top executives.

**materiality** (p. 11) The importance or significance of information that may change the user's final assessment of a situation.

**net income** (p. 14) Excess of total revenues over total expenses. Also called net earnings or net profit.

**net loss** (p. 14) Excess of total expenses over total revenues.

**net profit** (p. 14) Another name for net income.

**operating activities** (p. 24) Activities that create revenue or expense in the entity's major line of business; a section of the statement of cash flows.

**paid-in capital** (p. 24) The amount of shareholders' equity that shareholders have contributed to the corporation.

**partnership** (p. 6) An association of two or more persons who co-own a business for profit.

**property, plant and equipment or PPE** (p. 22) Long-lived assets, such as land, buildings, and equipment, used in the operation of the business. Also called fixed assets.

**proprietorship** (p. 5) A business with a single owner.

**qualitative characteristics** (p. 11) The attributes that are most likely to make the information provided in financial statements useful to users.

**reporting entity** (p. 5) An organization or a section of an organization that, for accounting purposes, stands apart from other organizations and individuals as a separate economic unit.

**retained earnings** (p. 13) The amount of shareholders' equity that the corporation has earned through profitable operation that has been retained in the business (not distributed back to shareholders).

**revenue** (p. 13) Increase in retained earnings from delivering goods or services to customers or clients.

**share capital** (p. 13) Proof of ownership in a company. Amount invested by owners into the business through share ownership.

**shareholder** (p. 6) A person who owns shares in a corporation.

**statement of cash flows** (p. 24) Reports cash receipts and cash payments classified according to the entity's major activities: operating, investing, and financing.

**statement of changes in equity** (p. 20). Provides a reconciliation of the movement of equity items during a financial period. Affected share issuance, share cancellation, net income (or net loss) and dividends paid.

**statement of comprehensive income** (p. 17) Net profit (loss) for the period plus other comprehensive income.

**statement of financial position** (p. 21) Another name for the balance sheet.

# ASSESS YOUR PROGRESS

## Short Exercises

**S1-1** ***(Learning Objective 3: Using the accounting equation)*** Suppose you manage a Pizza Sauce restaurant. Identify the missing amount for each situation:

| | Total Assets | = | Total Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|---|
| a. | $ ? | | $130,000 | | $210,000 |
| b. | 250,000 | | 70,000 | | ? |
| c. | 190,000 | | ? | | 80,000 |

**S1-2** ***(Learning Objective 5: Making ethical judgments)*** Good business and accounting practices require the exercise of good judgment. How should ethics be incorporated into making accounting judgments? Why is ethics important?

**S1-3** ***(Learning Objective 1: Organizing a business)*** A Healthy Planet, Inc., needs funds, and Mary Barry, the president, has asked you to consider investing in the business. Answer the following questions about the different ways that Barry might organize the business. Explain each answer.

**a.** What forms of organization will enable the owners of A Healthy Planet to limit their risk of loss to the amounts they have invested in the business?
**b.** What form of business organization will give Mary Barry the most freedom to manage the business as she wishes?
**c.** What form of organization will give creditors the maximum protection in the event that A Healthy Planet fails and cannot pay its debts?

**S1-4** ***(Learning Objective 2: Applying accounting assumptions)*** Daniel Newman is chairman of the board of Quality Food Brands, Inc. Suppose Mr. Newman has just founded Quality Food Brands, and assume that he treats his home and other personal assets as part of Quality Food Brands. Answer these questions about the evaluation of Quality Food Brands, Inc.

1. Which accounting principle governs this situation?
2. How can the proper application of this accounting concept give Newman and others a realistic view of Quality Food Brands, Inc.? Explain in detail.

**S1-5** ***(Learning Objective 2: Understanding Conceptual Framework)*** Identify the accounting assumption, principle or qualitative characteristic that best applies to each of the following situations:

**a.** At the height of the financial crisis, there were speculations that Lehman Brothers would not be able to meet its obligations before it eventually filed for bankruptcy on September 15, 2008.
**b.** ComfortDelgro, a transportation company, has been using an eight-year lifespan on the roadworthiness of its fleet of buses. Better maintenance and servicing have allowed the company to use its buses for a period of 12 years.
**c.** F&N is the parent company of Asia Pacific Breweries and Boncafe Beverages, and wishes to evaluate which subsidiary has performed better.
**d.** You are about to report your net income for the year. It looks like a record breaking year, sales are expected to top the $10 million mark for the first time. However, you are uncertain if you have actually delivered the goods ordered by one customer on December 30, 20X6 totaling $500,000.

**S1-6** ***(Learning Objective 3: Using the accounting equation)***

1. Use the accounting equation to show how to determine the amount of a company's owners' equity. How would your answer change if you were analyzing your own household or a single Burger King outlet?

2. If you know the assets and the owners' equity of a business, how can you measure its liabilities? Give the equation.

**S1-7** ***(Learning Objective 1: Defining key accounting terms)*** Accounting definitions are precise, and you must understand the vocabulary to properly use accounting. Sharpen your understanding of key terms by answering the following questions:

1. How do the assets and owners' equity of Volkswagen Corporation differ from each other? Which one (assets or owners' equity) must be at least as large as the other? Which one can be smaller than the other?
2. How are Volkswagen's liabilities and owners' equity similar? Different?

**S1-8** ***(Learning Objective 1: Classifying assets, liabilities, and owners' equity)*** Consider Carrefour, a large retailer. Classify the following items as an Asset (A), a Liability (L), or Shareholders' Equity (S) for Target:

| | |
|---|---|
| **a.** ____ Accounts payable | **g.** ____ Accounts receivable |
| **b.** ____ Share capital | **h.** ____ Long-term debt |
| **c.** ____ Supplies | **i.** ____ Merchandise inventory |
| **d.** ____ Retained earnings | **j.** ____ Notes payable |
| **e.** ____ Land | **k.** ____ Expenses payable |
| **f.** ____ Prepaid expenses | **l.** ____ Equipment |

**S1-9** ***(Learning Objectives 1, 4: Using accounting vocabulary; using the income statement)***

1. Identify the two basic categories of items on an income statement.
2. What do we call the bottom line of the income statement?

**S1-10** ***(Learning Objective 4: Preparing an income statement)*** Call Anywhere Wireless, Inc., began 20X6 with total assets of $130 million and ended 20X6 with assets of $165 million. During 20X6 Call Anywhere earned revenues of $94 million and had expenses of $23 million. Call Anywhere paid dividends of $13 million in 20X6. Prepare the company's income statement for the year ended December 31, 20X6, complete with an appropriate heading.

**S1-11** ***(Learning Objective 4: Preparing a statement of changes in equity)*** Roam Corp. began 20X6 with retained earnings of $210 million and share capital of $100 million. Revenues during the year were $380 million and expenses totaled $250 million. Roam declared and paid dividends of $43 million. What was the company's ending balance of retained earnings? To answer this question, prepare Roam's statement of changes in equity for the year ended December 31, 20X6, complete with its proper heading.

**S1-12** ***(Learning Objective 4: Preparing a balance sheet)*** At December 31, 20X6, Tommer Products has cash of $12,000, receivables of $5,000, and inventory of $42,000. The company's equipment totals $82,000. Tommer owes accounts payable of $17,000, and long-term notes payable of $78,000. Share capital amounts to $14,800.

Prepare Tommer's balance sheet at December 31, 20X6, complete with its proper heading. Use the accounting equation to compute retained earnings.

**S1-13** ***(Learning Objective 4: Preparing a statement of cash flows)*** Lanos Medical, Inc., ended 20X5 with cash of $25,000. During 20X6, Lanos earned net income of $95,000 and had adjustments to reconcile net income to net cash provided by operations totaling $20,000 (this is a negative amount).

Lanos paid $35,000 to purchase equipment during 20X6. During 20X6, the company paid dividends of $15,000.

Prepare Lanos' statement of cash flows for the year ended December 31, 20X6, complete with its proper heading.

**S1-14** ***(Learning Objectives 1, 4: Using accounting vocabulary; identifying items with the appropriate financial statement)*** Suppose you are analyzing the financial statements of Murphy Radiology, Inc. Identify each item with its appropriate financial statement, using the following abbreviations: Income statement (IS), Statement of Changes in Equity (SCE), Balance sheet (BS), and Statement of cash flows (SCF). Three items appear on two financial statements, and one item shows up on three statements.

**a.** ____ Dividends
**b.** ____ Salary expense
**c.** ____ Inventory
**d.** ____ Sales revenue
**e.** ____ Retained earnings
**f.** ____ Net cash provided by operating activities
**g.** ____ Net income
**h.** ____ Cash
**i.** ____ Net cash used for financing activities
**j.** ____ Accounts payable
**k.** ____ Share capital
**l.** ____ Interest revenue
**m.** ____ Long-term debt
**n.** ____ Increase or decrease in cash

**S1-15** ***(Learning Objectives 2, 4: Applying accounting concepts, assumptions, and principles to explain business activity)*** Apply your understanding of the relationships among the financial statements to answer these questions.

**a.** How can a business earn large profits but have a small balance of retained earnings?
**b.** Give two reasons why a business can have a steady stream of net income over a six-year period and still experience a cash shortage.
**c.** If you could pick a single source of cash for your business, what would it be? Why?
**d.** How can a business lose money several years in a row and still have plenty of cash?

## Exercises

All of the A and B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

MyAccountingLab

### (Group A)

**E1-16A** ***(Learning Objective 3, 4: Using the accounting equation; evaluating business operations)*** Compute the missing amount in the accounting equation for each company (amounts in billions):

| | Assets | Liabilities | Owners' Equity |
|---|---|---|---|
| Fresh Produce | $ ? | $ 9 | $17 |
| Hudson Bank | 29 | ? | 15 |
| Pet Lovers | 21 | 10 | ? |

Which company appears to have the strongest financial position? Explain your reasoning.

**E1-17A** ***(Learning Objectives 3, 4: Using the accounting equation; evaluating business operations)*** Hombran Doughnuts has current assets of $290 million; property, plant and equipment of $490 million; and other assets totaling $150 million. Current liabilities are $150 million and long-term liabilities total $310 million.

***Requirements***

1. Use these data to write Hombran Doughnuts' accounting equation.
2. How much in resources does Hombran have to work with?
3. How much does Hombran owe creditors?
4. How much of the company's assets do the Hombran shareholders actually own?

**E1-18A** ***(Learning Objectives 3, 4: Using the accounting equation; evaluating business operations)*** Nelson, Inc.'s comparative balance sheet at January 31, 20X7, and 20X6, reports (in millions):

| | 20X7 | 20X6 |
|---|---|---|
| Total assets | $39 | $31 |
| Total liabilities | 10 | 9 |

### *Requirements*

Three situations about Nelson's issuance of shares and payment of dividends during the year ended January 31, 20X7, follow. For each situation, use the accounting equation and the statement of changes in equity to compute the amount of Nelson's net income or net loss during the year ended January 31, 20X7.

1. Nelson issued $11 million of shares and paid no dividends.
2. Nelson issued no shares but paid dividends of $11 million.
3. Nelson issued $55 million of shares and paid dividends of $32 million.

**E1-19A** ***(Learning Objective 3: Using the accounting equation)*** Answer these questions about two companies.

1. Clay, Inc., began the year with total liabilities of $50,000 and total shareholders' equity of $80,000. During the year, total assets increased by 35%. How much are total assets at the end of the year?
2. EastWest Airlines Ltd. began the year with total assets of $100,000 and total liabilities of $7,000. Net income for the year was $25,000, and dividends were zero. How much is shareholders' equity at the end of the year?

**E1-20A** ***(Learning Objectives 4, 5: Evaluating business operations; making business decisions)*** Assume Facebook is expanding into Ireland. The company must decide where to locate and how to finance the expansion. Identify the financial statement where these decision makers can find the following information about Facebook, Inc. In some cases, more than one statement will report the needed data.

**a.** Share capital
**b.** Income tax payable
**c.** Dividends
**d.** Income tax expense
**e.** Ending balance of retained earnings
**f.** Total assets
**g.** Long-term debt
**h.** Revenue
**i.** Cash spent to acquire the building
**j.** Selling, general, and administrative expenses
**k.** Adjustments to reconcile net income to net cash provided by operations
**l.** Ending cash balance
**m.** Current liabilities
**n.** Net income

■ spreadsheet

**E1-21A** ***(Learning Objectives 3, 4: Using the accounting equation; preparing a balance sheet)*** Amounts of the assets and liabilities of Ellen Samuel Banking Company, as of January 31, 20X6, are given as follows. Also included are revenue and expense figures for the year ended on that date (amounts in millions):

| | | | |
|---|---|---|---|
| Total revenue | $ 37.8 | Investment assets | $169.6 |
| Receivables | 0.9 | Property and equipment, net | 1.9 |
| Current liabilities | 151.1 | Other expenses | 6.9 |
| Share capital | 14.0 | Retained earnings, beginning | 8.6 |
| Interest expense | 0.8 | Retained earnings, ending | ? |
| Salary and other employee expenses | 17.7 | Cash | 2.1 |
| Long-term liabilities | 2.8 | Other assets | 14.4 |

**Requirement**

1. Prepare the balance sheet of Ellen Samuel Banking Company at January 31, 20X6. Use the accounting equation to compute ending retained earnings.

**E1-22A** ***(Learning Objective 4: Preparing an income statement and a statement of changes in equity)*** This exercise should be used with Exercise 1-21A. Refer to the data of Ellen Samuel Banking Company in Exercise 1-21A.

**spreadsheet**

**Requirements**

1. Prepare the income statement of Ellen Samuel Banking Company, for the year ended January 31, 20X6.
2. What amount of dividends did Ellen Samuel declare during the year ended January 31, 20X6? Hint: Prepare a statement of changes in equity.

**E1-23A** ***(Learning Objective 4: Preparing a statement of cash flows)*** Lucky, Inc., began 20X6 with $87,000 in cash. During 20X6, Lucky earned net income of $410,000, and adjustments to reconcile net income to net cash provided by operations totaled $70,000, a positive amount. Investing activities used cash of $420,000, and financing activities provided cash of $72,000. Lucky ended 20X6 with total assets of $260,000 and total liabilities of $115,000.

**Requirement**

1. Prepare Lucky, Inc.'s statement of cash flows for the year ended December 31, 20X6. Identify the data items given that do not appear on the statement of cash flows. Also identify the financial statement that reports the unused items.

**E1-24A** ***(Learning Objective 4: Preparing an income statement and a statement of changes in equity)*** Assume an Earl Copy Center ended the month of July 20X6 with these data:

| | | | |
|---|---|---|---|
| Payments of cash: | | Cash balance, June 30, 20X6 | $ 0 |
| Acquisition of equipment | $420,000 | Cash balance, July 31, 20X6 | 10,900 |
| Dividends | 4,800 | Cash receipts: | |
| Retained earnings June 30, 20X6 | 0 | Issuance of shares to owners | 69,500 |
| Retained earnings July 31, 20X6 | ? | Rent expense | 2,200 |
| Utilities expense | 10,000 | Share capital | 69,500 |
| Adjustments to reconcile net income to net cash provided by operations | 2,200 | Equipment | 420,000 |
| | | Office supplies | 14,800 |
| | | Accounts payable | 17,000 |
| Salary expense | 167,000 | Service revenue | 543,200 |

**Requirement**

1. Prepare the income statement and the statement of changes in equity of Earl Copy Center, Inc., for the month ended July 31, 20X6.

**E1-25A** ***(Learning Objective 4: Preparing a balance sheet)*** Refer to the data in Exercise 1-24A.

**Requirement**

1. Prepare the balance sheet of Earl Copy Center, Inc., for July 31, 20X6.

**E1-26A** ***(Learning Objective 4: Preparing a statement of cash flows)*** Refer to the data in Exercises 1-24A and 1-25A.

**Requirement**

1. Prepare the statement of cash flows of Earl Copy Center, Inc., for the month ended July 31, 20X6. Also explain the relationship among income statement, statement of changes in equity, balance sheet, and statement of cash flows.

writing assignment

**E1-27A** ***(Learning Objectives 4, 5: Evaluating a business; advising a business)*** This exercise should be used in conjunction with Exercises 1-24A through 1-26A.

The owner of Earl Copy Center seeks your advice as to whether he should cease operations or continue the business. Complete the report giving him your opinion of net income, dividends, financial position, and cash flows during his first month of operations. Cite specifics from the financial statements to support your opinion. Conclude your memo with advice on whether to stay in business or cease operations.

## (Group B)

**E1-28B** ***(Learning Objectives 3, 4: Using the accounting equation; evaluating business operations)*** Compute the missing amount in the accounting equation for each company (amounts in billions):

| | Assets | Liabilities | Owners' Equity |
|---|---|---|---|
| DJ Video Rentals | € ? | € 8 | €18 |
| Ernie's Bank | 34 | ? | 14 |
| Hudson Gift and Cards | 20 | 12 | ? |

Which company appears to have the strongest financial position? Explain your reasoning.

**E1-29B** ***(Learning Objectives 3, 4: Using the accounting equation; evaluating business operations)*** Tinman Doughnuts has current assets of €270 million; property, plant and equipment of €470 million; and other assets totaling €110 million. Current liabilities are €110 million and long-term liabilities total €370 million.

### *Requirements*

1. Use these data to write Tinman's accounting equation.
2. How much in resources does Tinman have to work with?
3. How much does Tinman owe creditors?
4. How much of the company's assets do the Tinman shareholders actually own?

**E1-30B** ***(Learning Objectives 3, 4: Using the accounting equation; evaluating business operations)*** Winkler, Inc.'s comparative balance sheet at January 31, 20X7, and 20X6, reports (in millions):

| | 20X7 | 20X6 |
|---|---|---|
| Total assets | €38 | €24 |
| Total liabilities | 11 | 1 |

### *Requirements*

Three situations about Winkler's issuance of shares and payment of dividends during the year ended January 31, 20X7, follow. For each situation, use the accounting equation and the statement of changes in equity to compute the amount of Winkler's net income or net loss during the year ended January 31, 20X7.

1. Winkler issued €15 million of shares and paid no dividends.
2. Winkler issued no shares but paid dividends of €11 million.
3. Winkler issued €90 million of shares and paid dividends of €35 million.

**E1-31B** ***(Learning Objective 3: Applying the accounting equation)*** Answer these questions about two companies.

1. Sapphire, Inc., began the year with total liabilities of €90,000 and total shareholders' equity of €35,000. During the year, total assets increased by 30%. How much are total assets at the end of the year?

2. Southbound Airlines Ltd. began the year with total assets of €95,000 and total liabilities of €47,000. Net income for the year was €26,000, and dividends were zero. How much is shareholders' equity at the end of the year?

**E1-32B** ***(Learning Objectives 4, 5: Evaluating business operations; making business decisions)*** Assume Lesley, Inc., is expanding into Sweden. The company must decide where to locate and how to finance the expansion. Identify the financial statement where these decision makers can find the following information about Lesley, Inc. In some cases, more than one statement will report the needed data.

**a.** Share capital
**b.** Net income
**c.** Current liabilities
**d.** Share capital
**e.** Income tax payable
**f.** Ending balance of retained earnings
**g.** Revenue
**h.** Ending cash balance
**i.** Dividends
**j.** Total assets
**k.** Long-term debt
**l.** Selling, general, and administrative expenses
**m.** Cash spent to acquire the building
**n.** Adjustments to reconcile net income to net cash provided by operations

**E1-33B** ***(Learning Objectives 3, 4: Using the accounting equation; preparing a balance sheet)*** Amounts of the assets and liabilities of Eliza Bennet Banking Company, as of May 31, 20X6, are given as follows. Also included are revenue and expense figures for the year ended on that date (amounts in millions):

■ spreadsheet

| | | | |
|---|---|---|---|
| Total revenue | € 33.5 | Investment assets | €169.8 |
| Receivables | 0.2 | Property and equipment, net | 1.6 |
| Current liabilities | 155.1 | Other expenses | 6.6 |
| Share capital | 14.9 | Retained earnings, beginning | 8.6 |
| Interest expense | 0.4 | Retained earnings, ending | ? |
| Salary and other employee expenses | 17.5 | Cash | 2.7 |
| Long-term liabilities | 2.3 | Other assets | 14.9 |

### *Requirement*

1. Prepare the balance sheet of Eliza Bennet Banking Company at May 31, 20X6. Use the accounting equation to compute ending retained earnings

**E1-34B** ***(Learning Objective 4: Preparing an income statement and a statement of changes in equity)*** This exercise should be used with Exercise 1-33B.

■ spreadsheet

### *Requirements*

1. Prepare the income statement of Eliza Bennet Banking Company, for the year ended May 31, 20X6.
2. What amount of dividends did Eliza Bennet declare during the year ended May 31, 20X6? Hint: Prepare a statement of changes in equity.

**E1-35B** ***(Learning Objective 4: Preparing a statement of cash flows)*** Fortune, Inc., began 20X6 with €83,000 in cash. During 20X6, Fortune earned net income of €440,000, and adjustments to reconcile net income to net cash provided by operations totaled €60,000, a positive amount. Investing activities used cash of €390,000, and financing activities provided cash of €65,000. Fortune ended 20X6 with total assets of €300,000 and total liabilities of €120,000.

### *Requirement*

1. Prepare Fortune, Inc.'s statement of cash flows for the year ended December 31, 20X6. Identify the data items given that do not appear on the statement of cash flows. Also identify the financial statement that reports each unused item.

**E1-36B** ***(Learning Objective 4: Preparing an income statement and a statement of changes in equity)*** Assume a Carson Copy Center ended the month of July 20X7 with these data:

| | | | |
|---|---|---|---|
| Payments of cash: | | Cash balance, June 30, 20X7 | € 0 |
| Acquisition of equipment | €410,000 | Cash balance, July 31, 20X7 | 9,500 |
| Dividends | 4,100 | Cash receipts: | |
| Retained earnings | | Issuance of shares | |
| June 30, 20X7 | 0 | to owners | 54,200 |
| Retained earnings | | Rent expense | 2,900 |
| July 31, 20X7 | ? | Share capital | 54,200 |
| Utilities expense | 10,800 | Equipment | 410,000 |
| Adjustments to reconcile | | Office supplies | 15,000 |
| net income to net cash | | Accounts payable | 17,900 |
| provided by operations | 2,900 | Service revenue | 542,200 |
| Salary expense | 162,000 | | |

**Requirement**

1. Prepare the income statement and the statement of changes in equity of Carson Copy Center, Inc., for the month ended July 31, 20X7.

**E1-37B** ***(Learning Objective 4: Preparing a balance sheet)*** Refer to the data in Exercise 1-36B.

**Requirement**

1. Prepare the balance sheet of Carson Copy Center, Inc., at July 31, 20X7.

**E1-38B** ***(Learning Objective 4: Preparing a statement of cash flows)*** Refer to the data in Exercises 1-36B and 1-37B.

**Requirement**

1. Prepare the statement of cash flows of Carson Copy Center, Inc., for the month ended July 31, 20X7. Also explain the relationship among income statement, statement of changes in equity, balance sheet, and statement of cash flows.

**■ writing assignment**

**E1-39B** ***(Learning Objectives 4, 5: Evaluating a business; advising a business)*** This exercise should be used in conjunction with Exercises 1-36B through 1-38B.

The owner of Carson Copy Center now seeks your advice as to whether he should cease operations or continue the business. Complete the report giving him your opinion of net income, dividends, financial position, and cash flows during his first month of operations. Cite specifics from the financial statements to support your opinion. Conclude your memo with advice on whether to stay in business or cease operations.

## Quiz

*Test your understanding of the financial statements by answering the following questions. Select the best choice from among the possible answers given.*

**Q1-40** The *primary* objective of financial reporting is to provide information

**a.** useful for making investment and credit decisions.
**b.** about the profitability of the enterprise.
**c.** to the federal government.
**d.** on the cash flows of the company.

**Q1-41** Which type of business organization provides the least amount of protection for bankers and other creditors of the company?

**a.** Partnership
**b.** Proprietorship
**c.** Corporation
**d.** Both a and b

**Q1-42** Assets are usually reported at their
**a.** historical cost.
**b.** current market value.
**c.** appraised value.
**d.** none of the above (fill in the blank).

**Q1-43** During March, assets increased by $19,000 and liabilities increased by $6,000. Shareholders' equity must have
**a.** increased by $13,000.
**b.** decreased by $13,000.
**c.** increased by $25,000.
**d.** decreased by $25,000.

**Q1-44** The amount a company expects to collect from customers appears on the
**a.** statement of cash flows.
**b.** balance sheet in the current assets section.
**c.** income statement in the expenses section.
**d.** balance sheet in the shareholders' equity section.

**Q1-45** All of the following are current assets except
**a.** Inventory.
**b.** Sales Revenue.
**c.** Cash.
**d.** Accounts Receivable.

**Q1-46** Revenues are
**a.** decreases in liabilities resulting from paying off loans.
**b.** increases in paid-in capital resulting from the owners investing in the business.
**c.** increases in retained earnings resulting from selling products or performing services.
**d.** all of the above.

**Q1-47** The financial statement that reports revenues and expenses is called the
**a.** statement of cash flows.
**b.** income statement.
**c.** statement of changes in equity.
**d.** balance sheet.

**Q1-48** Another name for the balance sheet is the
**a.** statement of financial position.
**b.** statement of operations.
**c.** statement of profit and loss.
**d.** statement of earnings.

**Q1-49** Pinker Corporation began the year with cash of $30,000 and a computer that cost $25,000. During the year Pinker earned sales revenue of $135,000 and had the following expenses: salaries, $57,000; rent, $11,000; and utilities, $4,000. At year-end Pinker's cash balance was down to $18,000. How much net income (or net loss) did Pinker experience for the year?
**a.** ($12,000)
**b.** $135,000
**c.** $63,000
**d.** $123,000

**Q1-50** Advanced Instruments had retained earnings of $155,000 at December 31, 20X5. Net income for 20X6 totaled $100,000, and dividends for 20X6 were $25,000. How much retained earnings should Advanced report at December 31, 20X6?
**a.** $255,000
**b.** $180,000
**c.** $230,000
**d.** $155,000

**Q1-51** Which of the following is not an enhancing qualitative characteristic?
**a.** Understandability
**b.** Verifiability
**c.** Comparability
**d.** Materiality

**Q1-52** Cash paid to purchase a building appears on the statement of cash flows among the
**a.** Shareholders' equity.
**b.** Investing activities.
**c.** Financing activities.
**d.** Operating activities.

**Q1-53** The shareholders' equity of Diakovsky Company at the beginning and end of 20X6 totaled $15,000 and $20,000, respectively. Assets at the beginning of 2010 were $27,000. If the liabilities of Diakovsky Company increased by $9,000 in 2010, how much were total assets at the end of 20X6? Use the accounting equation.
**a.** $45,000
**b.** $34,000
**c.** $50,000
**d.** $41,000

**Q1-54** Robbin Company had the following on the dates indicated:

| | 12/31/X6 | 12/31/X5 |
|---|---|---|
| Total assets | $740,000 | $510,000 |
| Total liabilities | 290,000 | 190,000 |

Robbin had no share issuance in 20X6 and, thus, the change in shareholders' equity for 20X6 was due to net income and dividends. If dividends were $55,000, how much was Robbin's net income for 20X6? Use the accounting equation and the statement of changes in equity.

**a.** $185,000
**b.** $245,000
**c.** $155,000
**d.** $215,000

## Problems

MyAccountingLab

All of the following A and B problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

### (Group A)

**P1-55A** ***(Learning Objectives 1, 2, 4: Applying accounting vocabulary, concepts, and principles; evaluating business operations)*** Assume that Division A of Smith Corporation experienced the following transactions during the year ended December 31, 20X7:

**a.** Suppose Division A supplied copy products for a customer for a discounted price of $252,000. Under normal conditions they would have provided these services for $300,000.
**b.** The customer paid $100,000 in December 20X7 and the balance was paid in full in January 20X8.
**c.** During the period, Division A also sold some products to Division B amounting to $52,000 at a cost of $30,000.
**d.** Division A discovered that the remaining useful life of its equipment is three years instead of two years. This resulted in a lower depreciation expense of $5,000 for the year (instead of $8,000).
**e.** All other expenses totaled $247,000 for the year, but only $220,000 was paid to employees and suppliers.

***Requirements***

1. Prepare the Division A's income statement for the year ended December 31, 20X7.
2. For items **a** through **e**, identify the accounting concept, assumption, or principle that provides guidance in accounting for the item. State how you have applied the concept or principle in preparing the income statement.

**P1-56A** ***(Learning Objectives 3, 4: Using the accounting equation; evaluating business operations)*** Compute the missing amount (?) for each company—amounts in millions.

| | Sapphire Corp. | Lance Co. | Branch Inc. |
|---|---|---|---|
| **Beginning** | | | |
| Assets | $83 | $35 | $? |
| Liabilities | 47 | 23 | 2 |
| Share capital | 2 | 2 | 1 |
| Retained earnings | ? | 10 | 4 |
| **Ending** | | | |
| Assets | $ ? | $54 | $8 |
| Liabilities | 49 | 34 | ? |
| Share capital | 2 | ? | 1 |
| Retained earnings | 33 | ? | ? |
| **Income statement** | | | |
| Revenues | $221 | $ ? | $18 |
| Expenses | 213 | 152 | ? |
| Net income | ? | ? | ? |
| **Retained Earnings** | | | |
| Beginning retained earnings | $34 | $10 | $ 4 |
| + Net income | ? | 10 | 3 |
| − Dividends | (9) | (2) | (3) |
| = Ending retained earnings | $33 | $18 | $ 4 |

At the end of the year, which company has the:

- Highest net income?
- Highest percent of net income to revenues?

**P1-57A** ***(Learning Objectives 3, 4, 5: Using the accounting equation; preparing a balance sheet; making decisions)*** The manager of Headlines, Inc., prepared the company's balance sheet while the accountant was ill. The balance sheet contains numerous errors. In particular, the manager knew that the balance sheet should balance, so he plugged in the shareholders' equity amount needed to achieve this balance. The shareholders' equity amount is *not* correct. All other amounts are accurate.

**Headlines, Inc.**
**Balance Sheet**
For the Month Ended June 30, 20X6

| Assets | | Liabilities | |
|---|---|---|---|
| Cash | $ 8,000 | Notes receivable | $ 13,000 |
| Equipment | 39,500 | Interest expense | 1,800 |
| Accounts payable | 5,000 | Office supplies | 1,000 |
| Utilities expense | 1,700 | Accounts receivable | 2,600 |
| Advertising expense | 500 | Note payable | 55,500 |
| Land | 77,000 | Total | 73,900 |
| Salary expense | 4,000 | **Shareholders' Equity** | |
| | | Shareholders' equity | 61,800 |
| Total assets | $135,700 | Total liabilities | $135,700 |

## *Requirements*

1. Prepare the correct balance sheet and date it properly. Compute total assets, total liabilities, and shareholders' equity.
2. Is Headlines actually in better (or worse) financial position than the erroneous balance sheet reports? Give the reason for your answer.

3. Identify the accounts listed on the incorrect balance sheet that should not be reported on the balance sheet. State why you excluded them from the correct balance sheet you prepared for Requirement 1. On which financial statement should these accounts appear?

**P1-58A** ***(Learning Objectives 2, 4, 5: Preparing a balance sheet; applying the entity assumption; making business decisions)*** Sandy Healey is a realtor. She organized the business as a corporation on April 16, 20X7. The business received $95,000 cash from Healey and issued shares to Healey. Consider the following facts as of April 30, 20X7.

- **a.** Healey has $16,000 in her personal bank account and $71,000 in the business bank account.
- **b.** Healey owes $1,000 on a personal charge account with The Loft.
- **c.** Healey acquired business furniture for $41,000 on April 25. Of this amount, the business owes $33,000 on accounts payable at April 30.
- **d.** Office supplies on hand at the real estate office total $11,000.
- **e.** Healey's business owes $36,000 on a note payable for some land acquired for a total price of $110,000.
- **f.** Healey's business spent $24,000 for a Realty Universe franchise, which entitles her to represent herself as an agent. Realty Universe is a national affiliation of independent real estate agents. This franchise is a business asset.
- **g.** Healey owes $140,000 on a personal mortgage on her personal residence, which she acquired in 20X1 for a total price of $340,000.

### *Requirements*

1. Prepare the balance sheet of the real estate business of Sandy Healey Realtor, Inc., at April 30, 20X7.
2. Does it appear that the realty business can pay its debts? How can you tell?
3. Identify the personal items given in the preceding facts that should not be reported on the balance sheet of the business.

■ spreadsheet

**P1-59A** ***(Learning Objectives 4, 5: Preparing an income statement, a statement of changes in equity and a balance sheet; using accounting information to make decisions)*** The assets and liabilities of Post Maple, Inc., as of December 31, 20X6, and revenues and expenses for the year ended on that date follow.

| | | | |
|---|---|---|---|
| Land | $ 8,200 | Equipment | $ 33,000 |
| Note payable | 28,000 | Interest expense | 4,200 |
| Property tax expense | 1,900 | Interest payable | 1,200 |
| Rent expense | 14,000 | Accounts payable | 11,000 |
| Accounts receivable | 24,000 | Salary expense | 34,000 |
| Service revenue | 145,000 | Building | 126,000 |
| Supplies | 2,200 | Cash | 15,000 |
| Utilities expense | 3,000 | Share capital | 1,300 |

Beginning retained earnings was $117,000, and dividends totaled $38,000 for the year.

### *Requirements*

1. Prepare the income statement of Post Maple, Inc., for the year ended December 31, 20X6.
2. Prepare the company's statement of changes in equity for the year.
3. Prepare the company's balance sheet at December 31, 20X6.
4. Analyze Post Maple, Inc., by answering these questions:
   - **a.** Was Post Maple profitable during 20X6? By how much?
   - **b.** Did retained earnings increase or decrease? By how much?
   - **c.** Which is greater, total liabilities or total equity? Who owns more of Post Maple's assets, creditors of the company or Post Maple's shareholders?

**P1-60A** ***(Learning Objective 4: Preparing a statement of cash flows)*** The following data come from the financial statements of the Water Sport Company for the year ended May 31, 20X7 (in millions):

| | | | |
|---|---|---|---|
| Purchases of property, plant and equipment | $ 3,515 | Other investing cash payments | $ 180 |
| Net income | 3,030 | Accounts receivable | 500 |
| Adjustments to reconcile net income to net cash provided by operating activities | 2,370 | Payment of dividends | 290 |
| Revenues | 59,200 | Share capital | 4,850 |
| Cash, beginning of year | 275 | Issuance of shares | 170 |
| end of year | 1,890 | Sales of property, plant and equipment | 30 |
| Cost of goods sold | 37,450 | Retained earnings | 12,990 |

## *Requirements*

1. Prepare a cash flow statement for the year ended May 31, 20X7. Not all items given appear on the cash flow statement.
2. What activities provided the largest source amount of cash? Is this a sign of financial strength or weakness?

**P1-61A** ***(Learning Objective 4: Analyzing a company's financial statements)*** Summarized versions of Cora Corporation's financial statements are given for two recent years.

| | 20X6 | 20X5 |
|---|---|---|
| **Income Statement** | **(In Thousands)** | |
| Revenues | $ k | $15,750 |
| Cost of goods sold | 11,030 | a |
| Other expenses | 1,220 | 1,170 |
| Income before income taxes | 1,580 | 1,830 |
| Income taxes (35% tax rate) | l | 641 |
| Net income | $ m | $ b |
| **Statement of Changes in Equity** | | |
| Beginning balance | $ n | $ 3,070 |
| Shares bought back | (20) | 0 |
| Net income | o | c |
| Dividends | (98) | (120) |
| Ending balance | $ p | $ d |
| **Balance Sheet** | | |
| **Assets:** | | |
| Cash | $ q | $ e |
| Property, plant and equipment | 1,600 | 1,725 |
| Other assets | r | 10,184 |
| Total assets | $ s | $13,239 |
| **Liabilities:** | | |
| Current liabilities | $ t | $ 5,650 |
| Notes payable and long-term debt | 4,350 | 3,380 |
| Other liabilities | 50 | 70 |
| Total liabilities | $ 9,350 | $ f |
| **Shareholders' Equity:** | | |
| Share capital | $ 390 | $ 410 |
| Retained earnings | u | g |
| Total shareholders' equity | v | 4,139 |
| Total liabilities and shareholders' equity | $ w | $ h |
| **Cash Flow Statement** | | |
| Net cash provided by operating activities | $ x | $ 950 |
| Net cash used in investing activities | (230) | (300) |
| Net cash used in financing activities | (560) | (540) |
| Increase (decrease) in cash | (90) | i |
| Cash at beginning of year | y | 1,220 |
| Cash at end of year | $ z | $ j |

### Requirement

1. Determine the missing amounts denoted by the letters.

## (Group B)

**P1-62B** ***(Learning Objectives 1, 2, 4: Applying accounting vocabulary, concepts, and principles to the income statement; evaluating business operations)*** Assume that Division X of Perez Corporation experienced the following transactions during the year ended December 31, 20X7:

**a.** Suppose Division X supplied copy products for a customer for the discounted price of €263,000. Under normal conditions they would have provided these services for €296,000.
**b.** The customer paid €120,000 in December 20X7 and the balance was paid in full in January 20X8.
**c.** During the period, Division X also sold some products to Division Y amounting to €25,000 at a cost of €18,000.
**d.** Division X discovered that remaining useful life of its equipment is three years instead of two years. This resulted in a lower depreciation expense of €8,000 for the year (instead of €13,000).
**e.** All other expenses totaled €235,000 for the year, but only €210,000 was paid to employees and suppliers.

### Requirements

1. Prepare Division X's income statement for the year ended December 31, 20X7.
2. For items **a** through **e**, identify the accounting concept or principle that provides guidance in accounting for the item described. State how you have applied the concept or principle in preparing the income statement.

**P1-63B** ***(Learning Objective 3, 4: Using the accounting equation; evaluating business operations)*** Compute the missing amount (?) for each company—amounts in millions.

Which company has the:

- Highest net income?
- Highest percent of net income to revenues?

**P1-64B** ***(Learning Objectives 3, 4, 5: Using the accounting equation; preparing a balance sheet; making decisions)*** The manager of News Maker, Inc., prepared the company's balance sheet while the accountant was ill. The balance sheet contains numerous errors. In particular, the manager knew that the balance sheet should balance, so he plugged in the shareholders' equity amount needed to achieve this balance. The shareholders' equity amount is not correct. All other amounts are accurate.

**News Maker, Inc.**
**Balance Sheet**
For the Month Ended November 30, 20X6

| **Assets** | | **Liabilities** | |
|---|---|---|---|
| Cash | € 7,500 | Notes receivable | € 14,500 |
| Equipment | 39,000 | Interest expense | 1,600 |
| Accounts payable | 4,000 | Office supplies | 900 |
| Utilities expense | 1,700 | Accounts receivable | 3,400 |
| Advertising expense | 400 | Note payable | 55,000 |
| Land | 82,000 | Total | 75,400 |
| Salary expense | 4,500 | **Shareholders' Equity** | |
| | | Shareholders' equity | 63,700 |
| Total assets | €139,100 | Total liabilities | €139,100 |

## Requirements

1. Prepare the correct balance sheet and date it properly. Compute total assets, total liabilities, and shareholders' equity.
2. Is News Maker in better (or worse) financial position than the erroneous balance sheet reports? Give the reason for your answer.
3. Identify the accounts that should not be reported on the balance sheet. State why you excluded them from the correct balance sheet you prepared for Requirement 1. On which financial statement should these accounts appear?

**P1-65B** ***(Learning Objectives 2, 4, 5: Preparing a balance sheet; applying the entity assumption; making business decisions)*** Jeana Hart is a realtor. She organized her business as a corporation on September 16, 20X7. The business received €95,000 from Hart and issued shares to Hart. Consider these facts as of September 30, 20X7.

a. Hart has €15,000 in her personal bank account and €70,000 in the business bank account.
b. Hart owes €2,000 on a personal charge account with the Gap.
c. Hart acquired business furniture for €45,000 on September 25. Of this amount, the business owes €31,000 on accounts payable at September 30.
d. Office supplies on hand at the real estate office total €7,000.
e. Hart's business owes €36,000 on a note payable for some land acquired for a total price of €116,000.
f. Hart's business spent €29,000 for a Realty Region franchise, which entitles her to represent herself as an agent. Realty Region is a national affiliation of independent real estate agents. This franchise is a business asset.
g. Hart owes €140,000 on a personal mortgage on her personal residence, which she acquired in 20X1 for a total price of €360,000.

## Requirements

1. Prepare the balance sheet of the real estate business of Jeana Hart Realtor, Inc., at September 30, 20X7.
2. Does it appear that the realty business can pay its debts? How can you tell?
3. Identify the personal items given in the preceding facts that should not be reported on the balance sheet of the business.

**P1-66B** ***(Learning Objectives 4, 5: Preparing an income statement, a statement of changes in equity, and a balance sheet; using accounting information to make decisions)*** The assets and liabilities of Post Shrub as of December 31, 20X6, and revenues and expenses for the year ended on that date follow.

■ spreadsheet

| | | | |
|---|---|---|---|
| Land | € 9,000 | Equipment | € 36,000 |
| Note payable | 33,000 | Interest expense | 4,950 |
| Property tax expense | 1,900 | Interest payable | 1,100 |
| Rent expense | 13,500 | Accounts payable | 14,000 |
| Accounts receivable | 26,000 | Salary expense | 38,000 |
| Service revenue | 144,000 | Building | 129,000 |
| Supplies | 2,000 | Cash | 15,000 |
| Utilities expense | 3,200 | Share capital | 16,450 |

Beginning retained earnings were €112,000, and dividends totaled €42,000 for the year.

**Requirements**

1. Prepare the income statement of Post Shrub, Inc., for the year ended December 31, 20X6.
2. Prepare the company's statement of changes in equity for the year.
3. Prepare the company's balance sheet at December 31, 20X6.
4. Analyze Post Shrub, Inc., by answering these questions:
   a. Was Post Shrub profitable during 20X6? By how much?
   b. Did retained earnings increase or decrease? By how much?
   c. Which is greater, total liabilities or total equity? Who owns more of Post Shrub's assets, creditors of the company or Post Shrub's shareholders?

**P1-67B** ***(Learning Objective 4: Preparing a statement of cash flows)*** The following data come from the financial statements of The High Tide Company at the year ended May 31, 20X7 (in millions).

| | | | |
|---|---|---|---|
| Purchases of property, plant and equipment | € 3,480 | Other investing cash payments | € 170 |
| Net income | 3,030 | Accounts receivable | 500 |
| Adjustments to reconcile net income to net cash provided by operating activities | 2,390 | Payment of dividends | 285 |
| Revenues | 59,400 | Share capital | 4,830 |
| Cash, beginning of year | 200 | Issuance of shares | 190 |
| end of year | 1,900 | Sales of property, plant and equipment | 25 |
| Cost of goods sold | 37,550 | Retained earnings | 13,000 |

**Requirements**

1. Prepare a cash flows statement for the year ended May 31, 20X7. Not all the items given appear on the cash flows statement.
2. Which activities provided the largest amount of cash? Is this a sign of financial strength or weakness?

**P1-68B** ***(Learning Objective 4: Analyzing a company's financial statements)*** Summarized versions of Espinola Corporation's financial statements follow for two recent years.

| | 20X7 | 20X6 |
|---|---|---|
| **Income Statement** | **(In Thousands)** | |
| Revenues | € k | €15,250 |
| Cost of goods sold | 11,070 | a |
| Other expenses | 1,280 | 1,230 |
| Income before income taxes | 1,500 | 1,830 |
| Income taxes (35% tax rate) | l | 641 |
| Net income | € m | € b |
| **Statement of Changes in Equity** | | |
| Beginning balance | € n | € 3,260 |
| Shares bought back | (80) | 0 |
| Net income | o | c |
| Dividends | (84) | (140) |
| Ending balance | € p | € d |
| **Balance Sheet** | | |
| **Assets:** | | |
| Cash | € q | € e |
| Property, plant and equipment | 2,100 | 1,750 |
| Other assets | r | 10,404 |
| Total assets | € s | €13,419 |
| **Liabilities:** | | |
| Current liabilities | € t | € 5,690 |
| Notes payable and long-term debt | 4,300 | 3,340 |
| Other liabilities | 60 | 80 |
| Total liabilities | € 9,250 | € f |
| **Shareholders' Equity:** | | |
| Share capital | € 460 | € 540 |
| Retained earnings | u | g |
| Total shareholders' equity | v | 4,309 |
| Total liabilities and shareholders' equity | € w | € h |
| **Cash Flows Statement** | | |
| Net cash provided by operating activities | € x | € 850 |
| Net cash used in investing activities | (240) | (325) |
| Net cash used in financing activities | (560) | (490) |
| Increase (decrease) in cash | (90) | i |
| Cash at beginning of year | y | 1,230 |
| Cash at end of year | € z | € j |

## *Requirement*

1. Complete Espinola Corporation's financial statements by determining the missing amounts denoted by the letters.

# APPLY YOUR KNOWLEDGE

## Decision Cases

**Case 1.** *(Learning Objectives 1, 2, 5: Using financial statements to evaluate a loan request)* Two businesses, Blue Skies Corp., and Open Road, Inc., have sought business loans from you. To decide whether to make the loans, you have requested their balance sheets.

**Blue Skies Corp.**
**Balance Sheet**
August 31, 20X7

| **Assets** | | **Liabilities** | |
|---|---|---|---|
| Cash | $ 5,000 | Accounts payable | $ 50,000 |
| Accounts receivable | 10,000 | Notes payable | 80,000 |
| Furniture | 15,000 | Total liabilities | 130,000 |
| Land | 75,000 | **Owners' Equity** | |
| Equipment | 45,000 | Owners' equity | 20,000 |
| | | Total liabilities and | |
| Total assets | $150,000 | owners' equity | $150,000 |

**Open Road, Inc.**
**Balance Sheet**
August 31, 20X7

| **Assets** | | **Liabilities** | |
|---|---|---|---|
| Cash | $ 5,000 | Accounts payable | $ 6,000 |
| Accounts receivable | 10,000 | Note payable | 9,000 |
| Merchandise inventory | 15,000 | Total liabilities | 15,000 |
| Building | 35,000 | **Shareholders' Equity** | |
| | | Shareholders' equity | 50,000 |
| | | Total liabilities and | |
| Total assets | $65,000 | shareholders' equity | $65,000 |

### *Requirement*

1. Using only these balance sheets, to which entity would you be more comfortable lending money? Explain fully, citing specific items and amounts from the respective balance sheets. (Challenge)

**Case 2.** *(Learning Objectives 2, 5: Analyzing a company as an investment)* A year out of college, you have $10,000 to invest. A friend has started GrandPrize Unlimited, Inc., and she asks you to invest in her company. You obtain the company's financial statements, which are summarized at the end of the first year as follows:

**Grand Prize Unlimited, Inc.**
**Income Statement**
Year Ended Dec. 31, 20X6

| | |
|---|---|
| Revenues | $100,000 |
| Expenses | 80,000 |
| Net income | $ 20,000 |

**Grand Prize Unlimited, Inc.**
**Balance Sheet**
Dec. 31, 20X6

| | | | |
|---|---|---|---|
| Cash | $ 6,000 | Liabilities | $ 60,000 |
| Other assets | 100,000 | Equity | 46,000 |
| | | Total liabilities | |
| Total assets | $106,000 | and equity | $106,000 |

Visits with your friend turn up the following facts:

**a.** Revenues and receivables of $40,000 were overlooked and omitted.

**b.** Software costs of $50,000 were recorded as assets. These costs should have been expenses. GrandPrize Unlimited paid cash for these expenses and recorded the cash payment correctly.

**c.** The company owes an additional $10,000 for accounts payable.

***Requirements***

1. Prepare corrected financial statements.
2. Use your corrected statements to evaluate GrandPrize Unlimited's results of operations and financial position. (Challenge)
3. Will you invest in Grand Prize Unlimited? Give your reason. (Challenge)

## Ethical Issue

You are studying frantically for a mid-term exam tomorrow. You are having difficulty with the course, and the grade you make on this exam can make the difference between receiving a final grade of B or C. If you receive a C, it will lower your grade point average to the point that you could lose your academic scholarship. An hour ago, a friend, also enrolled in the course but in a different section under the same professor, sent you an email telling you how she found the mid-term exam very challenging. Her class is on Tuesdays and yours is on Fridays. She accidentally took an extra copy of the mid-term exam question paper when she was packing her bags and asks if you would like it.

You glance at your course syllabus and find the following: "You are expected to do your own work in this class. Although you may study with others, giving, receiving, or obtaining information pertaining to an examination is considered an act of academic dishonesty, unless such action is authorized by the instructor giving the examination. Also, divulging the contents of an essay or objective examination designated by the instructor as an examination is considered an act of academic dishonesty. Academic dishonesty is considered a violation of the student honor code, and will subject the student to disciplinary procedures, which can include suspension from the University."

It is now close to midnight on Tuesday evening. You have been staring at your friend's email for the last hour. You click on the reply button, and start to type . . .

***Requirements***

1. What is the ethical issue in this situation?
2. Who are the stakeholders? What are the possible consequences to each?
3. Analyze the alternatives from the following standpoints: (a) economic, (b) legal, and (c) ethical.
4. What would you do? How would you justify your decision? How would your decision make you feel afterward?
5. How is this similar to a business situation?

## Focus on Financials: ■ Vodafone Corporation

This case spans all 12 chapters and is based on the consolidated financial statements of **Vodafone Corporation**. As you work with Vodafone throughout this course, you will develop the confidence and ability to use the financial statements of other companies as well.

***Requirements***

Refer to Vodafone's consolidated financial statements in Appendix A. If you wish, you can obtain the full annual report from Vodafone's website at www.vodafone.com (and click on "Investors" on the menu). You may find the information overwhelming for now, but try to spot the key principles that we have discussed in this chapter. It will get progressively easier as you gain familiarity with the elements of the financial statements.

1. Suppose you are a Vodafone shareholder. If you could pick one item on the company's Consolidated Income Statement to increase year after year, what would it be and why? Did this item increase or decrease during 2011? What does this mean for Vodafone?

2. What was Vodafone's largest expense for 2011? In your own words, explain what you understand by this item.
3. Investors are keenly interested not just in a company's sales and profits for a given year, but trends in its sales and profits over time. Consider Vodafone's sales and net income during the period from 2009 through 2011. Can you offer a possible explanation for these changes?
4. Use the Consolidated Balance Sheets of Vodafone in Appendix A to answer these questions. At the end of 2011, how much in total resources did Vodafone have to work with? How much of these resources did the company owe to external parties? How much of these resources did the company's shareholders actually own? Use these amounts to write Vodafone's accounting equation at March 31, 2011.
5. Examine retained earnings in the Statement of Changes in Equity. What caused retained earnings to increase during 2011? Did Vodafone pay any dividends to its owners during the year? How much?
6. How much cash did Vodafone have at the beginning of the most recent year? How much cash did Vodafone have at the end of the year? Why is it important that a firm maintains a healthy cash balance?

## Group Projects

**Project 1.** As instructed by your professor, obtain the annual report of a well-known company.

### *Requirements*

1. Take the role of a loan committee of ABN-Amro, a large banking company headquartered in Amsterdam, Netherlands. Assume the company has requested a loan from ABN-Amro. Analyze the company's financial statements and any other information you need to reach a decision regarding the largest amount of money you would be willing to lend. Go as deeply into the analysis and the related decision as you can. Specify the following:
   a. The length of the loan period—that is, over what period will you allow the company to pay you back?
   b. The interest rate you will charge on the loan. Will you charge the prevailing interest rate, a lower rate, or a higher rate? Why?
   c. Any restrictions you will impose on the borrower as a condition for making the loan.
   *Note*: The long-term debt note to the financial statements gives details of the company's existing liabilities.
2. Write your group decision in a report addressed to the bank's board of directors. Limit your report to two double-spaced word-processed pages.
3. If your professor directs, present your decision and your analysis to the class. Limit your presentation to 10–15 minutes.

**Project 2.** You are the owner of a company that is about to "go public"—that is, issue its shares to outside investors. You wish to make your company look as attractive as possible to raise $1 million in cash to expand the business. At the same time, you want to give potential investors a realistic picture of your company.

### *Requirements*

1. Design a booklet to portray your company in a way that will enable outsiders to reach an informed decision as to whether to buy some of your shares. The booklet should include the following:
   a. Name and location of your company.
   b. Nature of the company's business (be as detailed as possible).
   c. How you plan to spend the money you raise.
   d. The company's comparative income statement, statement of changes in equity, balance sheet, and statement of cash flows for two years: the current year and the preceding year. Make the data as realistic as possible with the intent of receiving $1 million.

2. Word-process your booklet, not to exceed five pages.
3. If directed by your professor, make a copy for each member of your class. Distribute copies to the class and present your case with the intent of interesting your classmates in investing in the company. Limit your presentation to 10–15 minutes.

## Quick Check Answers

1. *b*
2. *b*
3. *c*
4. *a*
5. *d*
6. *d*
7. *a* ($120,000 – $50,000 – $4,000 = $66,000)
8. *b* ($120,000 – $50,000 = $70,000)
9. *c* Total assets = $140,000 ($11,000 + $40,000 + $34,000 + $55,000). Liabilities = $27,000.
10. *d*
11. *b* $38,000 + Net income ($18,000) – Dividends = $50,000; Dividends = $6,000
12. *b*

| | Assets = | Liabilities + | Equity |
|---|---|---|---|
| Beginning | $340,000 = | $210,000* + | $130,000 |
| Increase | 70,000 = | 25,000 + | 45,000* |
| Ending | $410,000* = | $235,000* + | $175,000* |

*Must solve for these amounts.

13. *c*
14. *a*

MyAccountingLab

For online homework, exercises, and problems that provide you with immediate feedback, please visit www.myaccountinglab.com.

# Demo Doc

## The Accounting Equation and Financial Statement Preparation

*To make sure you understand this material, work through the following demonstration "Demo Doc" with detailed comments to help you see the concept within the framework of a worked-through problem.*

*Learning Objectives 3, 4, 5*

David Richardson is the only shareholder of DR Painting, Inc., a painting business near a historical housing district. At March 31, 20X6, DR Painting had the following information:

| | |
|---|---|
| Cash | $27,300 |
| Accounts receivable | 1,400 |
| Supplies | 1,800 |
| Truck | 20,000 |
| Accounts payable | 1,000 |
| Share capital | 40,000 |
| Retained earnings (March 1) | 5,000 |
| Retained earnings (March 31) | ? |
| Dividends | 1,500 |
| Service revenue | 7,000 |
| Salary expense | 1,000 |

### Requirements

1. Prepare the income statement (the first part of statement of comprehensive income) and statement of changes in equity for the month of March 20X6 and the balance sheet of the business at March 31, 20X6. Use Exhibits 1-8, 1-9, and 1-10 in the text as a guide.
2. Write the accounting equation of the business.

# Demo Doc Solutions

## Requirement 1

Prepare the income statement (the first part of the statement of comprehensive income), statement of changes in equity, and balance sheet of the business. Use Exhibits 1-8, 1-9, and 1-10 in the text as a guide.

| **Part 1** | Part 2 | Demo Doc Complete |
|---|---|---|

**Income Statement**

The income statement shows the changes in assets and liabilities that increase and decrease equity, i.e. income and expenses for the period. It is the usually first statement prepared because it contains the smallest subset of information, and the resulting profit or loss will flow to other financial statements.

The income statement reports the profitability of the business. To prepare an income statement, begin with the proper heading. A proper heading includes the name of the company (DR Painting, Inc.), the name of the statement (Income Statement), and the time period covered (Month Ended March 31, 20X6). Notice that we are reporting income for a period of time, rather than at a single date.

The income statement lists all revenues and expenses. It uses the following formula to calculate net income:

Revenues – Expenses = Net income

First, you should list revenues. Second, list the expenses. After you have listed and totaled the revenues and expenses, subtract the total expenses from total revenues to determine net income or net loss. A positive number means you earned net income (revenues exceeded expenses). A negative number indicates that expenses exceeded revenues, and this is a net loss.

DR Painting's total Service Revenue for the month was $7,000. The only expense is Salary Expense of $1,000. On the income statement, these would be reported as follows:

**DR Painting, Inc.**
**Income Statement**
Month Ended March 31, 20X6

| | | |
|---|---|---|
| Revenue: | | |
| Service revenue | | $7,000 |
| Expenses: | | |
| Salary expense | $1,000 | |
| Total expenses | | 1,000 |
| Net income | | $6,000 |

Note that the result is a net income of $6,000 ($7,000 – $1,000 = $6,000). You will also report net income on the statement of changes in equity, which comes next.

### Statement of Changes in Equity

The statement of changes in equity shows the changes in total equity of the entity for a period of time. To prepare a statement of changes in equity, begin with the proper heading. A proper heading includes the name of the company (DR Painting, Inc.), the name of the statement (Statement of Changes in Equity), and the time period covered (Month Ended March 31, 20X6). As with the income statement, we are reporting the changes in equity for a period of time, rather than at a single date.

Start the body of the statement of changes in equity with the total equity at the beginning of the period (March 1). If there is any additional capital contributed by the owners, we would list the addition to equity here. Note that the total equity will include both the share capital and beginning balance of retained earnings. Then list net income. Observe that the amount of net income comes directly from the income statement. Following net income you will list the dividends declared and paid, which reduce total equity. Finally, total all amounts and compute the total equity at the end of the period.

The share capital of $40,000 was given in the question, and since there is no additional information on any additional issuance of capital, we can assume that both the beginning and ending share capital is $40,000. Beginning Retained Earnings of $5,000 was given in the problem. Net income of $6,000 comes from the income statement and is added. Dividends of $1,500 are deducted. On the statement of changes in equity, these amounts are reported as follows:

**DR Painting, Inc.**
**Statement of Changes in Equity**
Month Ended March 31, 20X6

| | |
|---|---|
| Beginning total equity, March 1, 20X6 | $ 45,000 |
| Add: Net income | 6,000 |
| | 51,000 |
| Less: Dividends | (1,500) |
| Ending total equity, March 31, 20X6 | $ 49,500 |

Note that Retained Earnings has a balance of $9,500 ($5,000 plus net income of $6,000 less dividends of $1,500) at March 31, 20X6. You will also report Retained Earnings' ending balance on the balance sheet, which you prepare last because it has the biggest information set.

### Balance Sheet

The balance sheet reports the financial position of the business at a moment in time. To prepare a balance sheet, begin with the proper heading. A proper heading includes the name of the company (DR Painting, Inc.), the name of the statement (Balance Sheet), and the time of the ending balances (March 31, 20X6). Unlike the income statement and statement of changes in equity, we are reporting the financial position of the company at a specific date rather than for a period of time.

The balance sheet lists all assets, liabilities, and equity of the business, with the accounting equation verified at the bottom.

To prepare the body of the balance sheet, begin by listing assets. Then list all the liabilities and shareholders' equity. Notice that the balance sheet is organized in the same order as the accounting equation. The amount of Retained Earnings comes directly from the ending balance on your statement of changes in equity. You should then total both sides of the balance sheet to make sure that they are equal. If they are not equal, then you must correct an error.

In this case, assets accounts include cash of $27,300, accounts receivable of $1,400, $1,800 worth of supplies, and the truck, valued at $20,000. The only liability is accounts payable of $1,000. Shareholders' equity consists of share capital of $40,000, and the updated retained earnings of $9,500, for a total of $49,500 which was calculated in the statement of changes of equity.

**DR Painting, Inc.**
**Balance Sheet**
March 31, 20X6

| Assets | | Liabilities | |
|---|---|---|---|
| Cash | $27,300 | Accounts payable | $ 1,000 |
| Accounts receivable | 1,400 | | |
| Supplies | 1,800 | **Shareholders' Equity** | |
| Truck | 20,000 | Share capital | 40,000 |
| | | Retained earnings | 9,500 |
| | | Total shareholders' equity | 49,500 |
| | | Total liabilities and | |
| Total assets | $50,500 | shareholders' equity | $50,500 |

**Assets = Liabilities + Shareholders' Equity**

## Requirement 2

Write the accounting equation of the business.

| Part 1 | **Part 2** | Demo Doc Complete |
|---|---|---|

In this case, asset accounts total $50,500. Liabilities total $1,000—the balance of Accounts Payable, and shareholder's equity is $49,500. This gives us a total for liabilities and equity of $50,500 ($1,000 + $49,500).

Assets of $50,500 = Liabilities of $1,000 + Shareholders' Equity of $49,500

| Part 1 | Part 2 | **Demo Doc Complete** |
|---|---|---|

# 2 Recording Business Transactions

© De Beers

**SPOTLIGHT: De Beers** www.debeersgroup.com

"A diamond is forever" is probably one of the most successful marketing slogans in the world. De Beers has used this slogan since 1948 and it symbolizes all the glitter and sparkle that is associated with diamonds.

De Beers was established in 1888 and is the world's leading diamond company with unrivalled expertise in the exploration, mining, and marketing of diamonds. From its mining operations across Botswana, Namibia, South Africa, and Canada, De Beers produces and markets approximately 40% of the world's supply of rough diamonds.

How does De Beers determine the amount of its revenues, expenses, and net income? Like all other companies, De Beers has a comprehensive accounting system. De Beers' Income Statement shows that during the financial year ended December 31, 2011, it made over US$7,378 million of sales and earned a net income of US$957 million.

**De Beers SA**
**Consolidated Income Statement (Adapted)**
Financial Year Ended December 31, 2011

| | (In millions USD) | 2011 | 2010 |
|---|---|---|---|
| 1 | Total sales | $7,378 | $5,877 |
| 2 | Cost of sales | (6,088) | (4,983) |
| 3 | Gross profit | 1,290 | 894 |
| 4 | Operating costs | (506) | (416) |
| 5 | Operating profit | 784 | 478 |
| 6 | Other income | 638 | 561 |
| 7 | Profit before interest and tax | 1,422 | 1,039 |
| 8 | Interest charges | (147) | (176) |
| 9 | Profit before taxation | 1,275 | 863 |
| 10 | Taxation | (297) | (225) |
| 11 | Net profit before once-off items | 978 | 638 |
| 12 | Once-off items | (21) | (52) |
| 13 | Net profit | 957 | 586 |



How did De Beers produce these figures? This chapter will show you how companies actually record the transactions that eventually become part of the financial statements. We will discover that companies, including De Beers, record their transactions based on a double-entry accounting system.

## LEARNING OBJECTIVES

1. **Analyze** business transactions
2. **Understand** how accounting works
3. **Record** transactions in the journal
4. **Construct** a trial balance
5. **Analyze** transactions using only T-accounts

# TRANSACTIONS

Financial statements summarize the effects of economic phenomena in words and numbers. They show the resources of an entity (and claims to those resources). To be able to do this, an entity must be able to capture information about its economic resources and claims against these resources as well as the effects of transactions, other events and conditions that change those resources and claims. A **transaction** is any event that has a financial impact on the business and can be measured reliably. For example, De Beers sells diamonds, borrows money, pays taxes, and buys equipment—these are all transactions.

But not all events qualify as transactions. De Beers may apply for a bank loan but no transaction will be recorded until it has utilized the loan facility. Diamond retailers may place an order with De Beers and it is not recorded as a transaction until De Beers delivers the diamonds to its customers. A transaction, i.e. a change in an entity's resources and claims to those resources, must occur before De Beers records anything.

Transactions provide objective information about the financial impact of an economic phenomenon on an entity. Transactions reflect increases and/or decreases to financial statement elements. Whilst the financial impact of a transaction is generally measurable, usually reflected by a quantifiable monetary amount such as price charged/paid and cash collected/paid, in certain situations, some estimation based on observable data or assumptions may be necessary. In accounting, we always record these effects so that the eventual financial statements are relevant and faithfully represent the economic phenomenon that transpired during the reporting period.

## Keeping Track of Financial Statement Items

We account for the five elements of financial statements: assets, liabilities, equity, income, and expenses (see Chapter 1). Income increases equity and expense decreases equity. We can thus think of income and expenses as a component of equity for our initial study on how business transactions are recorded.

Businesses need a sufficient level of information from their accounting system. De Beers would not be able to operate if its accounting system only captured total assets, total liabilities, total equity, total income, and total expenses! It would want to know what makes up the totals. In accounting, we call this "item of interest" an account. An **account** is the record of all the changes in a particular asset, liability, or equity during a period. The account is the basic summary device of accounting. Obviously, the *more details* you desire, the *more accounts* you will need to keep track of. A multinational corporation's accounting system may utilize up to millions of accounts!

### A CLOSER LOOK

In the next section, we will discuss some "items of interests" that entities keep track of in their accounting systems. Different entities may use slightly different names to represent these items of interests, due to historical and cultural factors, and preference. For example, whilst many entities now use the term "Property, Plant and Equipment" (or PPE), US companies tend to label them "Plant Assets," and others prefer the label "Fixed Assets." Americans uses the term "Stock" for both inventory and shares. "I have sold all my Apple stocks" may mean Apple's products or Apple shares. Similarly, many non-American entities will use the term "shareholders" as opposed to "stockholders." In our discussions, we will give you some synonyms or alternative account names so you can have a wider understanding of what different entities use in practice.

Let's review some of the major accounts that a company such as De Beers would use in recording business transactions.

## Assets

Assets are economic resources that provide a future benefit for a business. Most firms use the following asset accounts:

**Cash.** Cash means money and any medium of exchange including bank account balances, paper currency, coins, certificates of deposit, and cheques.

**Accounts Receivable.** De Beers, like most other companies, sells its goods and services and receives, in return, a promise for future collection of cash. The Accounts Receivable account holds these amounts. Some entities prefer to use the label Debtors or Receivables for this account.

**Notes Receivable.** De Beers may receive a note receivable from a customer, who signed the note promising to pay De Beers. A note receivable is similar to an account receivable, but it is usually more binding because the customer signed the promissory note to pay on a certain day (or after a certain period). Notes receivable usually specify an interest rate.

**Inventory.** De Beers' most important asset is its inventory—the diamonds it sells to customers. Other titles used by some entities for this account include *Stocks* and *Merchandise Inventory*.

**Prepaid Expenses.** Don't be misled by the word "expenses" in this account title. **Prepaid expenses** or prepayments are of asset nature because we are paying in advance of consuming *future* economic benefit for the business. It is common for business such as De Beers to be asked to pay early for rental charges, insurance premiums, or be asked for place deposits for services required.

**Property, Plant and Equipment (PPE).** This is a summary account for De Beers' assets that are expected to be used for more than one period for the purposes of production or supply of goods or services or for administrative purposes. Some of the more common **PPE** items are described below.

**Land.** The Land account shows the cost of the land De Beers uses in its operations.

**Buildings.** The costs of De Beers' office building, manufacturing plant, and the like appear in the Buildings account.

**Equipment, Furniture, and Fixtures.** De Beers has a separate asset account for each type of equipment, for example, Manufacturing Equipment and Office Equipment. The Furniture and Fixtures account shows the cost of these assets, which are similar to equipment.

## Liabilities

Recall that a *liability* is an obligation to pay an individual or organization. A payable is always a liability. The most common types of liabilities include:

**Accounts Payable.** The Accounts Payable account is the direct opposite of Accounts Receivable. De Beers' promise to pay a debt arising from a credit purchase of inventory or from a utility bill appears in the Accounts Payable account. Similarly, some businesses prefer to label account payable using the labels Creditors or Payables.

**Notes Payable.** A note payable is the opposite of a note receivable. The Notes Payable account includes the amounts De Beers must *pay* because De Beers signed notes promising to pay a future amount. Notes payable, like notes receivable, usually carry interest.

**Accrued Liabilities.** An **accrued liability** is a liability for an expense you have not yet paid. Interest Payable and Salary Payable are accrued liability accounts for most companies.

## Equity

The owners' claims to the assets of a corporation are called *shareholders' equity*, owners' equity or simply *equity*. A corporation such as De Beers, uses Share Capital, Retained Earnings, and Dividends accounts to record the various components of shareholders' equity. In a proprietorship, there is a single capital account. For a partnership, each partner has a separate capital account.

**Share Capital.** The Share Capital account shows the owners' investment in the corporation. De Beers receives cash and issues shares to its shareholders. A company's ordinary share capital is its most basic element of equity. All corporations have ordinary shares. We will examine other forms of share capital later (in Chapter 10).

**Retained Earnings.** The Retained Earnings account shows the cumulative net income earned by De Beers over the company's lifetime, minus its cumulative net losses and dividends.

**Dividends.** Dividends are optional; they are *declared* by the board of directors (may require shareholders' approval at the corporation's annual general meeting). After profitable operations, the board of directors of De Beers may declare and pay dividends. The corporation usually keeps a separate account titled *Dividends*, which indicates a decrease in Retained Earnings for the financial year.

## STOP & THINK . . .

Name two things that (1) increase De Beers' shareholders' equity and (2) decrease De Beers' shareholders' equity.

***Answer:***

1. Increases in equity: Issuance of share capital and net income (revenue greater than expenses).
2. Decreases in equity: Dividends and net loss (expenses greater than revenue).

**Income.** The increase in shareholders' equity from delivering goods or services to customers is usually called *revenue* or *sales revenue*. The company uses as many income accounts as needed. De Beers uses a Sales Revenue account for revenue earned by selling its products. An accountant provides accountancy services for clients and uses a Service Revenue account. A business that loans money to an outsider needs an Interest Income account. If the business rents a building to a tenant, the business needs a Rent Revenue or Rental Income account.

**Expenses.** The cost of operating a business is called *expense*. Expenses *decrease* shareholders' equity, the opposite effect of revenues. A business needs a separate account for each type of expense, such as Cost of Goods Sold, Salary Expense, Rent Expense, Advertising Expense, Insurance Expense, Utilities Expense, and Income Tax Expense. The more it wants to keep track of an item of interest, the more detailed its accounts will be. Thus, the level of details captured in the accounting system depends on the information needs of the business. Businesses with less total expenses than total income will report a net profit and those with more total expenses than total income will report a net loss. Again, there is no fixed number of expense accounts a business needs to maintain.

## Accounting for Business Transactions

### Example: ShineBrite Car Wash, Inc.

**OBJECTIVE**

**1** **Analyze** business transactions

To illustrate the accounting for transactions, let's return to ShineBrite Car Wash, Inc. Van Gray opened ShineBrite Car Wash, Inc., in April 20X6 (in Chapter 1's End-of-Chapter Problem).

We consider 11 events and analyze each in terms of its effect on ShineBrite Car Wash. We begin by using the accounting equation. Income and expense transactions are taken directly to equity for this illustration. In the second half of this chapter, we record transactions using the journal and ledger of the business.

**Transaction 1.** Gray and a few friends invest \$50,000 to open ShineBrite Car Wash, and the business issues ordinary share capital to the shareholders. The effect of this transaction on the accounting equation of ShineBrite Car Wash, Inc. is a receipt of cash and issuance of ordinary share capital, as follows:

| Assets | | Liabilities | + | Shareholders' Equity | Type of Shareholders' Equity Transaction |
|---|---|---|---|---|---|
| Cash | = | | | Share Capital | |
| (1) + 50,000 | | | | + 50,000 | Issued share capital |

Every transaction's net amount on the left side of the equation must equal the net amount on the right side. The first transaction increases both the cash and the share capital of the business. To the right of the transaction we write "issued share capital" to show the reason for the increase in shareholders' equity.

Every transaction affects the financial statements of the business, and we can prepare financial statements after one, two, or any number of transactions. For example, ShineBrite Car Wash could report the company's Balance Sheet after its first transaction, shown here.

**ShineBrite Car Wash, Inc.**
**Balance Sheet**
April 1, 20X6

| **Assets** | | **Liabilities** | |
|---|---|---|---|
| Cash | $50,000 | None | |
| | | **Shareholders' Equity** | |
| | | Share capital | $50,000 |
| | | Total shareholders' equity | 50,000 |
| | | Total liabilities and | |
| Total assets | $50,000 | shareholders' equity | $50,000 |

This balance sheet shows that the business holds cash of $50,000 and owes no liabilities. The shareholders' equity is recorded as *share capital* on the Balance Sheet. A bank would look favorably on this balance sheet because the business has $50,000 cash and no debt—a strong financial position.

In this example, we are going to show you how each business transaction is reflected in the financial statements immediately. However, as a practical matter, most entities report their financial statements at the end of the accounting period—not after each transaction. But an accounting system can produce statements whenever managers need to know where the business stands.

**Transaction 2.** ShineBrite purchases a parcel of land and pays cash of $40,000. The effect of this transaction on the accounting equation is:

| | **Assets** | | | | **Liabilities** + **Shareholders' Equity** | **Type of Shareholders' Equity Transaction** |
|---|---|---|---|---|---|---|
| | **Cash** | + | **Land** | = | **Share Capital** | |
| (1) | 50,000 | | | | 50,000 | Issued share capital |
| (2) | − 40,000 | | + 40,000 | | | |
| Bal | 10,000 | | 40,000 | | 50,000 | |
| | | 50,000 | | | 50,000 | |

The purchase increases one asset (Land) and decreases another asset (Cash) by the same amount. After the transaction is completed, ShineBrite has cash of $10,000, land of $40,000, and no liabilities. Shareholders' equity is unchanged at $50,000. Note that total assets is always equal to total liabilities plus equity. Alternatively, you can say equity is always the residual of assets less liabilities.

**Transaction 3.** The business buys supplies on account, agreeing to pay $3,700 within 30 days. This transaction increases both the assets and the liabilities of the business. Its effect on the accounting equation follows.

| | Assets | | | = | Liabilities + Shareholders' Equity | |
|---|---|---|---|---|---|---|
| | Cash | + Supplies | + Land | | Accounts Payable | + Share Capital |
| Bal | 10,000 | | 40,000 | | | 50,000 |
| (3) | | + 3,700 | | | + 3,700 | |
| Bal | 10,000 | 3,700 | 40,000 | | 3,700 | 50,000 |
| | | 53,700 | | | 53,700 | |

The new asset is Supplies (an asset), and the liability is an Account Payable (a liability). ShineBrite signs no formal promissory note, so the liability is an account payable, not a note payable.

**Transaction 4.** ShineBrite earns $7,000 of service revenue by providing services for customers. The business collects the cash. The effect on the accounting equation is an increase in the asset Cash and an increase in equity (via the Retained Earnings account), as follows:

| | Assets | | | = | Liabilities + Shareholders' Equity | | | Type of Shareholders' Equity Transaction |
|---|---|---|---|---|---|---|---|---|
| | Cash | + Supplies | + Land | | Accounts Payable | + Share Capital | + Retained Earnings | |
| Bal | 10,000 | 3,700 | 40,000 | | 3,700 | 50,000 | | |
| (4) | + 7,000 | | | | | | + 7,000 | Service revenue |
| Bal | 17,000 | 3,700 | 40,000 | | 3,700 | 50,000 | 7,000 | |
| | | 60,700 | | | | 60,700 | | |

To the right we record "Service revenue" to show where the $7,000 of increase in Retained Earnings came from.

**Transaction 5.** ShineBrite performs service on account, which means that ShineBrite lets some customers pay later. ShineBrite earns revenue but doesn't receive the cash immediately. In transaction 5, ShineBrite cleans a fleet of **UPS** delivery trucks, and UPS promises to pay ShineBrite $3,000 within one month. This promise is an account receivable—an asset—of ShineBrite Car Wash. The transaction record follows.

| | Assets | | | | = | Liabilities + Shareholders' Equity | | | Type of Shareholders' Equity Transaction |
|---|---|---|---|---|---|---|---|---|---|
| | Cash | + Accounts Receivable | + Supplies | + Land | | Accounts Payable | + Share Capital | + Retained Earnings | |
| Bal | 17,000 | | 3,700 | 40,000 | | 3,700 | 50,000 | 7,000 | |
| (5) | | + 3,000 | | | | | | + 3,000 | Service revenue |
| Bal | 17,000 | 3,000 | 3,700 | 40,000 | | 3,700 | 50,000 | 10,000 | |
| | | 63,700 | | | | | 63,700 | | |

Remember, performing the service is what earns ShineBrite the revenue—not collecting the cash. Therefore, ShineBrite records revenue when it performs the service—regardless of whether ShineBrite receives cash now or later. (This is an application of accrual accounting you read about earlier in Chapter 1. We will explore accrual accounting in greater detail in Chapter 3.)

**Transaction 6.** During the month, ShineBrite Car Wash pays $2,700 for the following expenses: equipment rent, $1,100; employee salaries, $1,200; and utilities, $400. The effect on the accounting equation is as follows:

| | Assets | | | | | Liabilities | + | Shareholders' Equity | | | Type of Shareholders' Equity Transaction |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cash + | Accounts Receivable + | Supplies + | Land | | Accounts Payable | + | Share Capital | + | Retained Earnings | |
| Bal | 17,000 | 3,000 | 3,700 | 40,000 | = | 3,700 | | 50,000 | | 10,000 | |
| (6) | − 1,100 | | | | | | | | | − 1,100 | Rent expense |
| | − 1,200 | | | | | | | | | − 1,200 | Salary expense |
| | − 400 | | | | | | | | | − 400 | Utilities expense |
| Bal | 14,300 | 3,000 | 3,700 | 40,000 | | 3,700 | | 50,000 | | 7,300 | |
| | 61,000 | | | | | 61,000 | | | | | |

The expenses decrease ShineBrite's Cash and Retained Earnings. List each expense separately to keep track of its amount.

**Transaction 7.** ShineBrite pays $1,900 on account, which means to pay off an account payable. In this transaction ShineBrite pays the store from which it purchased supplies in transaction 3. The transaction decreases Cash and also decreases Accounts Payable as follows:

| | Assets | | | | | | | | Liabilities | + | Shareholders' Equity | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cash | + | Accounts Receivable | + | Supplies | + | Land | | Accounts Payable | + | Share Capital | + | Retained Earnings |
| Bal | 14,300 | | 3,000 | | 3,700 | | 40,000 | = | 3,700 | | 50,000 | | 7,300 |
| (7) | − 1,900 | | | | | | | | − 1,900 | | | | |
| Bal | 12,400 | | 3,000 | | 3,700 | | 40,000 | | 1,800 | | 50,000 | | 7,300 |
| | 59,100 | | | | | | | | 59,100 | | | | |

**Transaction 8.** Van Gray, the major shareholder of ShineBrite Car Wash, paid $30,000 to remodel his home. This event is a personal transaction of the Gray family. It is not recorded by the ShineBrite Car Wash business. We focus solely on the business entity, not on its owners. This transaction illustrates the reporting entity concept from Chapter 1.

**Transaction 9.** In transaction 5, ShineBrite performed services for UPS on account. The business now collects $1,000 from UPS. We say that ShineBrite *collects the cash on* *account*, which means that ShineBrite will record an increase in Cash and a decrease in Accounts Receivable. This is not service revenue because ShineBrite already recorded the revenue in transaction 5. The effect of collecting cash on account is:

| | Assets | | | | | Liabilities + | Shareholders' Equity | |
|---|---|---|---|---|---|---|---|---|
| | Cash + | Accounts Receivable + | Supplies + | Land | | Accounts Payable + | Share Capital + | Retained Earnings |
| Bal | 12,400 | 3,000 | 3,700 | 40,000 | = | 1,800 | 50,000 | 7,300 |
| (9) | + 1,000 | − 1,000 | | | | | | |
| Bal | 13,400 | 2,000 | 3,700 | 40,000 | | 1,800 | 50,000 | 7,300 |
| | 59,100 | | | | | 59,100 | | |

**Transaction 10.** ShineBrite sells some half of the land it bought for $22,000. ShineBrite receives $22,000 cash and makes a $2,000 gain on the sale of the land. The effect on the accounting equation is as follows:

| | Assets | | | | | Liabilities + | Shareholders' Equity | | Type of Shareholders' Equity Transaction |
|---|---|---|---|---|---|---|---|---|---|
| | Cash + | Accounts Receivable + | Supplies + | Land | | Accounts Payable + | Share Capital + | Retained Earnings | |
| Bal | 13,400 | 2,000 | 3,700 | 40,000 | = | 1,800 | 50,000 | 7,300 | |
| (10) | + 22,000 | | | − 20,000 | | | | + 2,000 | Gain from Sale of Land |
| Bal | 35,400 | 2,000 | 3,700 | 20,000 | | 1,800 | 50,000 | 9,300 | |
| | 61,100 | | | | | 61,100 | | | |

Note that the company did not sell all its land; ShineBrite still owns $20,000 worth of land.

## A CLOSER LOOK

You may be wondering why we treat gains from disposal of land differently from sales revenue. Both are income in nature, i.e. they ultimately increase equity. We will discuss this further later (in Chapter 3 and Chapter 4), but for now, it is sufficient to note that revenue is generally used to record income from ordinary business activities. ShineBrite's ordinary business activity is to provide car washing services, not the buying and selling land, and thus the sale of land is more appropriately shown as a gain rather than revenue.

**Transaction 11.** ShineBrite Car Wash declares a dividend and pays the shareholders $2,100 cash. The effect on the accounting equation is as follows:

| | Assets | | | | | Liabilities + Shareholders' Equity | | | Type of Shareholders' Equity Transaction |
|---|---|---|---|---|---|---|---|---|---|
| | Cash + | Accounts Receivable + | Supplies + | Land | | Accounts Payable + | Share Capital + | Retained Earnings | |
| Bal | 35,400 | 2,000 | 3,700 | 20,000 | = | 1,800 | 50,000 | 9,300 | |
| (11) | – 2,100 | | | | | | | – 2,100 | Dividends |
| Bal | 33,300 | 2,000 | 3,700 | 20,000 | | 1,800 | 50,000 | 7,200 | |
| | 59,000 | | | | | 59,000 | | | |

The dividend decreases both the Cash and the Retained Earnings of the business. *But dividends are not an expense*, because they are transactions with owners of the business.

## Transactions and Financial Statements

Exhibit 2-1 summarizes the 11 preceding transactions. Panel A gives the details of the transactions, and Panel B shows the transaction analysis. As you study the exhibit,

**PANEL A—Transaction Details**

(1) Received $50,000 cash and issued shares to the owners
(2) Paid $40,000 cash for land
(3) Bought $3,700 of supplies on account
(4) Received $7,000 cash from customers for service revenue earned
(5) Performed services for a customer on account, $3,000
(6) Paid cash expenses: rent, $1,100; employee salary, $1,200; utilities, $400
(7) Paid $1,900 on the account payable created in transaction 3
(8) Major shareholder paid personal funds to remodel home, *not* a transaction of the business
(9) Received $1,000 on account
(10) Sold half of the land for $22,000 cash
(11) Declared and paid a dividend of $2,100 to the shareholders

**PANEL B—Transaction Analysis**

| | Assets | | | | | Liabilities + Shareholders' Equity | | | Type of Shareholders' Equity Transaction |
|---|---|---|---|---|---|---|---|---|---|
| | Cash + | Accounts Receivable + | Supplies + | Land | = | Accounts Payable + | Share Capital + | Retained Earnings | |
| (1) | 50,000 | | | | | | 50,000 | | Issued share capital |
| (2) | – 40,000 | | | + 40,000 | | | | | |
| (3) | | | + 3,700 | | | + 3,700 | | | |
| (4) | + 7,000 | | | | | | | + 7,000 | Service revenue |
| (5) | | + 3,000 | | | | | | + 3,000 | Service revenue |
| (6) | – 1,100 | | | | | | | – 1,100 | Rent expense |
| | – 1,200 | | | | | | | – 1,200 | Salary expense |
| | – 400 | | | | | | | – 400 | Utilities expense |
| (7) | – 1,900 | | | | | – 1,900 | | | |
| (9) | + 1,000 | – 1,000 | | | | | | | |
| (10) | + 22,000 | | | – 20,000 | | | | + 2,000 | |
| (11) | – 2,100 | | | | | | | – 2,100 | Gain from sale |
| Bal | 33,300 | 2,000 | 3,700 | 20,000 | | 1,800 | 50,000 | 7,200 | Dividends |
| | 59,000 | | | | | 59,000 | | | |

*Statement of Cash Flows Data*

*Income Statement Data*

*Statement of Changes in Equity Data*

*Balance Sheet Data*

note that every transaction maintains the equality of the accounting equation: Assets = Liabilities + Equity. Exhibit 2-1 provides the data for ShineBrite Car Wash's financial statements:

- *Income Statement* data appear as revenues and expenses under Retained Earnings. The revenues increase retained earnings; the expenses decrease retained earnings.
- The *Balance Sheet* data are composed of the ending balances of the assets, liabilities, and shareholders' equities shown at the bottom of the exhibit. The accounting equation shows that total assets ($59,000) equal total liabilities plus shareholders' equity ($59,000).
- The *Statement of Changes in Equity* reconciles the movements in equity for the period. Issuance of share capital and net income increases total equity, whereas dividends decrease equity. Ending equity is the final result.
- Data for the *Statement of Cash Flows* are aligned under the Cash account. Cash receipts increase cash, and cash payments decrease cash.

Exhibit 2-2 shows the ShineBrite Car Wash financial statements at the end of April 20X6, the company's first month of operations. Follow the flow of financial information to observe the following:

1. The Income Statement reports revenues, expenses, and either a net income or a net loss for the period. During April, ShineBrite earned net income of $9,300. Compare ShineBrite's Income Statement with that of De Beers, at the beginning of the chapter. Notice both income statements show income and expenses for the period.
2. The Statement of Changes in Equity starts with the beginning balance of equity, which is zero for a new business. Add share capital contribution net income for the period (arrow ①), subtract dividends, and compute the ending balance of equity ($57,200).
3. The balance sheet lists the assets, liabilities, and shareholders' equity of the business at the end of the period. Included in shareholders' equity is retained earnings (net profit of $9,300 less dividend paid of $2,100). The ending equity balance from the Statement of Changes in Equity is shown on the Balance Sheet (arrow ②).

**EXHIBIT 2-2 | Financial Statements of ShineBrite Car Wash, Inc.**

**ShineBrite Car Wash, Inc.**
**Income Statement**
Month Ended April 30, 20X6

| | | |
|---|---|---|
| **Income** | | |
| Service revenue ($7,000 + $3,000) | $10,000 | |
| Gain from sale of land | 2,000 | 12,000 |
| **Expenses** | | |
| Salary expense | $1,200 | |
| Rent expense | 1,100 | |
| Utilities expense | 400 | 2,700 |
| Net income | | $ 9,300 |

①

**ShineBrite Car Wash, Inc.**
**Statement of Changes in Equity**
Month Ended April 30, 20X6

| | |
|---|---|
| Total equity, April 1, 20X4 | $ 0 |
| Add: Issuance of share capital | 50,000 |
| Add: Net income for the month | 9,300 |
| | 59,300 |
| Less: Dividends | (2,100) |
| Total equity, April 30, 20X4 | $57,200 |

②

**ShineBrite Car Wash, Inc.**
**Balance Sheet**
April 30, 20X6

| **Assets** | | **Liabilities** | |
|---|---|---|---|
| Cash | $33,300 | Accounts payable | $ 1,800 |
| Accounts receivable | 2,000 | **Shareholders' Equity** | |
| Supplies | 3,700 | Share Capital | 50,000 |
| Land | 20,000 | Retained earnings | 7,200 |
| | | Total shareholders' equity | 57,200 |
| Total assets | $59,000 | Total liabilities and shareholders' equity | $59,000 |

Let's put into practice what you have learned thus far.

# MID-CHAPTER SUMMARY PROBLEM

Shelly Herzog opens a research service near a college campus. She names the corporation Herzog Researchers Ltd. During the first month of operations, July 20X6, the business engages in the following transactions:

**a.** Herzog Researchers Ltd issues its ordinary shares to Shelly Herzog, who invests $25,000 to open the business.
**b.** The company purchases on account office supplies costing $350.
**c.** Herzog Researchers pays cash of $20,000 to acquire a lot next to the campus. The company intends to use the land as a building site for a business office.
**d.** Herzog Researchers performs research for clients and receives cash of $1,900.
**e.** Herzog Researchers pays $100 on the account payable it created in transaction b.
**f.** Herzog pays $2,000 of personal funds for a vacation.
**g.** Herzog Researchers pays cash expenses for office rent ($400) and utilities ($100).
**h.** The business sells a quarter of its land parcel for $6,000.
**i.** The business declares and pays a cash dividend of $1,200.

### *Requirements*

1. Analyze the preceding transactions in terms of their effects on the accounting equation of Herzog Researchers Ltd. Use Exhibit 2-1, Panel B as a guide.
2. Prepare the Income Statement, Statement of Changes in Equity, and Balance Sheet of Herzog Researchers Ltd, after recording the transactions. Draw arrows linking the statements.

## Answers

### *Requirement 1*

**PANEL B—Analysis of Transactions**

| | Assets | | | | | = | Liabilities | + | Shareholders' Equity | | | Type of Shareholders' Equity Transaction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cash | + | Office Supplies | + | Land | | Accounts Payable | + | Share Capital | + | Retained Earnings | |
| (a) | + 25,000 | | | | | | | | + 25,000 | | | Issued share capital |
| (b) | | | + 350 | | | | + 350 | | | | | |
| (c) | – 20,000 | | | | + 20,000 | | | | | | | |
| (d) | + 1,900 | | | | | | | | | | + 1,900 | Service revenue |
| (e) | – 100 | | | | | | – 100 | | | | | |
| (f) | Not a transaction of the business | | | | | | | | | | | |
| (g) | – 400 | | | | | | | | | | – 400 | Rent expense |
| | – 100 | | | | | | | | | | – 100 | Utilities expense |
| (h) | + 6,000 | | | | – 5,000 | | | | | | + 1,000 | Gain on sale of land |
| (i) | – 1,200 | | | | | | | | | | – 1,200 | Dividends |
| Bal | 11,100 | | 350 | | 15,000 | | 250 | | 25,000 | | 1,200 | |
| | | | 26,450 | | | | | | 26,450 | | | |

**Herzog Researchers, Ltd**
**Income Statement**
Month Ended July 31, 20X6

| | | |
|---|---|---|
| **Income** | | |
| Service revenue | $1,900 | |
| Gain on sale of land | 1,000 | 2,900 |
| **Expenses** | | |
| Rent expense | $400 | |
| Utilities expense | 100 | 500 |
| Net income | | $2,400 |

**Herzog Researchers, Ltd**
**Statement of Changes in Equity**
Month Ended July 31, 20X6

| | |
|---|---|
| Total equity, July 1, 20X6 | $ 0 |
| Add: Issuance of share capital | 25,000 |
| Add: Net income for the month | 2,400 |
| | 27,400 |
| Less: Dividends | (1,200) |
| Total equity, July 31, 20X6 | $26,200 |

**Herzog Researchers, Ltd**
**Balance Sheet**
July 31, 20X6

| **Assets** | | **Liabilities** | |
|---|---|---|---|
| Cash | $11,100 | Accounts payable | $ 250 |
| Office supplies | 350 | **Shareholders' Equity** | |
| Land | 15,000 | Share capital | 25,000 |
| | | Retained earnings | 1,200 |
| | | Total shareholders' equity | 26,200 |
| Total assets | $26,450 | Total liabilities and shareholders' equity | $26,450 |

The analysis in the first half of this chapter can be used, but it is cumbersome. De Beers has hundreds of accounts and millions of transactions. If we were using a spreadsheet to account for De Beers' transactions, it would be a very huge spreadsheet! In the second half of this chapter we discuss double-entry accounting as it is actually used in business.

# Double-Entry Accounting

**OBJECTIVE**

**2** **Understand** how double-entry accounting works

All business transactions include, at least, two effects on an entity's financial statement elements. And at all times, the accounting equation (assets = liabilities + equity) must remain in balance. A simple way to help you start understanding this concept is to think about "giving" something and "receiving" something.

Accounting is, therefore, based on a double-entry system, which records the *dual effects* on the entity. *Each transaction affects at least two accounts*. For example, ShineBrite Car Wash's receipt of $50,000 cash and issuance of ordinary shares increased both Cash and Share Capital. It would be incomplete to record only the increase in Cash or only the increase in Share Capital.

## The T-Account

Earlier we introduced you to the concept of an account. It is where we keep track of increases and decreases (and thus the balance) of items of interests to a business. The simplest representation of an account is by the letter "T." We call them *T-accounts*. The vertical line in the letter divides the account into its two sides: left and right. The account title appears at the top of the T. For example, the Cash account can appear as follows:

| Cash | |
|---|---|
| (Left side) | (Right side) |
| *Debit* | *Credit* |

The left side of each account is called the **debit** side, and the right side is called the **credit** side. Often, students are confused by the words *debit* and *credit*. To become comfortable using these terms, remember that for every account, Debit is on the left, Credit is on the right.

***Every business transaction involves both a debit and a credit. The total debits and credits for every business transaction must be equal.*** This is the cornerstone of the double entry accounting system.

## Increases and Decreases in the Accounts: The Rules of Debit and Credit

The type of account determines how we record increases and decreases. *The rules of debit and credit* follow in Exhibit 2-3.

**EXHIBIT 2-3 | Accounting Equation and the Rules of Debit and Credit**

| Accounting Equation | Assets | | = | Liabilities | | + | Shareholders' Equity | |
|---|---|---|---|---|---|---|---|---|
| Rules of Debit and Credit | ↑ Debit | ↓ Credit | | ↓ Debit | ↑ Credit | | ↓ Debit | ↑ Credit |

- Increases in *assets* are recorded on the left (debit) side of the account. Decreases in *assets* are recorded on the right (credit) side. You receive cash and debit the Cash account. You pay cash and credit the Cash account.
- Conversely, increases in *liabilities* and *shareholders' equity* are recorded by credits. Decreases in *liabilities* and *shareholders' equity* are recorded by debits.

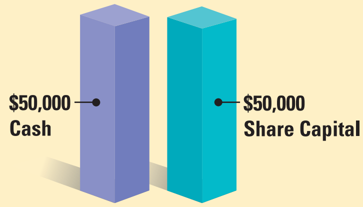
To illustrate the ideas displayed in Exhibit 2-3, let's review the first transaction.

ShineBrite Car Wash received $50,000 and issued ordinary shares. Which accounts are affected? The Cash account and the Share Capital account will hold these amounts:

**EXHIBIT 2-4 | The Accounting Equation after ShineBrite Car Wash's First Transaction**

| Cash | |
|---|---|
| Debit for increase, 50,000 | |

| Share Capital | |
|---|---|
| | Credit for increase, 50,000 |




The amount remaining in an account, after netting the sum of the left hand side with the sum of the right hand side of the T account, is called its *balance*. This first transaction gives Cash a $50,000 debit balance and Share Capital a $50,000 credit balance. Exhibit 2-4 shows this relationship.

ShineBrite's second transaction is a $40,000 cash purchase of land. This transaction decreases Cash with a credit and increases Land with a debit, as shown in the following T-accounts (focus on Cash and Land):

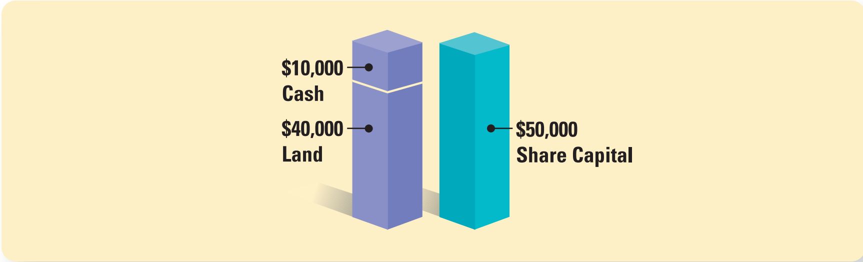
| Cash | | |
|---|---|---|
| Bal | 50,000 | Credit for decrease, 40,000 |
| Bal | 10,000 | |

| Share Capital | | |
|---|---|---|
| | Bal | 50,000 |

| Land | | |
|---|---|---|
| Debit for increase, 40,000 | | |
| Bal | 40,000 | |

After this transaction, Cash has a $10,000 debit balance, Land has a debit balance of $40,000, and Share Capital has a $50,000 credit balance, as shown in Exhibit 2-5.

**EXHIBIT 2-5 | The Accounting Equation after ShineBrite Car Wash's First Two Transactions**



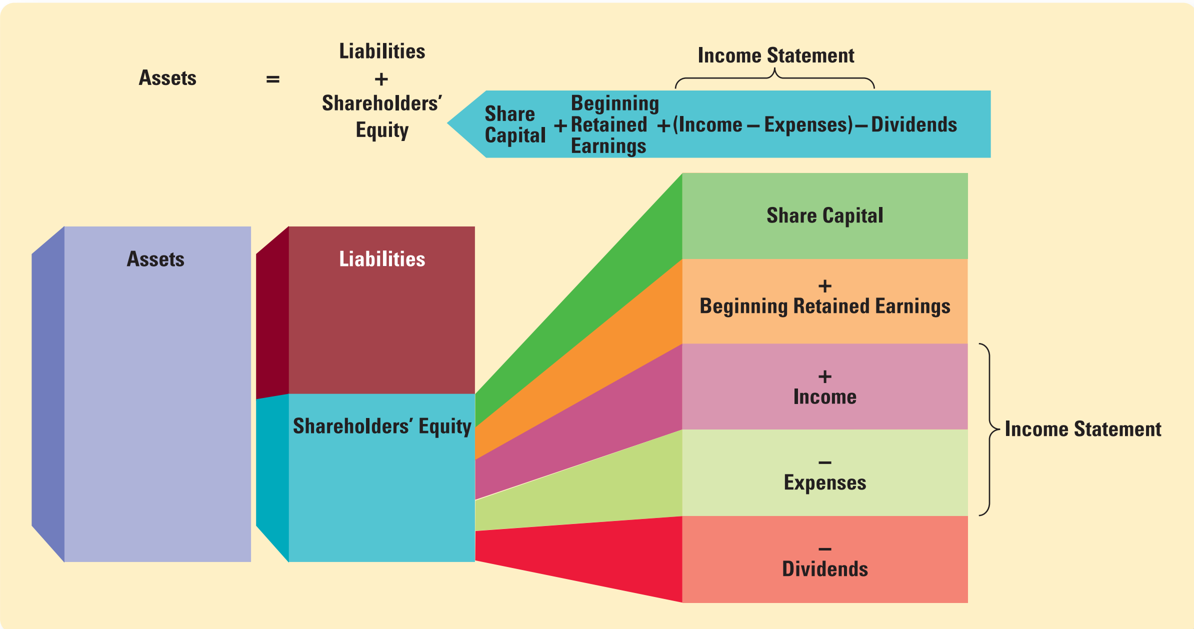

## Additional Shareholders' Equity Accounts: Income and Expenses

Shareholders' equity also includes the two categories of income statement accounts, Income and Expenses:

- *Income (revenue and gains)* are increases in shareholders' equity that result from delivering goods or services to customers, or from other activities.
- *Expenses and losses* are decreases in shareholders' equity due to the cost of operating the business.

Therefore, the accounting equation may be expanded as shown in Exhibit 2-6. Revenues and expenses appear in parentheses because their net effect—revenues minus expenses—equals net income, which increases shareholders' equity. If expenses exceed revenues, there is a net loss, which decreases shareholders' equity.

**EXHIBIT 2-6 | Expansion of the Accounting Equation**



We can now express the final form of the rules of debit and credit. *You should not proceed until you have learned these rules.* For example, you must remember that:

- A debit increases an asset account.
- A credit decreases an asset.

Liabilities and shareholders' equity are the opposite:

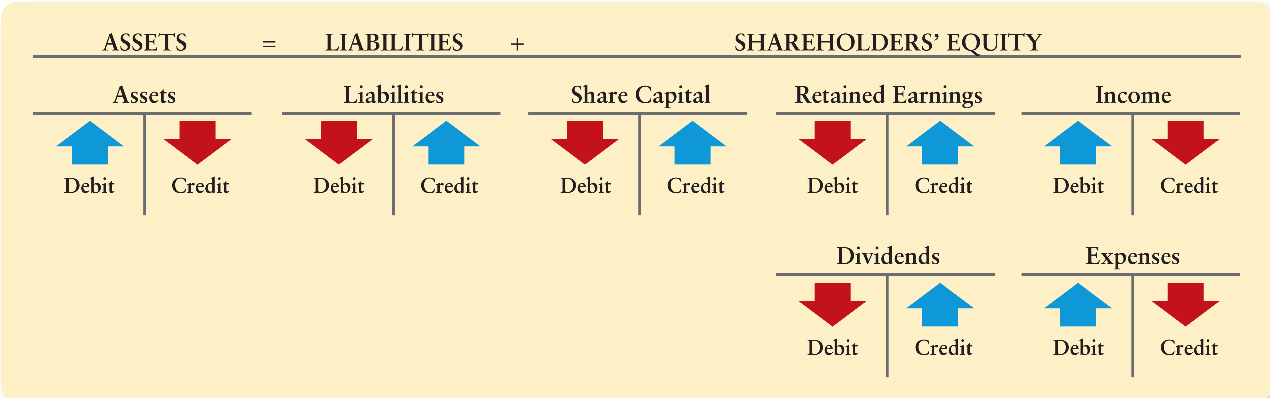
- A credit increases a liability, as well as a shareholders' equity account.
- A debit decreases a liability, as well as a shareholders' equity account.

If you look at the components of equity in Exhibit 2-6, you will notice that Dividends and Expense accounts are "contra" accounts, i.e. the bigger they are, the smaller the total equity will be. Thus, increases in dividends and expenses are recorded as debits because they will ultimately reduce equity. Remember:

- A credit increases income, which will ultimately increase equity.
- A debit decreases income, which will ultimately reduce equity.
- A debit increases dividend and expense, which will ultimately reduce equity.
- A credit decreases dividend and expense, which will ultimately increase equity.

Exhibit 2-7 shows the final form of the debit and credit rules.

**EXHIBIT 2-7 | Final Form of the Rules of Debit and Credit**




## Recording Transactions

**OBJECTIVE**

**3 Record** transactions in the journal

Accountants use a chronological record of transactions called a **journal**. The journalizing process follows three steps:

1. Specify each account affected by the transaction and classify each account by type (asset, liability, shareholders' equity, income, or expense).
2. Determine whether each account is increased or decreased by the transaction. Use the rules of debit and credit to increase or decrease each account.
3. Record the transaction in the journal, including a brief explanation. The debit side is always listed first, entered in the left margin, and the credit side follows and is shown indented to the right.

Step 3 is also called "making the journal entry" or "journalizing the transaction." Let's apply the steps to journalize the first transaction of ShineBrite Car Wash.

**Step 1** The business receives cash and issues shares. Cash and Share Capital are affected. Cash is an asset, and Share Capital is equity.

**Step 2** Both Cash and Share Capital increase. Debit Cash to record an increase in this asset. Credit Share Capital to record an increase in this equity account.

**Step 3** Journalize the transaction as follows:

**JOURNAL**

| Date | Accounts and Explanation | Debit | Credit |
|---|---|---|---|
| Apr 2 | Cash | 50,000 | |
| | Share Capital | | 50,000 |
| | *Issued ordinary shares.* | | |

Typically, it is easiest to identify cash effects. When analyzing a transaction, first pinpoint the effects (if any) on cash. Did cash increase or decrease? If cash increased as a result of the transaction, that's your Debit entry. If cash decreased, then it needs a Credit entry. Then identify the effects on the other accounts.

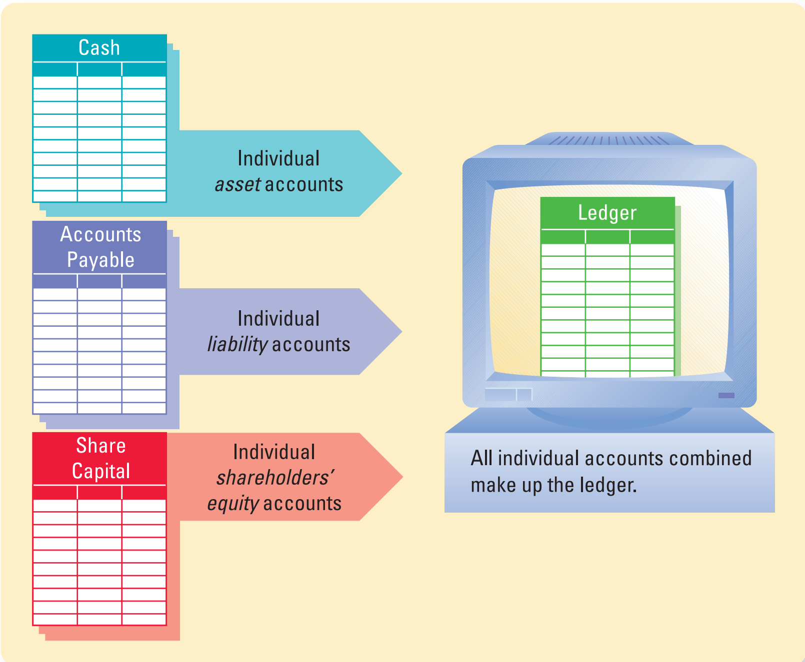
## Copying Information (Posting) from the Journal to the Ledger

The journal is a chronological record of all company transactions listed by date. But the journal does not indicate how much cash or accounts receivable the business has.

The **ledger** is a grouping of all the T-accounts, with their balances. For example, the balance of the Cash T-account shows how much cash the business has. The balance of Accounts Receivable shows the amount due from customers. Accounts Payable shows how much the business owes suppliers on open account, and so on.

In the phrase "keeping the books," *books* refers to the accounts in the ledger. In most accounting systems, the ledger is computerized. Exhibit 2-8 shows how the asset, liability, and shareholders' equity accounts are grouped in the ledger.

**EXHIBIT 2-8 | The Ledger (Asset, Liability and Shareholder's Equity Accounts)**



Entering a transaction in the journal does not get the data into the ledger. Data must be copied to the ledger—a process called **posting**. Debits in the journal are always posted as debits in the accounts, and likewise for credits. Exhibit 2-9 shows how ShineBrite Car Wash's share issuance transaction is posted to the accounts.

**EXHIBIT 2-9 | Journal Entry and Posting to the Accounts**

PANEL A—Journal Entry:

| Accounts and Explanation | Debit | Credit |
|---|---|---|
| Cash | 50,000 | |
| Share Capital | | 50,000 |
| *Issued ordinary shares.* | | |

PANEL B—Posting to the Accounts:

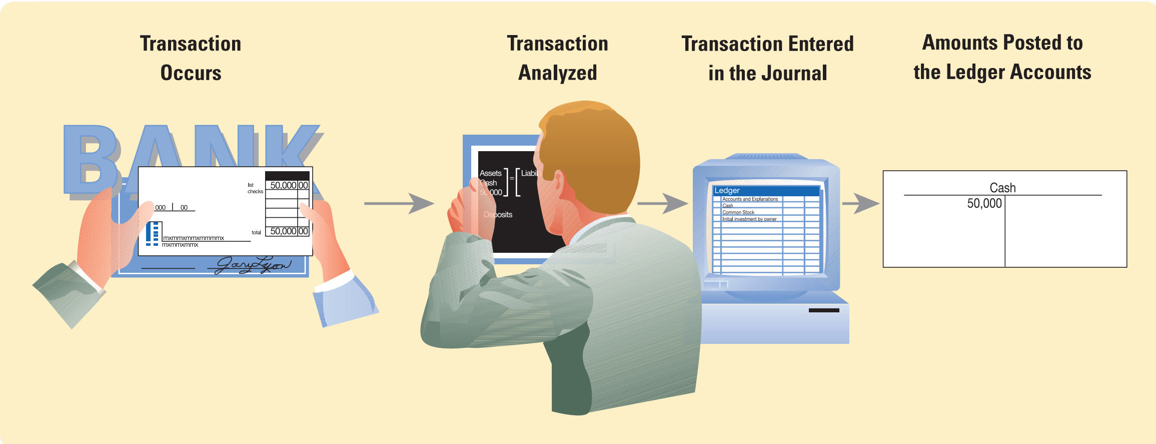
| Cash | |
|---|---|
| 50,000 | |

| Share Capital | |
|---|---|
| | 50,000 |

## The Flow of Accounting Data

Exhibit 2-10 summarizes the flow of accounting data from the business transaction to the ledger.

**EXHIBIT 2-10 | Flow of Accounting Data**




Let's continue the example of ShineBrite Car Wash, Inc., and account for the same 11 transactions we illustrated earlier. Here we use the journal and the accounts. Each journal entry posted to the accounts is referenced by date or by transaction number. This cross-reference is important so you can trace back the entry you see in the accounts and it allows you to locate any information you may need.

**Transaction 1 Analysis.** ShineBrite Car Wash, Inc., received $50,000 cash from the shareholders and in turn issued ordinary shares to them. The journal entry, accounting equation, and ledger accounts follow.

*Journal entry*

| | | |
|---|---|---|
| Cash | 50,000 | |
| Share Capital | | 50,000 |
| *Issued ordinary shares.* | | |

*Accounting equation*

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| 50,000 | = | 0 | + | 50,000 |

*The ledger accounts*

| Cash | | Share Capital | |
|---|---|---|---|
| (1) 50,000 | | | (1) 50,000 |

**Transaction 2 Analysis.** The business paid $40,000 cash for land. The purchase decreased cash; therefore, credit Cash. The purchase increased the asset land; to record this increase, debit land.

*Journal entry*

| | | |
|---|---|---|
| Land | 40,000 | |
| Cash | | 40,000 |
| *Paid cash for land.* | | |

*Accounting equation*

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 40,000 | = | 0 | + | 0 |
| − 40,000 | | | | |

*The ledger accounts*

| Cash | | Land | |
|---|---|---|---|
| (1) 50,000 | (2) 40,000 | (2) 40,000 | |

**Transaction 3 Analysis.** The business purchased supplies for $3,700 on account payable. The purchase increased Supplies, an asset, and Accounts Payable, a liability.

*Journal entry*

| | | |
|---|---|---|
| Supplies | 3,700 | |
| Accounts Payable | | 3,700 |
| *Purchased office supplies on account.* | | |

*Accounting equation*

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 3,700 | = | + 3,700 | + | 0 |

*The ledger accounts*

| Supplies | | | | Accounts Payable | | | |
|---|---|---|---|---|---|---|---|
| (3) | 3,700 | | | | | (3) | 3,700 |

**Transaction 4 Analysis.** The business performed services for clients and received cash of $7,000. The transaction increased cash and service revenue. To record the revenue, credit Service Revenue. Remember that all revenue accounts eventually increase total shareholders' equity.

*Journal entry*

| | | |
|---|---|---|
| Cash | 7,000 | |
| Service Revenue | | 7,000 |
| *Performed services for cash.* | | |

*Accounting equation*

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 7,000 | = | 0 | + | + 7,000 (Service revenue) |

*The ledger accounts*

| Cash | | | | Service Revenue | | | |
|---|---|---|---|---|---|---|---|
| (1) | 50,000 | (2) | 40,000 | | | (4) | 7,000 |
| (4) | 7,000 | | | | | | |

**Transaction 5 Analysis.** ShineBrite performed services for UPS on account. UPS did not pay immediately, so ShineBrite billed UPS for $3,000. The transaction increased accounts receivable; therefore, debit Accounts Receivable. Service revenue also increased, so credit the Service Revenue account.

*Journal entry*

| | | |
|---|---|---|
| Accounts Receivable | 3,000 | |
| Service Revenue | | 3,000 |
| *Performed services on account.* | | |

*Accounting equation*

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 3,000 | = | 0 | + | + 3,000 (Service revenues) |

*The ledger accounts*

| Accounts Receivable | | | | Service Revenue | | | |
|---|---|---|---|---|---|---|---|
| (5) | 3,000 | | | | | (4) | 7,000 |
| | | | | | | (5) | 3,000 |

**Transaction 6 Analysis.** The business paid $2,700 for the following expenses: equipment rent, $1,100; employee salary, $1,200; and utilities, $400. Credit Cash for the sum of the expense amounts. The expenses increased, so debit each expense account separately.

*Journal entry*

| | | |
|---|---|---|
| Rent Expense | 1,100 | |
| Salary Expense | 1,200 | |
| Utilities Expense | 400 | |
| Cash | | 2,700 |
| *Paid expenses.* | | |

*Accounting equation*

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| – 2,700 | = | 0 | + | – 2,700 (Various expenses) |

*The ledger accounts*

**Cash**

| | | | |
|---|---|---|---|
| (1) | 50,000 | (2) | 40,000 |
| (4) | 7,000 | (6) | 2,700 |

**Rent Expense**

| | | | |
|---|---|---|---|
| (6) | 1,100 | | |

**Salary Expense**

| | | | |
|---|---|---|---|
| (6) | 1,200 | | |

**Utilities Expense**

| | | | |
|---|---|---|---|
| (6) | 400 | | |

**Transaction 7 Analysis.** The business paid $1,900 on the account payable created in transaction 3. Credit Cash for the payment. The payment decreased a liability, so debit Accounts Payable.

*Journal entry*

| | | |
|---|---|---|
| Accounts Payable | 1,900 | |
| Cash | | 1,900 |
| *Paid cash on account.* | | |

*Accounting equation*

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| – 1,900 | = | – 1,900 | + | 0 |

*The ledger accounts*

**Cash**

| | | | |
|---|---|---|---|
| (1) | 50,000 | (2) | 40,000 |
| (4) | 7,000 | (6) | 2,700 |
| | | (7) | 1,900 |

**Accounts Payable**

| | | | |
|---|---|---|---|
| (7) | 1,900 | (3) | 3,700 |

**Transaction 8 Analysis.** Van Gray, the major shareholder of ShineBrite Car Wash, remodeled his personal residence. This is not a transaction of the car-wash business, so the business does not record the transaction.

**Transaction 9 Analysis.** The business collected $1,000 cash on account from the clients in transaction 5. Cash increased so debit Cash. The asset accounts receivable decreased; therefore, credit Accounts Receivable.

*Journal entry*

| | | |
|---|---|---|
| Cash | 1,000 | |
| Accounts Receivable | | 1,000 |
| *Collected cash on account.* | | |

*Accounting equation*

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 1,000 | = | 0 | + | 0 |
| − 1,000 | | | | |

*The ledger accounts*

**Cash**

| | | | |
|---|---|---|---|
| (1) | 50,000 | (2) | 40,000 |
| (4) | 7,000 | (6) | 2,700 |
| (9) | 1,000 | (7) | 1,900 |

**Accounts Receivable**

| | | | |
|---|---|---|---|
| (5) | 3,000 | (9) | 1,000 |

**Transaction 10 Analysis.** The business sold half of its land for $22,000, receiving cash. The asset cash increased; debit Cash by the amount received. The asset land decreased; credit Land by $20,000 (half of $40,000) and a gain of $2,000 is recognized. Note that the total debits always equal total credits, even when you have more than one debit or more than one credit entry for the journal.

*Journal entry*

| | | |
|---|---|---|
| Cash | 22,000 | |
| Land | | 20,000 |
| Gain on sale of land | | 5,000 |
| *Sold land costing $20,000 for $22,000.* | | |

*Accounting equation*

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 22,000 | = | 0 | + | + 2,000 (gain on sale) |
| − 20,000 | | | | |

*The ledger accounts*

**Cash**

| | | | |
|---|---|---|---|
| (1) | 50,000 | (2) | 40,000 |
| (4) | 7,000 | (6) | 2,700 |
| (9) | 1,000 | (7) | 1,900 |
| (10) | 22,000 | | |

**Land**

| | | | |
|---|---|---|---|
| (2) | 40,000 | (10) | 20,000 |

**Gain on sale of land**

| | | | |
|---|---|---|---|
| | | (10) | 2,000 |

**Transaction 11 Analysis.** ShineBrite Car Wash paid its shareholders cash dividends of $2,100. Credit Cash for the payment. The transaction also decreased shareholders' equity and requires a debit to an equity account. Therefore, debit Dividends.

*Journal entry*

| | | |
|---|---|---|
| Dividends | 2,100 | |
| Cash | | 2,100 |
| *Declared and paid dividends.* | | |

*Accounting equation*

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| − 2,100 | = | 0 | + | − 2,100 (Dividends) |

*The ledger accounts*

**Cash**

| | | | |
|---|---|---|---|
| (1) | 50,000 | (2) | 40,000 |
| (4) | 7,000 | (6) | 2,700 |
| (9) | 1,000 | (7) | 1,900 |
| (10) | 22,000 | (11) | 2,100 |

**Dividends**

| | | | |
|---|---|---|---|
| (11) | 2,100 | | |

## Accounts After Posting to the Ledger

Exhibit 2-11 shows the accounts after all transactions have been posted to the ledger. Group the accounts under assets, liabilities, and equity.

**EXHIBIT 2-11 | Shinebrite' Car Wash's Ledger Accounts After Posting**

Assets = Liabilities + Shareholders' Equity

**Assets**

**Cash**

| | | | |
|---|---|---|---|
| (1) | 50,000 | (2) | 40,000 |
| (4) | 7,000 | (6) | 2,700 |
| (9) | 1,000 | (7) | 1,900 |
| (10) | 22,000 | (11) | 2,100 |
| Bal | 33,300 | | |

**Accounts Receivable**

| | | | |
|---|---|---|---|
| (5) | 3,000 | (9) | 1,000 |
| Bal | 2,000 | | |

**Supplies**

| | | | |
|---|---|---|---|
| (3) | 3,700 | | |
| Bal | 3,700 | | |

**Land**

| | | | |
|---|---|---|---|
| (2) | 40,000 | (10) | 20,000 |
| Bal | 20,000 | | |

**Liabilities**

**Accounts Payable**

| | | | |
|---|---|---|---|
| (7) | 1,900 | (3) | 3,700 |
| | | Bal | 1,800 |

**Shareholders' Equity**

**Share Capital**

| | | | |
|---|---|---|---|
| | | (1) | 50,000 |
| | | Bal | 50,000 |

**Dividends**

| | | | |
|---|---|---|---|
| (11) | 2,100 | | |
| Bal | 2,100 | | |

**Income**

**Service Revenue**

| | | | |
|---|---|---|---|
| | | (4) | 7,000 |
| | | (5) | 3,000 |
| | | Bal | 10,000 |

**Gain on sale of land**

| | | | |
|---|---|---|---|
| | | (10) | 2,000 |
| | | Bal | 2,000 |

**Expenses**

**Rent Expense**

| | | | |
|---|---|---|---|
| (6) | 1,100 | | |
| Bal | 1,100 | | |

**Salary Expense**

| | | | |
|---|---|---|---|
| (6) | 1,200 | | |
| Bal | 1,200 | | |

**Utilities Expense**

| | | | |
|---|---|---|---|
| (6) | 400 | | |
| Bal | 400 | | |

Each account has a balance, denoted by "Bal.," which is the difference between the account's total debits and its total credits. For example, the Accounts Payable's balance of $1,800 is the difference between the credit ($3,700) and the debit ($1,900). Cash has a debit balance of $33,300.

A horizontal line separates the transaction amounts from the account balance. If an account's debits exceed its total credits, that account has a debit balance, as for Cash. If the sum of the credits is greater, the account has a credit balance, as for Accounts Payable.

# The Trial Balance

**OBJECTIVE**

**4** **Construct** a trial balance

A **trial balance** lists all accounts with their balances—assets first, then liabilities and shareholders' equity. The trial balance summarizes all the account balances for the financial statements and shows whether total debits equal total credits. A trial balance may be constructed at any time, but the most common time is at the end of the period. Exhibit 2-12 is the trial balance of ShineBrite Car Wash, Inc., after all transactions have been journalized and posted at the end of April.

**EXHIBIT 2-12 | Trial Balance**

**ShineBrite Car Wash, Inc.**
**Trial Balance**
April 30, 20X4

| | Balance | |
|---|---|---|
| **Account Title** | **Debit** | **Credit** |
| Cash | $33,300 | |
| Accounts receivable | 2,000 | |
| Supplies | 3,700 | |
| Land | 20,000 | |
| Accounts payable | | $ 1,800 |
| Share capital | | 50,000 |
| Dividends | 2,100 | |
| Service revenue | | 10,000 |
| Gain on sale of land | | 2,000 |
| Rent expense | 1,100 | |
| Salary expense | 1,200 | |
| Utilities expense | 400 | |
| Total | $63,800 | $63,800 |

Note that the last line of the trial balance provides proof of the equality of debits and credits we have entered into the accounting records.

## Analyzing Accounts

You can often tell what a company did by analyzing its accounts. This is a powerful tool for a manager who knows accounting. For example, if you know the beginning and ending balance of Cash, and if you know total cash receipts, you can compute your total cash payments during the period.

In our chapter example, ShineBrite Car Wash began May with cash of $33,000. Suppose during May ShineBrite received cash of $8,000 and ended the month with a cash balance of $35,000. You can compute total cash payments by analyzing ShineBrite's Cash account as follows:

| Cash | | | |
|---|---|---|---|
| Beginning balance | 33,000 | | |
| Cash receipts | 8,000 | Cash payments | $x$ = 6,000 |
| Ending balance | 35,000 | | |

Or, if you know Cash's beginning and ending balances and total payments, you can compute cash receipts during the period—for any company!

Similary, you can compute either sales on account or cash collections from receivables by analyzing the Accounts Receivable account as follows (using assumed amounts):

| Accounts Receivable | | | |
|---|---|---|---|
| Beginning balance | 6,000 | | |
| Sales on account | 10,000 | Collections from receivables | 11,000 |
| Ending balance | 5,000 | | |

Also, you can determine how much you paid on account by analyzing Accounts Payable as follows (using assumed amounts):

| Accounts Payable | | | |
|---|---|---|---|
| | | Beginning balance | 9,000 |
| Payments on creditors | 4,000 | Purchases on account | 6,000 |
| | | Ending balance | 11,000 |

Please master this powerful technique. It works for any company and for your own personal finances! You will find this tool very helpful when you become a manager.

## Correcting Accounting Errors

Accounting errors can occur even in computerized systems. Input data may be wrong, or they may be entered twice or not at all. A debit may be entered as a credit, and vice versa. You can detect the reason or reasons behind many out-of-balance conditions by computing the difference between total debits and total credits. Then perform one or more of the following actions:

1. Search the records for a missing account. Trace each account back and forth from the journal to the ledger. A $200 transaction may have been recorded incorrectly in the journal or posted incorrectly to the ledger. Search the journal for a $200 transaction.
2. Divide the out-of-balance amount by 2. A debit treated as a credit, or vice versa, doubles the amount of error. Suppose ShineBrite Car Wash added $300 to Cash

instead of subtracting $300. The out-of-balance amount is $600, and dividing by 2 identifies $300 as the amount of the transaction. Search the journal for the $300 transaction and trace to the account affected.

3. Divide the out-of-balance amount by 9. If the result is an integer (no decimals), the error may be a:
   - ***slide*** (writing $400 as $40). The accounts would be out of balance by $360 ($400 − $40 = $360). Dividing $360 by 9 yields $40. Scan the trial balance in Exhibit 2-12 for an amount similar to $40. Utilities Expense (balance of $400) is the misstated account.
   - ***transposition*** (writing $2,100 as $1,200). The accounts would be out of balance by $900 ($2,100 − $1,200 = $900). Dividing $900 by 9 yields $100. Trace all amounts on the trial balance back to the T-accounts. Dividends (balance of $2,100) is the misstated account.

## Chart of Accounts

As you know, the ledger contains the accounts grouped under these headings:

1. Balance sheet accounts: Assets, Liabilities, and Shareholders' Equity
2. Income statement accounts: Income and Expenses

Organizations use a **chart of accounts** to list all their accounts and account numbers. Account numbers usually have two or more digits. Asset account numbers may begin with 1, liabilities with 2, shareholders' equity with 3, revenues with 4, and expenses with 5. The second, third, and higher digits in an account number indicate the position of the individual account within the category. For example, Cash may be account number 101, which is the first asset account. Accounts Payable may be number 201, the first liability. All accounts are numbered by using this system.

Organizations with many accounts use lengthy account numbers. For example, the chart of accounts of De Beers may use 10-digit account numbers. The chart of accounts for ShineBrite Car Wash appears in Exhibit 2-13. The gap between account numbers 111 and 141 leaves room to add another category of receivables, for example, Notes Receivable, which may be numbered 121. A good chart of accounts has structure and proper categorization of accounts and there's always room for creation of additional accounts when the need arises.

**EXHIBIT 2-13 | Chart of Accounts: ShineBrite Car Wash, Inc.**

**Balance Sheet Accounts**

| Assets | | Liabilities | | Shareholders' Equity | |
|---|---|---|---|---|---|
| 101 | Cash | 201 | Accounts Payable | 301 | Share Capital |
| 111 | Accounts Receivable | 231 | Notes Payable | 311 | Dividends |
| 141 | Office Supplies | | | 312 | Retained Earnings |
| 151 | Office Furniture | | | | |
| 191 | Land | | | | |

**Income Statement Accounts (Part of Shareholders' Equity)**

| Income | | Expenses | |
|---|---|---|---|
| 401 | Service Revenue | 501 | Rent Expense |
| 402 | Gain on Sale of Land | 502 | Salary Expense |
| | | 503 | Utilities Expense |

Appendix C gives two expanded charts of accounts that you will find helpful as you work through this course. The first chart lists the typical accounts that a *service* corporation, such as ShineBrite Car Wash, would have after a period of growth. The second chart is for a *merchandising* corporation, one that sells a product instead of a service.

## The Normal Balance of an Account

An account's *normal balance* falls on the side of the account—debit or credit—where increases are recorded. The normal balance of assets is on the debit side, so assets are *debit-balance accounts*. Conversely, liabilities and shareholders' equity usually have a credit balance, so these are *credit-balance accounts*. Exhibit 2-14 illustrates the normal balances of all the assets, liabilities, and shareholders' equities, including revenues and expenses.

**EXHIBIT 2-14 | Normal Balances of the Accounts**

| | | |
|---|---|---|
| Assets | Debit | |
| Liabilities | | Credit |
| Shareholders' Equity—overall | | Credit |
| Share capital | | Credit |
| Retained earnings | | Credit |
| Dividends | Debit | |
| Income (revenue and gains) | | Credit |
| Expenses (including losses) | Debit | |

As explained earlier, shareholders' equity usually contains several accounts. Dividends and expenses carry debit balances because they represent decreases in shareholders' equity. In total, the equity accounts show a normal credit balance.

## Account Formats

So far we have illustrated accounts in a two-column T-account format, with the debit column on the left and the credit column on the right. Another style of representing accounts is called the columnar format. It has three or four *amount* columns, as illustrated for the Cash account in Exhibit 2-15. The first pair of amount columns are for the debit and credit amounts of individual transactions. The last two columns are for the account balance (they may be combined into one column). This columnar format keeps a running balance for every account. In computerized accounting systems, you will see accounts printed in columnar formats rather than T-accounts.

**EXHIBIT 2-15 | Account in Four-Column Format**

| Account: Cash | | | | | Account No. 101 |
|---|---|---|---|---|---|
| | | | | Balance | |
| Date | Item | Debit | Credit | Debit | Credit |
| 20X4 | | | | | |
| Apr 2 | Share Capital | 50,000 | | 50,000 | |
| 3 | Land | | 40,000 | 10,000 | |

## Analyzing Transactions Using Only T-Accounts

**OBJECTIVE**

**5** **Analyze** transactions using only T-accounts

Businesspeople must often make decisions without the benefit of a complete accounting system. For example, the managers of De Beers may consider borrowing $100,000 to buy equipment. To see how the two transactions [(a) borrowing cash and (b) buying equipment] affect De Beers, the manager can go directly to T-accounts, as follows:

T-accounts:

| Cash | | Note Payable | |
|---|---|---|---|
| (a) 100,000 | | | (a) 100,000 |

T-accounts:

| Cash | | Equipment | | Note Payable | |
|---|---|---|---|---|---|
| (a) 100,000 | (b) 100,000 | (b) 100,000 | | | (a) 100,000 |

This informal analysis shows immediately that De Beers will add $100,000 of equipment and a $100,000 note payable. Assuming that De Beers began with zero balances, the equipment and note payable transactions would result in the following balance sheet (date assumed for illustration only):

**De Beers**
**Balance Sheet**
September 12, 20X6

| Assets | | Liabilities | |
|---|---|---|---|
| Cash | $ 0 | Note payable | $100,000 |
| Equipment | 100,000 | | |
| | | **Shareholders' Equity** | 0 |
| | | Total liabilities and | |
| Total assets | $100,000 | shareholders' equity | $100,000 |

Companies don't actually keep records in this shortcut fashion. But a decision maker who needs information quickly may not have time to journalize, post to the accounts, take a trial balance, and prepare the financial statements. A manager who knows accounting can analyze the transaction and make the decision quickly.

Now apply what you've learned. Study the Decision Guidelines, which summarize the chapter.

# DECISION GUIDELINES

## HOW TO MEASURE RESULTS OF OPERATIONS AND FINANCIAL POSITION

Any entrepreneur must determine whether the venture is profitable. To do this, he or she needs to know its results of operations and financial position. If the Oppenheimer family (who own 40% of De Beers) want to know whether the business is making money, the Guidelines that follow will help them.

| Decision | Guidelines |
|---|---|
| Has a transaction occurred? | If the event affects the entity's financial position and can be reliably recorded—Yes.<br>If either condition is absent—No. |
| Where to record the transaction? | In the *journal*, the chronological record of transactions |
| How to record an increase or decrease in the following accounts? | Rules of *debit* and *credit*: |

| | Increase | Decrease |
|---|---|---|
| Assets | Debit | Credit |
| Liabilities | Credit | Debit |
| Shareholders' equity | Credit | Debit |
| Income | Credit | Debit |
| Expenses | Debit | Credit |
| Dividends | Debit | Credit |

| Decision | Guidelines |
|---|---|
| Where to store all the information for each account? | In the *ledger*, the book of accounts |
| Where to list all the accounts and their balances? | In the *trial balance* |
| Where to report the: | |
| Results of operations? | In the *income statement*<br>(Revenues − Expenses = Net income or net loss) |
| Financial position? | In the *balance sheet*<br>(Assets = Liabilities + Shareholders' equity) |

# END-OF-CHAPTER SUMMARY PROBLEM

The trial balance of Calderon Service Center, Inc., on March 1, 20X6, lists the entity's assets, liabilities, and shareholders' equity on that date.

| | Balance | |
|---|---|---|
| **Account Title** | **Debit** | **Credit** |
| Cash | $26,000 | |
| Accounts receivable | 4,500 | |
| Accounts payable | | $ 2,000 |
| Share capital | | 10,000 |
| Retained earnings | | 18,500 |
| Total | $30,500 | $30,500 |

During March, the business completed the following transactions:

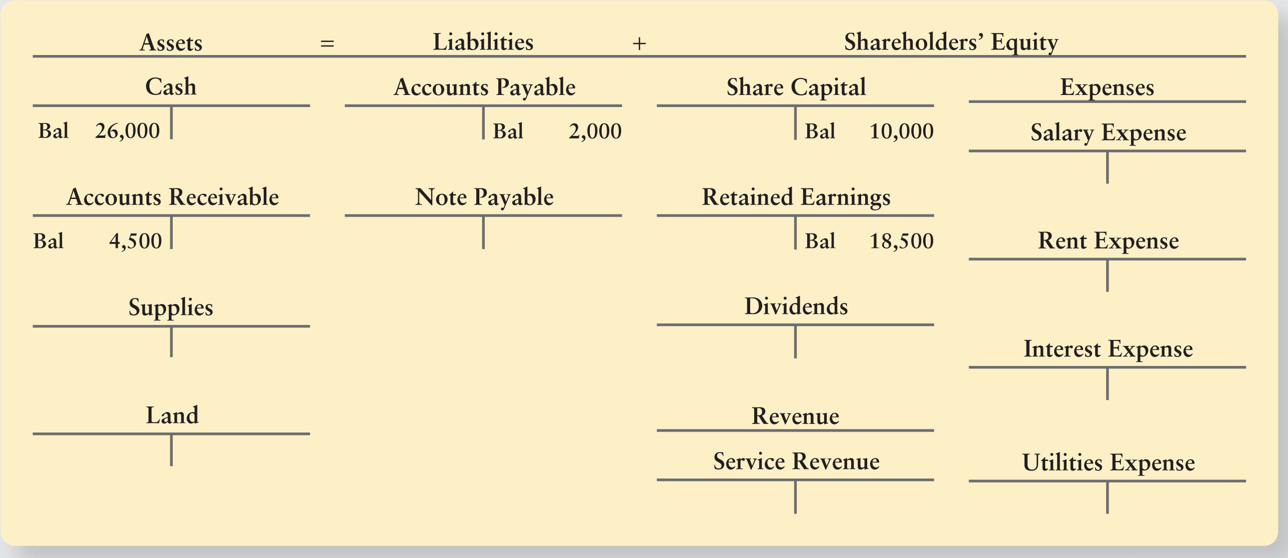
**a.** Borrowed $45,000 from the bank, with Calderon signing a note payable in the name of the business.
**b.** Paid cash of $40,000 to a real estate company to acquire land.
**c.** Performed service for a customer and received cash of $5,000.
**d.** Purchased supplies on credit, $300.
**e.** Performed customer service and earned revenue on account, $2,600.
**f.** Paid $1,200 on account.
**g.** Paid the following cash expenses: salaries, $3,000; rent, $1,500; and interest, $400.
**h.** Received $3,100 on account.
**i.** Received a $200 utility bill that will be paid next week.
**j.** Declared and paid dividend of $1,800.

### *Requirements*

1. Open the following accounts, with the balances indicated, in the ledger of Calderon Service Center, Inc. Use the T-account format.
   - Assets—Cash, $26,000; Accounts Receivable, $4,500; Supplies, no balance; Land, no balance
   - Liabilities—Accounts Payable, $2,000; Note Payable, no balance
   - Shareholders' Equity—Share Capital, $10,000; Retained Earnings, $18,500; Dividends, no balance
   - Revenues—Service Revenue, no balance
   - Expenses—(none have balances) Salary Expense, Rent Expense, Interest Expense, Utilities Expense
2. Journalize the preceding transactions. Key journal entries by transaction letter.
3. Post to the ledger and show the balance in each account after all the transactions have been posted.
4. Prepare the trial balance of Calderon Service Center, Inc., at March 31, 20X6.
5. To determine the net income or net loss of the entity during the month of March, prepare the income statement for the month ended March 31, 20X6. List expenses in order from the largest to the smallest.

## Answers

### *Requirement 1*




### *Requirement 2*

| Accounts and Explanation | Debit | Credit | Accounts and Explanation | Debit | Credit |
|---|---|---|---|---|---|
| a. Cash | 45,000 | | g. Salary Expense | 3,000 | |
| Note Payable | | 45,000 | Rent Expense | 1,500 | |
| Borrowed cash on note payable. | | | Interest Expense | 400 | |
| b. Land | 40,000 | | Cash | | 4,900 |
| Cash | | 40,000 | Paid cash expenses. | | |
| Purchased land for cash. | | | h. Cash | 3,100 | |
| c. Cash | 5,000 | | Accounts Receivable | | 3,100 |
| Service Revenue | | 5,000 | Received on account. | | |
| Performed service and received cash. | | | i. Utilities Expense | 200 | |
| d. Supplies | 300 | | Accounts Payable | | 200 |
| Accounts Payable | | 300 | Received utility bill. | | |
| Purchased supplies on account. | | | j. Dividends | 1,800 | |
| e. Accounts Receivable | 2,600 | | Cash | | 1,800 |
| Service Revenue | | 2,600 | Declared and paid dividends. | | |
| Performed service on account. | | | | | |
| f. Accounts Payable | 1,200 | | | | |
| Cash | | 1,200 | | | |
| Paid on account. | | | | | |

### Requirement 3

**Assets = Liabilities + Shareholders' Equity**

**Assets**

Cash

| | | | |
|---|---|---|---|
| Bal | 26,000 | (b) | 40,000 |
| (a) | 45,000 | (f) | 1,200 |
| (c) | 5,000 | (g) | 4,900 |
| (h) | 3,100 | (j) | 1,800 |
| Bal | 31,200 | | |

Accounts Receivable

| | | | |
|---|---|---|---|
| Bal | 4,500 | (h) | 3,100 |
| (e) | 2,600 | | |
| Bal | 4,000 | | |

Supplies

| | | | |
|---|---|---|---|
| (d) | 300 | | |
| Bal | 300 | | |

Land

| | | | |
|---|---|---|---|
| (b) | 40,000 | | |
| Bal | 40,000 | | |

**Liabilities**

Accounts Payable

| | | | |
|---|---|---|---|
| (f) | 1,200 | Bal | 2,000 |
| | | (d) | 300 |
| | | (i) | 200 |
| | | Bal | 1,300 |

Note Payable

| | | | |
|---|---|---|---|
| | | (a) | 45,000 |
| | | Bal | 45,000 |

**Shareholders' Equity**

Share Capital

| | | | |
|---|---|---|---|
| | | Bal | 10,000 |

Retained Earnings

| | | | |
|---|---|---|---|
| | | Bal | 18,500 |

Dividends

| | | | |
|---|---|---|---|
| (j) | 1,800 | | |
| Bal | 1,800 | | |

Revenue

Service Revenue

| | | | |
|---|---|---|---|
| | | (c) | 5,000 |
| | | (e) | 2,600 |
| | | Bal | 7,600 |

Expenses

Salary Expense

| | | | |
|---|---|---|---|
| (g) | 3,000 | | |
| Bal | 3,000 | | |

Rent Expense

| | | | |
|---|---|---|---|
| (g) | 1,500 | | |
| Bal | 1,500 | | |

Interest Expense

| | | | |
|---|---|---|---|
| (g) | 400 | | |
| Bal | 400 | | |

Utilities Expense

| | | | |
|---|---|---|---|
| (i) | 200 | | |
| Bal | 200 | | |

### Requirement 4

**Calderon Service Center, Inc.**
**Trial Balance**
March 31, 20X6

| | Balance | |
|---|---|---|
| Account Title | Debit | Credit |
| Cash | $31,200 | |
| Accounts receivable | 4,000 | |
| Supplies | 300 | |
| Land | 40,000 | |
| Accounts payable | | $ 1,300 |
| Note payable | | 45,000 |
| Share capital | | 10,000 |
| Retained earnings | | 18,500 |
| Dividends | 1,800 | |
| Service revenue | | 7,600 |
| Salary expense | 3,000 | |
| Rent expense | 1,500 | |
| Interest expense | 400 | |
| Utilities expense | 200 | |
| Total | $82,400 | $82,400 |

*Requirement 5*

**Calderon Service Center, Inc.**
**Income Statement**
Month Ended March 31, 20X6

| | | |
|---|---|---|
| **Revenue** | | |
| Service revenue | | $7,600 |
| **Expenses** | | |
| Salary expense | $3,000 | |
| Rent expense | 1,500 | |
| Interest expense | 400 | |
| Utilities expense | 200 | |
| Total expenses | | 5,100 |
| Net income | | $2,500 |

# REVIEW RECORDING BUSINESS TRANSACTIONS

## Quick Check (Answers are given at the end of the chapter.)

1. A debit entry to an account
   **a.** increases liabilities.
   **b.** increases assets.
   **c.** increases shareholders' equity.
   **d.** both a and c.
2. Which account types normally have a credit balance?
   **a.** Revenues
   **b.** Liabilities
   **c.** Expenses
   **d.** Both a and b
3. An attorney performs services of $900 for a client and receives $100 cash with the remainder on account. The journal entry for this transaction would
   **a.** debit Cash, debit Service Revenue, credit Accounts Receivable.
   **b.** debit Cash, debit Accounts Receivable, credit Service Revenue.
   **c.** debit Cash, credit Service Revenue.
   **d.** debit Cash, credit Accounts Receivable, credit Service Revenue.
4. Accounts Payable had a normal beginning balance of $1,600. During the period, there were debit postings of $300 and credit postings of $900. What was the ending balance?
   **a.** $1,000 credit
   **b.** $2,200 debit
   **c.** $2,200 credit
   **d.** $1,000 debit
5. The list of all accounts with their balances is the
   **a.** balance sheet.
   **b.** journal.
   **c.** trial balance.
   **d.** chart of accounts.
6. The basic summary device of accounting is the
   **a.** account.
   **b.** ledger.
   **c.** trial balance.
   **d.** journal.

7. The beginning Cash balance was $9,000. At the end of the period, the balance was $11,000. If total cash paid out during the period was $25,000, the amount of cash receipts was
   **a.** $27,000. **c.** $23,000.
   **b.** $45,000. **d.** $5,000.
8. In a double-entry accounting system
   **a.** half of all the accounts have a normal credit balance.
   **b.** liabilities, owners' equity, and revenue accounts all have normal debit balances.
   **c.** a debit entry is recorded on the left side of a T-account.
   **d.** both a and c are correct.
9. Which accounts appear on which financial statement?

| | *Balance sheet* | *Income statement* |
|---|---|---|
| **a.** | Receivables, land, payables | Revenues, supplies |
| **b.** | Cash, revenues, land | Expenses, payables |
| **c.** | Cash, receivables, payables | Revenues, expenses |
| **d.** | Expenses, payables, cash | Revenues, receivables, land |

10. A doctor purchases medical supplies of $760 and pays $380 cash with the remainder on account. The journal entry for this transaction would be which of the following?
    **a.** Supplies
    Cash
    Accounts Payable
    **b.** Supplies
    Accounts Payable
    Cash
    **c.** Supplies
    Accounts Payable
    Cash
    **d.** Supplies
    Accounts Receivable
    Cash
11. Which is the correct sequence for recording transactions and preparing financial statements?
    **a.** Ledger, trial balance, journal, financial statements
    **b.** Financial statements, trial balance, ledger, journal
    **c.** Ledger, journal, trial balance, financial statements
    **d.** Journal, ledger, trial balance, financial statements
12. The error of posting $300 as $30 can be detected by
    **a.** totaling each account's balance in the ledger.
    **b.** dividing the out-of-balance amount by 2.
    **c.** examining the chart of accounts.
    **d.** dividing the out-of-balance amount by 9.

## Accounting Vocabulary

**account** (p. 63) The record of the changes that have occurred in a particular asset, liability, or shareholders' equity during a period. The basic summary device of accounting.

**accrued liability** (p. 65) A liability for an expense that has not yet been paid by the company.

**chart of accounts** (p. 89) List of a company's accounts and their account numbers.

**credit** (p. 76) The right side of an account.

**debit** (p. 76) The left side of an account.

**journal** (p. 79) The chronological accounting record of an entity's transactions.

**ledger** (p. 80) The book of accounts and their balances.

**posting** (p. 81) Copying amounts from the journal to the respective ledger accounts.

**prepaid expenses** (p. 64). Paying expenses in advance before actual consumption. Also called prepayments.

**property, plant and equipment, PPE** (p. 64) Assets that are expected to be used for more than one period for the purposes of production or supply of goods or services or for administrative purposes.

**transaction** (p. 62) Any event that has a financial impact on the business and can be measured reliably.

**trial balance** (p. 87) A list of all the ledger accounts with their balances.

# ASSESS YOUR PROGRESS

## Short Exercises

**S2-1** ***(Learning Objective 1: Explaining an asset versus an expense)*** Brian Horton opened a software consulting firm that immediately paid $8,000 for a computer. Was Horton's computer an expense of the business? If not, explain.

**S2-2** ***(Learning Objective 1: Analyzing the effects of transactions)*** Young Software began with cash of $13,000. Young then bought supplies for $1,800 on account. Separately, Young paid $4,000 for a computer. Answer these questions.

**a.** How much in total assets does Young have?
**b.** How much in liabilities does Young owe?

**S2-3** ***(Learning Objectives 1, 2: Analyzing transactions; understanding how accounting works)*** Hannah Lyle, a medical doctor, opened a medical practice. The business completed the following transactions:

| | |
|---|---|
| Aug 1 | Lyle invested $31,000 cash to start her medical practice. The business issued ordinary shares to Lyle. |
| 1 | Purchased medical supplies on account totaling $9,200. |
| 2 | Paid monthly office rent of $3,000. |
| 3 | Recorded $10,000 revenue for service rendered to patients, received cash of $2,000, and sent bills to patients for the remainder. |

After these transactions, how much cash does the business have to work with? Use a T-account to show your answer.

**S2-4** ***(Learning Objective 1: Analyzing transactions)*** Refer to Short Exercise 2-3. Which of the transactions of Hannah Lyle increased the total assets of the business? For each transaction, identify the asset that was increased.

**S2-5** ***(Learning Objective 1: Analyzing transactions)*** Capri Design specializes in imported clothing. During May, Capri completed a series of transactions. For each of the following items, give an example of a transaction that has the described effect on the accounting equation of Capri Design.

**a.** Increase one asset and decrease another asset.
**b.** Decrease an asset and decrease owners' equity.
**c.** Decrease an asset and decrease a liability.
**d.** Increase an asset and increase owners' equity.
**e.** Increase an asset and increase a liability.

**S2-6** ***(Learning Objectives 2, 3: Understanding how accounting works; journalizing transactions)*** After operating for several months, architect Gwen Markum completed the following transactions during the latter part of July:

| | |
|---|---|
| Jul 15 | Borrowed $34,000 from the bank, signing a note payable. |
| 22 | Performed service for clients on account totaling $8,500. |
| 28 | Received $6,500 cash on account from clients. |
| 29 | Received a utility bill of $700, an account payable that will be paid during August. |
| 31 | Paid monthly salary of $3,100 to employee. |

Journalize the transactions of Gwen Markum, Architect. Include an explanation with each journal entry.

**S2-7** ***(Learning Objectives 2, 3: Understanding how accounting works; journalizing transactions; posting)*** Architect David Delorme purchased supplies on account for $2,000. Later Delorme paid $500 on account.

1. Journalize the two transactions on the books of David Delorme, architect. Include an explanation for each transaction.
2. Open a T-account for Accounts Payable and post to Accounts Payable. Compute the balance and denote it as Bal.
3. How much does the Delorme business owe after both transactions? In which account does this amount appear?

**S2-8** ***(Learning Objectives 2, 3: Understanding how accounting works; journalizing transactions; posting)*** Orman Unlimited performed services for a client who could not pay immediately. Orman expected to collect the $5,200 the following month. A month later, Orman received $2,400 cash from the client.

1. Record the two transactions on the books of Orman Unlimited. Include an explanation for each transaction.
2. Post to these T-accounts: Cash, Accounts Receivable, and Service Revenue. Compute each account balance and denote as Bal.

**S2-9** ***(Learning Objective 4: Preparing and using a trial balance)*** Assume that Old Boardwalk reported the following summarized data at December 31, 20X6. Accounts appear in no particular order; dollar amounts are in millions.

| | | | |
|---|---|---|---|
| Other liabilities | $ 5 | Revenues | $37 |
| Cash | 6 | Other assets | 13 |
| Expenses | 27 | Accounts payable | 1 |
| Shareholders' equity | 3 | | |

Prepare the trial balance of Old Boardwalk at December 31, 20X6. List the accounts in their proper order. How much was Old Boardwalk's net income or net loss?

**S2-10** ***(Learning Objective 4: Using a trial balance)*** Redberry's trial balance follows. Compute these amounts for the business:

**Redberry, Inc.**
**Trial Balance**
December 31, 20X6

| | Balance | |
|---|---|---|
| **Account Title** | **Debit** | **Credit** |
| Cash | $ 7,500 | |
| Accounts receivable | 12,000 | |
| Supplies | 5,000 | |
| Equipment | 24,000 | |
| Land | 52,000 | |
| Accounts payable | | $ 21,000 |
| Note payable | | 32,000 |
| Share capital | | 7,000 |
| Retained earnings | | 9,000 |
| Service revenue | | 63,000 |
| Salary expense | 23,000 | |
| Rent expense | 7,500 | |
| Utilities expense | 1,000 | |
| Total | $132,000 | $132,000 |

1. Total assets
2. Total liabilities
3. Net income or net loss during December

**S2-11** ***(Learning Objective 4: Using a trial balance)*** Refer to Redberry's trial balance in Short Exercise 2-10. The purpose of this exercise is to help you learn how to correct three common accounting errors.

*Error 1.* Slide. Suppose the trial balance lists Land as $5,200 instead of $52,000. Recompute column totals, take the difference, and divide by 9. The result is an integer (no decimals), which suggests that the error is either a transposition or a slide.

*Error 2.* Transposition. Assume the trial balance lists Accounts Receivable as $21,000 instead of $12,000. Recompute column totals, take the difference, and divide by 9. The result is an integer (no decimals), which suggests that the error is either a transposition or a slide.

*Error 3.* Mislabeling an item. Assume that Redberry accidentally listed Accounts Receivable as a credit balance instead of a debit. Recompute the trial balance totals for debits and credits. Then take the difference between total debits and total credits, and divide the difference by 2. You get back to the original amount of Accounts Receivable.

**S2-12** ***(Learning Objective 2: Using key accounting terms)*** Accounting has its own vocabulary and basic relationships. Match the accounting terms at left with the corresponding definition or meaning at right.

| | | |
|---|---|---|
| ____ | **1.** Debit | **A.** A decrease in shareholders' equity |
| ____ | **2.** Expense | **B.** Always a liability |
| ____ | **3.** Net income | **C.** Revenues – Expenses |
| ____ | **4.** Ledger | **D.** Collection of accounts used in a business |
| ____ | **5.** Posting | **E.** Assets – Liabilities |
| ____ | **6.** Normal balance | **F.** Record of transactions |
| ____ | **7.** Payable | **G.** Always an asset |
| ____ | **8.** Journal | **H.** Left side of an account |
| ____ | **9.** Receivable | **I.** Side of an account where increases are recorded |
| ____ | **10.** Owners' equity | **J.** Copying data from the journal to the ledger |

**S2-13** ***(Learning Objective 5: Analyzing transactions without a journal)*** Seventh Investments, Inc., began by issuing ordinary shares for cash of $140,000. The company immediately purchased computer equipment on account for $100,000.

1. Set up the following T-accounts of Seventh Investments, Inc.: Cash, Computer Equipment, Accounts Payable, Share Capital.
2. Record the first two transactions of the business directly in the T-accounts without using a journal.
3. Show that total debits equal total credits.

## Exercises

All of the A and B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

MyAccountingLab

### (Group A)

■ writing assignment

**E2-14A** ***(Learning Objectives 1, 2: Analyzing transactions)*** Assume M. Crew opened a store in Hong Kong, starting with cash and ordinary shares of $94,000. Melissa Farino, the store manager, then signed a note payable to purchase land for $88,000 and a building for $123,000. Farino also paid $60,000 for equipment and $8,000 for supplies to use in the business.

Suppose the home office of M. Crew requires a weekly report from store managers. Write Farino's memo to the home office to report on her purchases. Include the store's balance sheet as the final part of your memo. Prepare a T-account to compute the balance for Cash.

**E2-15A** ***(Learning Objective 1: Analyzing transactions)*** The following selected events were experienced by either Solution Seekers, Inc., a corporation, or Paul Flynn, the major shareholder. State whether each event (1) increased, (2) decreased, or (3) had no effect on the total assets of the business. Identify any specific asset affected.

- **a.** Received $9,200 cash from customers on account.
- **b.** Flynn used personal funds to purchase a swimming pool for his home.
- **c.** Sold land and received cash of $65,000 (the land was carried on the company's books at $65,000).
- **d.** Borrowed $60,000 from the bank.
- **e.** Made cash purchase of land for a building site, $90,000.
- **f.** Received $25,000 cash and issued shares to a shareholder.
- **g.** Paid $70,000 cash on accounts payable.
- **h.** Purchased equipment and signed a $101,000 promissory note in payment.
- **i.** Purchased merchandise inventory on account for $17,000.
- **j.** The business paid Flynn a cash dividend of $5,000.

**E2-16A** ***(Learning Objective 1: Analyzing transactions; using the accounting equation)*** Harry Samson opened a medical practice specialising in surgery. During the first month of operation (March), the business, titled Harry Samson, Professional Corporation (P.C.), experienced the following events:

| | | |
|---|---|---|
| Mar | 6 | Samson invested $42,000 in the business, which in turn issued its ordinary shares to him. |
| | 9 | The business paid cash for land costing $25,000. Samson plans to build an office building on the land. |
| | 12 | The business purchased medical supplies for $16,000 on account. |
| | 15 | Harry Samson, P.C., officially opened for business. |
| | 15–31 | During the rest of the month, Samson treated patients and earned service revenue of $7,700, receiving cash for half the revenue earned. |
| | 15–31 | The business paid cash expenses: employee salaries, $900; office rent, $900; utilities, $200. |
| | 31 | The business sold supplies to another physician for cost of $200. |
| | 31 | The business borrowed $18,000, signing a note payable to the bank. |
| | 31 | The business paid $1,100 on account. |

## Requirements

1. Analyze the effects of these events on the accounting equation of the medical practice of Harry Samson, P.C.
2. After completing the analysis, answer these questions about the business.
   a. How much are total assets?
   b. How much does the business expect to collect from patients?
   c. How much does the business owe in total?
   d. How much of the business's assets does Samson really own?
   e. How much net income or net loss did the business experience during its first month of operations?

**E2-17A** ***(Learning Objectives 2, 3: Understanding how accounting works; journalizing transactions)*** Refer to Exercise 2-16A.

## Requirement

1. Record the transactions in the journal of Harry Samson, P.C. List the transactions by date and give an explanation for each transaction.

**E2-18A** ***(Learning Objectives 2, 3: Understanding how accounting works; journalizing transactions)*** Harris Tree Cellular, Inc., completed the following transactions during April 20X6, its first month of operations:

| | | |
|---|---|---|
| Apr | 1 | Received $19,100 and issued ordinary shares. |
| | 2 | Purchased $300 of office supplies on account. |
| | 4 | Paid $14,700 cash for land to use as a building site. |
| | 6 | Performed service for customers and received cash of $2,700. |
| | 9 | Paid $200 on accounts payable. |
| | 17 | Performed service for ShipEx on account totaling $1,000. |
| | 23 | Collected $200 from ShipEx on account. |
| | 30 | Paid the following expenses: salary, $1,300; rent, $500. |

## Requirement

1. Record the transactions in the journal of Harris Tree Cellular, Inc. Key transactions by date and include an explanation for each entry.

**E2-19A** ***(Learning Objectives 3, 4: Posting to the ledger; preparing and using a trial balance)*** Refer to Exercise 2-18A.

## Requirements

1. After journalizing the transactions of Exercise 2-18A, post the entries to the ledger, using T-accounts. Key transactions by date. Date the ending balance of each account April 30.
2. Prepare the trial balance of Harris Tree Cellular, Inc., at April 30, 20X6.
3. How much are total assets, total liabilities, and total shareholders' equity on April 30?

**E2-20A** ***(Learning Objectives 2, 3: Understanding how accounting works; journalizing transactions)*** The first seven transactions of Fournier Advertising, Inc., have been posted to the company's accounts as follows:

**Cash**

| | | | |
|---|---|---|---|
| (1) | 10,200 | (3) | 6,000 |
| (2) | 6,900 | (6) | 5,100 |
| (5) | 150 | (7) | 100 |

**Supplies**

| | | | |
|---|---|---|---|
| (4) | 500 | (5) | 150 |

**Equipment**

| | | | |
|---|---|---|---|
| (6) | 5,100 | | |

**Land**

| | | | |
|---|---|---|---|
| (3) | 30,000 | | |

**Accounts Payable**

| | | | |
|---|---|---|---|
| (7) | 100 | (4) | 500 |

**Note Payable**

| | | | |
|---|---|---|---|
| | | (2) | 6,900 |
| | | (3) | 24,000 |

**Share Capital**

| | | | |
|---|---|---|---|
| | | (1) | 10,200 |

### Requirement

1. Prepare the journal entries that served as the sources for the seven transactions. Include an explanation for each entry. As Fournier moves into the next period, how much cash does the business have? How much does Fournier owe in total liabilities?

**E2-21A** ***(Learning Objective 4: Preparing and using a trial balance)*** The accounts of Deluxe Deck Service, Inc., follow with their normal balances at June 30, 20X6. The accounts are listed in no particular order.

| Account | Balance | Account | Balance |
|---|---|---|---|
| Share Capital | $ 8,400 | Dividends | $ 6,100 |
| Accounts payable | 4,400 | Utilities expense | 2,100 |
| Service revenue | 22,400 | Accounts receivable | 15,900 |
| Land | 29,800 | Delivery expense | 700 |
| Note payable | 10,500 | Retained earnings | 25,600 |
| Cash | 8,500 | Salary expense | 8,200 |

### Requirements

1. Prepare the company's trial balance at June 30, 20X6, listing accounts in proper sequence, as illustrated in the chapter. For example, Accounts Receivable comes before Land. List the expense with the largest balance first, the expense with the next largest balance second, and so on.
2. Prepare the financial statement for the month ended June 30, 20X6, that will tell the company the results of operations for the month.

**E2-22A** ***(Learning Objective 4: Correcting errors in a trial balance)*** The trial balance of Carver, Inc., at September 30, 20X6, does not balance:

| | | |
|---|---|---|
| Cash | $ 4,500 | |
| Accounts receivable | 13,100 | |
| Inventory | 16,600 | |
| Supplies | 200 | |
| Land | 52,000 | |
| Accounts payable | | $11,900 |
| Share capital | | 47,500 |
| Service revenue | | 30,500 |
| Salary expense | 1,700 | |
| Rent expense | 1,100 | |
| Utilities expense | 900 | |
| Total | $90,100 | $89,900 |

The accounting records hold the following errors:

a. Recorded a $400 cash revenue transaction by debiting Accounts Receivable. The credit entry was correct.
b. Posted a $3,000 credit to Accounts Payable as $300.
c. Did not record utilities expense or the related account payable in the amount of $500.
d. Understated Share Capital by $500.
e. Omitted Insurance Expense of $3,000, from the trial balance.

### Requirement

1. Prepare the correct trial balance at September 30, 20X6, complete with a heading. Journal entries are not required.

**E2-23A** ***(Learning Objective 5: Recording transactions without a journal)*** Set up the following T-accounts: Cash, Accounts Receivable, Office Supplies, Office Furniture, Accounts Payable, Share Capital, Dividends, Service Revenue, Salary Expense, and Rent Expense. Record the following transactions directly in the T-accounts without using a journal. Use the letters to identify the transactions.

**a.** Linda Oxford opened a law firm by investing $12,000 cash and office furniture valued at $8,600. Organized as a corporation, the business issued ordinary shares to Oxford.
**b.** Paid monthly rent of $1,000.
**c.** Purchased office supplies on account, $700.
**d.** Paid employees' salaries of $2,000.
**e.** Paid $300 of the account payable created in Transaction c.
**f.** Performed legal service on account, $8,100.
**g.** Declared and paid dividends of $2,900.

■ **writing assignment**

**E2-24A** ***(Learning Objective 4: Preparing and using a trial balance)*** Refer to Exercise 2-23A.

1. After recording the transactions in Exercise 2-23A, prepare the trial balance of Linda Oxford, Attorney, at May 31, 20X6. Use the T-accounts that have been prepared for the business.
2. How well did the business perform during its first month? Compute net income (or net loss) for the month.

## (Group B)

**E2-25B** ***(Learning Objectives 1, 2: Analyzing transactions)*** Assume T. Crew opened a store in Frankfurt, Germany, starting with cash and ordinary shares of €90,000. Barbara Breen, the store manager, then signed a note payable to purchase land for €91,000 and a building for €120,000. Breen also paid €62,000 for equipment and €13,000 for supplies to use in the business.

Suppose the home office of T. Crew requires a weekly report from store managers. Write Breen's memo to the head office to report on her purchases. Include the store's balance sheet as the final part of your memo. Prepare a T-account to compute the balance for Cash.

**E2-26B** ***(Learning Objective 1: Analyzing transactions)*** The following selected events were experienced by either Simple Solutions, Inc., a corporation, or Bob Gallagher, the major shareholder. State whether each event (1) increased, (2) decreased, or (3) had no effect on the total assets of the business. Identify any specific asset affected.

**a.** Received €30,000 cash and issued shares to a shareholder.
**b.** Purchased equipment for €75,000 cash.
**c.** Paid €10,000 cash on accounts payable.
**d.** Gallagher used personal funds to purchase a flat screen TV for his home.
**e.** Purchased land for a building site and signed an €80,000 promissory note to the bank.
**f.** Received €17,000 cash from customers for services performed.
**g.** Sold land and received a note receivable of €55,000 (the land was carried on the company's books at €55,000).
**h.** Earned €25,000 in revenue for services performed. The customer promises to pay Simple Solutions in one month.
**i.** Purchased supplies on account for €5,000.
**j.** The business paid Gallagher a cash dividend of €4,000.

**E2-27B** ***(Learning Objective 1: Analyzing transactions; using the accounting equation)*** Kyle Cohen opened a medical practice specialising in surgery. During the first month of operation (July), the business, titled Kyle Cohen, Professional Corporation (P.C.), experienced the following events:

| | | |
|---|---|---|
| Jul | 6 | Cohen invested €44,000 in the business, which in turn issued its ordinary shares to him. |
| | 9 | The business paid cash for land costing €31,000. Cohen plans to build an office building on the land. |
| | 12 | The business purchased medical supplies for €1,700 on account. |
| | 15 | Kyle Cohen, P.C., officially opened for business. |
| | 15–31 | During the rest of the month, Cohen treated patients and earned service revenue of €7,600, receiving cash for half the revenue earned. |
| | 15–31 | The business paid cash expenses: employee salaries, €800; office rent, €800; utilities, €300. |
| | 31 | The business sold supplies to another physician for cost of €400. |
| | 31 | The business borrowed €16,000, signing a note payable to the bank. |
| | 31 | The business paid €700 on account. |

### *Requirements*

1. Analyze the effects of these events on the accounting equation of the medical practice of Kyle Cohen, P.C.
2. After completing the analysis, answer these questions about the business.
   - **a.** How much are total assets?
   - **b.** How much does the business expect to collect from patients?
   - **c.** How much does the business owe in total?
   - **d.** How much of the business's assets does Cohen really own?
   - **e.** How much net income or net loss did the business experience during its first month of operations?

**E2-28B** ***(Learning Objectives 2, 3: Understanding how accounting works; journalizing transactions)*** Refer to Exercise 2-27B.

### *Requirement*

1. Record the transactions in the journal of Kyle Cohen, P.C. List the transactions by date and give an explanation for each transaction.

**E2-29B** ***(Learning Objectives 2, 3: Understanding how accounting works; journalizing transactions)*** Green Tree Cellular, Inc., completed the following transactions during April 20X6, its first month of operations:

| | | |
|---|---|---|
| Apr | 1 | Received €19,600 and issued ordinary shares. |
| | 2 | Purchased €900 of office supplies on account. |
| | 4 | Paid €14,600 cash for land to use as a building site. |
| | 6 | Performed service for customers and received cash of €2,500. |
| | 9 | Paid €200 on accounts payable. |
| | 17 | Performed service for UPS on account totaling €1,200. |
| | 23 | Collected €900 from UPS on account. |
| | 30 | Paid the following expenses: salary, €1,900; rent, €1,400. |

### *Requirement*

1. Record the transactions in the journal of Green Tree Cellular, Inc. Key transactions by date and include an explanation for each entry.

**E2-30B** ***(Learning Objectives 3, 4: Posting to the ledger; preparing and using a trial balance)*** Refer to Exercise 2-29B.

### *Requirements*

1. Post the entries to the ledger, using T-accounts. Key transactions by date. Date the ending balance of each account April 30.
2. Prepare the trial balance of Green Tree Cellular, Inc., at April 30, 20X6.
3. How much are total assets, total liabilities, and total shareholders' equity on April 30?

**E2-31B** ***(Learning Objectives 2, 3: Understanding how accounting works; journalizing transactions)*** The first seven transactions of Portman Advertising, Inc., have been posted to the company's accounts as follows:

**Cash**

| | | | |
|---|---|---|---|
| (1) | 9,700 | (3) | 5,000 |
| (2) | 6,700 | (6) | 6,000 |
| (5) | 80 | (7) | 90 |

**Supplies**

| | | | |
|---|---|---|---|
| (4) | 500 | (5) | 80 |

**Equipment**

| | | | |
|---|---|---|---|
| (6) | 6,000 | | |

**Land**

| | | | |
|---|---|---|---|
| (3) | 30,000 | | |

**Accounts Payable**

| | | | |
|---|---|---|---|
| (7) | 90 | (4) | 500 |

**Note Payable**

| | | | |
|---|---|---|---|
| | | (2) | 6,700 |
| | | (3) | 25,000 |

**Share Capital**

| | | | |
|---|---|---|---|
| | | (1) | 9,700 |

### *Requirement*

1. Prepare the journal entries that served as the sources for the seven transactions. Include an explanation for each entry. As Portman moves into the next period, how much cash does the business have? How much does Portman owe in total liabilities?

**E2-32B** ***(Learning Objective 4: Preparing and using a trial balance)*** The accounts of Grand Pool Service, Inc., follow with their normal balances at June 30, 20X6. The accounts are listed in no particular order.

| Account | Balance | Account | Balance |
|---|---|---|---|
| Share Capital | € 8,000 | Dividends | € 6,300 |
| Accounts payable | 4,500 | Utilities expense | 1,600 |
| Service revenue | 22,800 | Accounts receivable | 15,300 |
| Land | 29,400 | Delivery expense | 200 |
| Note payable | 10,500 | Retained earnings | 24,600 |
| Cash | 9,400 | Salary expense | 8,200 |

### *Requirements*

1. Prepare the company's trial balance at June 30, 20X6, listing accounts in proper sequence, as illustrated in the chapter. For example, Accounts Receivable comes before Land. List the expense with the largest balance first, the expense with the next largest balance second, and so on.
2. Prepare the financial statement for the month ended June 30, 20X6, that will tell the company the results of operations for the month.

**E2-33B** ***(Learning Objective 4: Correcting errors in a trial balance)*** The trial balance of Farris, Inc., at June 30, 20X6, does not balance.

| | | |
|---|---|---|
| Cash | € 4,100 | |
| Accounts receivable | 13,300 | |
| Inventory | 16,500 | |
| Supplies | 700 | |
| Land | 53,000 | |
| Accounts payable | | €12,400 |
| Share capital | | 47,800 |
| Service revenue | | 31,900 |
| Salary expense | 2,200 | |
| Rent expense | 600 | |
| Utilities expense | 300 | |
| Total | €90,700 | €92,100 |

The accounting records hold the following errors:

- **a.** Recorded a €200 cash revenue transaction by debiting Accounts Receivable. The credit entry was correct.
- **b.** Posted a €2,000 credit to Accounts Payable as €200.
- **c.** Did not record utilities expense or the related account payable in the amount of €300.
- **d.** Understated Share Capital by €100.
- **e.** Omitted Insurance Expense of €3,300, from the trial balance.

### *Requirement*

1. Prepare the correct trial balance at June 30, 20X6, complete with a heading. Journal entries are not required.

**E2-34B** ***(Learning Objective 5: Recording transactions without a journal)*** Set up the following T-accounts: Cash, Accounts Receivable, Office Supplies, Office Furniture, Accounts Payable, Share Capital, Dividends, Service Revenue, Salary Expense, and Rent Expense. Record the following transactions directly in the T-accounts without using a journal. Use the letters to identify the transactions.

- **a.** Linda Conway opened a law firm by investing €11,000 cash and office furniture valued at €9,100. Organized as a corporation, the business issued ordinary shares to Conway.
- **b.** Paid monthly rent of €1,200.
- **c.** Purchased office supplies on account, €700.
- **d.** Paid employee salaries of €2,200.
- **e.** Paid €300 of the accounts payable created in Transaction c.
- **f.** Performed legal service on account, €8,300.
- **g.** Declared and paid dividends of €2,100.

**E2-35B** ***(Learning Objective 4: Preparing and using a trial balance)*** Refer to Exercise 2-34B.

### *Requirements*

1. Prepare the trial balance of Linda Conway, Attorney, at January 31, 20X6. Use the T-accounts that have been prepared for the business.
2. How well did the business perform during its first month? Compute net income (or net loss) for the month.

## Serial Exercise

Exercise 2-36 begins an accounting cycle exercise. (This will be completed in Chapter 3.)

**E2-36** ***(Learning Objectives 2, 3, 4: Recording transactions; preparing a trial balance)*** Jerome Smith, Certified Public Accountant, operates as a professional corporation (P.C.). The business completed these transactions during the first part of March, 20X6:

| | | |
|---|---|---|
| Mar | 2 | Received $7,000 cash from Smith, and issued ordinary shares to him. |
| | 2 | Paid monthly office rent, $600. |
| | 3 | Paid cash for a Dell computer, $2,400, with the computer expected to remain in service for five years. |
| | 4 | Purchased office furniture on account, $7,500, with the furniture projected to last for five years. |
| | 5 | Purchased supplies on account, $500. |
| | 9 | Performed tax service for a client and received cash for the full amount of $1,200. |
| | 12 | Paid utility expenses, $300. |
| | 18 | Performed consulting service for a client on account, $2,100. |

### *Requirements*

1. Journalize the transactions. Explanations are not required.
2. Post to the T-accounts. Key all items by date and denote an account balance on March 18, 20X6, as Bal.
3. Prepare a trial balance at March 18, 20X6. In the Serial Exercise of Chapter 3, we add transactions for the remainder of March and will require a trial balance at March 31.

## Challenge Exercises

**E2-37** ***(Learning Objective 5: Computing financial statement amounts)*** The manager of Pierce Furniture needs to compute the following amounts.

**a.** Total cash paid during October.
**b.** Cash collections from customers during October. Analyze Accounts Receivable.
**c.** Cash paid on a note payable during October. Analyze Notes Payable.

Here's the additional data you need to analyze the accounts:

| | Balance | | |
|---|---|---|---|
| **Account** | **Sep 30** | **Oct 31** | **Additional Information for the Month of October** |
| 1. Cash.............................. | $11,000 | $ 6,000 | Cash receipts, $83,000 |
| 2. Accounts Receivable....... | 28,000 | 26,000 | Sales on account, $47,000 |
| 3. Notes Payable ............... | 15,000 | 23,000 | New borrowing, $24,000 |

### *Requirement*

1. Prepare a T-account to compute each amount, ***a*** through ***c***.

**E2-38** ***(Learning Objectives 1, 4: Analyzing transactions; using a trial balance)*** The trial balance of Circle 360, Inc., at October 31, 20X6, does not balance.

| | | | |
|---|---|---|---|
| Cash.................................. | $ 4,400 | Share capital....................... | $20,700 |
| Accounts receivable............ | 6,800 | Retained earnings............... | 7,800 |
| Land.................................. | 34,000 | Service revenue................... | 9,000 |
| Accounts payable ............... | 6,300 | Salary expense.................... | 3,200 |
| Note payable...................... | 5,400 | Advertising expense............ | 1,000 |

### *Requirements*

1. How much out of balance is the trial balance? Determine the out-of-balance amount. The error lies in the Accounts Receivable account. Add the out-of-balance amount to, or subtract it from, Accounts Receivable to determine the correct balance of Accounts Receivable.

2. After correcting Accounts receivable, advise the top management of Circle 360, Inc., on the company's
   a. total assets
   b. total liabilities
   c. net income or net loss for October

**E2-39** ***(Learning Objective 1: Analyzing transactions)*** This question concerns the items and the amounts that two entities, Nashua Co., and Ditka Hospital, should report in their financial statements.

During September, Ditka provided Nashua with medical exams for Nashua employees and sent a bill for $46,000. On October 7, Nashua sent a cheque to Ditka for $34,000. Nashua began September with a cash balance of $57,000; Ditka began with cash of $0.

***Requirements***

1. For this situation, show everything that both Nashua and Ditka will report on their September and October income statements and on their balance sheets at September 30 and October 31.
2. After showing what each company should report, briefly explain how the Nashua and Ditka data relate to each other.

## Quiz

*Test your understanding of transaction analysis by answering the following questions. Select the best choice from among the possible answers.*

**Q2-40** A shareholder's investment of cash into the business will

**a.** decrease total liabilities.
**b.** decrease total assets.
**c.** have no effect on total assets.
**d.** increase shareholders' equity.

**Q2-41** Purchasing a laptop computer on account will

**a.** increase total liabilities.
**b.** have no effect on shareholders' equity.
**c.** increase total assets.
**d.** all of the above.

**Q2-42** Performing a service on account will

**a.** increase shareholders' equity.
**b.** increase total assets.
**c.** increase total liabilities.
**d.** both a and b.

**Q2-43** Receiving cash from a customer on account will

**a.** increase total assets.
**b.** decrease liabilities.
**c.** increase shareholders' equity.
**d.** have no effect on total assets.

**Q2-44** Purchasing computer equipment for cash will

**a.** decrease both total assets and shareholders' equity.
**b.** increase both total assets and total liabilities.
**c.** have no effect on total assets, total liabilities, or shareholders' equity.
**d.** decrease both total liabilities and shareholders' equity.

**Q2-45** Purchasing a building for $110,000 by paying cash of $15,000 and signing a note payable for $95,000 will

**a.** increase both total assets and total liabilities by $95,000.
**b.** increase both total assets and total liabilities by $110,000.
**c.** decrease both total assets and total liabilities by $15,000.
**d.** decrease total assets and increase total liabilities by $15,000.

**Q2-46** What is the effect on total assets and shareholders' equity of paying the telephone bill as soon as it is received each month?

| Total assets | Shareholders' equity |
|---|---|
| **a.** No effect | No effect |
| **b.** Decrease | No effect |
| **c.** No effect | Decrease |
| **d.** Decrease | Decrease |

**Q2-47** Which of the following transactions will increase an asset and increase a liability?

**a.** Purchasing office equipment for cash
**b.** Issuing shares
**c.** Payment of an account payable
**d.** Buying equipment on account

**Q2-48** Which of the following transactions will increase an asset and increase shareholders' equity?

**a.** Borrowing money from a bank
**b.** Purchasing supplies on account
**c.** Performing a service on account for a customer
**d.** Collecting cash from a customer on an account receivable

**Q2-49** Where do we first record a transaction?

**a.** Journal
**b.** Trial balance
**c.** Account
**d.** Ledger

**Q2-50** Which of the following is not an asset account?

**a.** Salary Expense
**b.** Service Revenue
**c.** Share Capital
**d.** None of the above accounts is an asset

**Q2-51** Which statement is false?

**a.** Assets are increased by debits.
**b.** Revenues are increased by credits.
**c.** Liabilities are decreased by debits.
**d.** Dividends are increased by credits.

**Q2-52** The journal entry to record the receipt of land and a building and issuance of ordinary shares

**a.** debits Land and credits Share Capital.
**b.** debits Land and Building and credits Share Capital.
**c.** debits Land, Building, and Share Capital.
**d.** debits Share Capital and credits Land and Building.

**Q2-53** The journal entry to record the purchase of supplies on account

**a.** debits Supplies and credits Accounts Payable.
**b.** credits Supplies and debits Cash.
**c.** credits Supplies and debits Accounts Payable.
**d.** debits Supplies Expense and credits Supplies.

**Q2-54** If the credit to record the purchase of supplies on account is not posted,

**a.** expenses will be overstated.
**b.** liabilities will be understated.
**c.** shareholders' equity will be understated.
**d.** assets will be understated.

**Q2-55** The journal entry to record a payment on account will

**a.** debit Cash and credit Expenses.
**b.** debit Accounts Payable and credit Retained Earnings.
**c.** debit Accounts Payable and credit Cash.
**d.** debit Expenses and credit Cash.

**Q2-56** If the credit to record the payment of an account payable is not posted,

**a.** expenses will be understated.
**b.** liabilities will be understated.
**c.** cash will be understated.
**d.** cash will be overstated.

**Q2-57** Which statement is false?

**a.** A trial balance is the same as a balance sheet.
**b.** A trial balance can verify the equality of debits and credits.
**c.** A trial balance can be taken at any time.
**d.** A trial balance lists all the accounts with their current balances.

**Q2-58** A business's receipt of a $120,000 building, with a $60,000 mortgage payable, and issuance of $60,000 of ordinary shares will

**a.** increase shareholders' equity by $60,000.
**b.** increase assets by $60,000.
**c.** decrease assets by $60,000.
**d.** increase shareholders' equity by $120,000.

**Q2-59** Gartex, a new company, completed these transactions. What will Gartex's total assets equal?

**1.** Shareholders invested $54,000 cash and inventory worth $27,000.
**2.** Sales on account, $15,000.

**a.** $66,000 **c.** $96,000
**b.** $69,000 **d.** $81,000

## Problems

All of the A and B problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

MyAccountingLab

### (Group A)

**P2-60A** ***(Learning Objective 4: Analyzing a trial balance)*** The trial balance of Luxury Specialties, Inc., follows.

■ writing assignment

**Luxury Specialties**
**Trial Balance**
December 31, 20X6

| | | |
|---|---|---|
| Cash | $ 11,000 | |
| Accounts receivable | 48,000 | |
| Prepaid expenses | 5,000 | |
| Equipment | 239,000 | |
| Building | 105,000 | |
| Accounts payable | | $108,000 |
| Note payable | | 90,000 |
| Share capital | | 35,000 |
| Retained earnings | | 38,000 |
| Dividends | 19,000 | |
| Service revenue | | 257,000 |
| Rent expense | 28,000 | |
| Advertising expense | 4,000 | |
| Wage expense | 61,000 | |
| Supplies expense | 8,000 | |
| Total | $528,000 | $528,000 |

Ashley Richards, your best friend, is considering investing in Luxury Specialties, Inc. Ashley seeks your advice in interpreting this information. Specifically, she asks how to use this trial balance to compute the company's total assets, total liabilities, and net income or net loss for the year.

**Requirement**

1. Write a short note to answer Ashley's questions. In your note, state the amounts of Luxury Specialties' total assets, total liabilities, and net income or net loss for the year. Also show how you computed each amount.

**P2-61A** ***(Learning Objective 1: Analyzing transactions with the accounting equation; preparing the financial statements)*** The following amounts summarize the financial position of Mason Resources, Inc., on May 31, 20X6:

| | Assets | | | | | | | = | Liabilities | + | Shareholders' Equity | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cash | + | Accounts Receivable | + | Supplies | + | Land | = | Accounts Payable | + | Share Capital | + | Retained Earnings |
| Bal | 1,150 | | 1,350 | | | | 11,900 | | 7,600 | | 4,400 | | 2,400 |

During June 20X6, Mason Resources completed these transactions:

- **a.** The business received cash of $9,200 and issued ordinary shares.
- **b.** Performed services for a customer and received cash of $6,700.
- **c.** Paid $4,500 on accounts payable.
- **d.** Purchased supplies on account, $600.
- **e.** Collected cash from a customer on account, $700.
- **f.** Consulted on the design of a computer system and billed the customer for services rendered, $2,900.
- **g.** Recorded the following business expenses for the month: (1) paid office rent—$1,100; (2) paid advertising—$1,000.
- **h.** Declared and paid a cash dividend of $1,500.

**Requirements**

1. Analyze the effects of the preceding transactions on the accounting equation of Mason Resources, Inc.
2. Prepare the income statement of Mason Resources, Inc., for the month ended June 30, 20X6. List expenses in decreasing order by amount.
3. Prepare the entity's statement of changes in equity for the month ended June 30, 20X6.
4. Prepare the balance sheet of Mason Resources, Inc., at June 30, 20X6.

**P2-62A** ***(Learning Objectives 2, 3: Recording transactions; posting)*** This problem can be used in conjunction with Problem 2-61A. Refer to Problem 2-61A.

**Requirements**

1. Journalize the June transactions of Mason Resources, Inc. Explanations are not required.
2. Prepare T-Accounts for each account. Insert in each T-account its May 31 balance as given (example: Cash $1,150). Then, post the June transactions to the T-Accounts.
3. Compute the balance in each account.

**P2-63A** ***(Learning Objectives 1, 2, 3: Analyzing transactions; understanding how accounting works; journalizing transactions)*** Demers Real Estate Co. experienced the following events during the organizing phase and its first month of operations. Some of the events were personal for the shareholders and did not affect the business. Others were transactions of the business.

| | | |
|---|---|---|
| Nov | 4 | David Demers, the major shareholder of real estate company, received $100,000 cash from an inheritance. |
| | 5 | Demers deposited $57,000 cash in a new business bank account titled Demers Real Estate Co. The business issued ordinary shares to Demers. |
| | 6 | The business paid $600 cash for letterhead stationery for the new office. |
| | 7 | The business purchased office equipment. The company paid cash of $12,000 and agreed to pay the account payable for the remainder, $8,000, within three months. |
| | 10 | Demers sold EVN shares, which he had owned for several years, receiving $76,500 cash from his stockbroker. |
| | 11 | Demers deposited the $76,500 cash from sale of the EVN shares in his personal bank account. |
| | 12 | A representative of a large company telephoned Demers and told him of the company's intention to transfer $15,500 of business to Demers. |
| | 18 | Demers finished a real estate deal for a client and submitted his bill for services, $3,500. Demers expects to collect from the client within two weeks. |
| | 21 | The business paid half its account payable on the equipment purchased on November 7. |
| | 25 | The business paid office rent of $1,300. |
| | 30 | The business declared and paid a cash dividend of $1,900. |

### *Requirements*

1. Classify each of the preceding events as one of the following:
   a. A business-related event but not a transaction to be recorded by Demers Real Estate Co.
   b. A business transaction for a shareholder, not to be recorded by Demers Real Estate Co.
   c. A business transaction to be recorded by Demers Real Estate Co.
2. Analyze the effects of the preceding events on the accounting equation of Demers Real Estate Co.
3. Record the transactions of the business in its journal. Include an explanation for each entry.

**P2-64A** ***(Learning Objectives 2, 3: Understanding how accounting works; analyzing and recording transactions)*** During December, Smith Auction Co. completed the following transactions:

| | | |
|---|---|---|
| Dec | 1 | Smith received $26,000 cash and issued ordinary shares to the shareholders. |
| | 5 | Paid monthly rent, $1,100. |
| | 9 | Paid $8,500 cash and signed a $30,000 note payable to purchase land for an office site. |
| | 10 | Purchased supplies on account, $1,700. |
| | 19 | Paid $600 on account. |
| | 22 | Borrowed $20,000 from the bank for business use. Smith signed a note payable to the bank in the name of the business. |
| | 31 | Service revenue earned during the month included $12,000 cash and $8,000 on account. |
| | 31 | Paid employees' salaries ($2,400), advertising expense ($1,500), and utilities expense ($1,400). |
| | 31 | Declared and paid a cash dividend of $6,500. |

Smith's business uses the following accounts: Cash, Accounts Receivable, Supplies, Land, Accounts Payable, Notes Payable, Share Capital, Dividends, Service Revenue, Salary Expense, Advertising Expense, and Utilities Expense.

**Requirements**

1. Journalize each transaction of Smith Auction Co. Explanations are not required.
2. Post to these T-accounts: Cash, Accounts Payable, and Notes Payable.
3. After these transactions, how much cash does the business have? How much in total liabilities does it owe?

**P2-65A** ***(Learning Objectives 2, 3, 4: Understanding how accounting works; journalizing transactions; posting; preparing and using a trial balance)*** During the first month of operations, Simmons Heating and Air Conditioning, Inc., completed the following transactions:

| | | |
|---|---|---|
| Jan | 2 | Simmons received $39,000 cash and issued ordinary shares to the shareholders. |
| | 3 | Purchased supplies, $200, and equipment, $3,100, on account. |
| | 4 | Performed services for a customer and received cash, $1,600. |
| | 7 | Paid cash to acquire land, $27,000. |
| | 11 | Performed services for a customer and billed the customer, $900. We expect to collect within one month. |
| | 16 | Paid for the equipment purchased January 3 on account. |
| | 17 | Paid the telephone bill, $170. |
| | 18 | Received partial payment from customer on account, $450. |
| | 22 | Paid the water and electricity bills, $190. |
| | 29 | Received $1,400 cash for servicing the heating unit of a customer. |
| | 31 | Paid employee salary, $2,400. |
| | 31 | Declared and paid dividends of $3,000. |

**Requirements**

1. Record each transaction in the journal. Key each transaction by date. Explanations are not required.
2. Post the transactions to the T-accounts, using transaction dates as posting references. Label the ending balance of each account Bal, as shown in the chapter.
3. Prepare the trial balance of Simmons Heating and Air Conditioning, Inc., at January 31 of the current year.
4. The manager asks you how much in total resources the business has to work with, how much it owes, and whether January was profitable (and by how much).

**P2-66A** ***(Learning Objectives 4, 5: Recording transactions directly in T-accounts; preparing and using a trial balance)*** During the first month of operations (November 20X6), Stein Services Corporation completed the following selected transactions:

- **a.** The business received cash of $28,000 and a building valued at $52,000. The corporation issued ordinary shares to the shareholders.
- **b.** Borrowed $37,300 from the bank; signed a note payable.
- **c.** Paid $33,000 for music equipment.
- **d.** Purchased supplies on account, $500.
- **e.** Paid employees' salaries, $2,500.
- **f.** Received $1,600 for music service performed for customers.
- **g.** Performed service for customers on account, $3,200.
- **h.** Paid $100 of the account payable created in Transaction d.
- **i.** Received an $800 bill for utility expense that will be paid in the near future.
- **j.** Received cash on account, $1,200.
- **k.** Paid the following cash expenses: (1) rent, $1,200; (2) advertising, $700.

**Requirements**

1. Record each transaction directly in the T-accounts without using a journal. Use the letters to identify the transactions.
2. Prepare the trial balance of Stein Services Corporation at November 30, 20X6.

## (Group B)

**P2-67B** ***(Learning Objective 4: Analyzing a trial balance)*** The trial balance of Advantage Specialties, Inc., follows:

■ **writing assignment**

**Advantage Specialties, Inc.**
**Trial Balance**
December 31, 20X6

| | | |
|---|---|---|
| Cash | € 11,000 | |
| Accounts receivable | 49,000 | |
| Prepaid expenses | 5,000 | |
| Equipment | 234,000 | |
| Building | 96,000 | |
| Accounts payable | | €102,000 |
| Note payable | | 95,000 |
| Share capital | | 34,000 |
| Retained earnings | | 36,000 |
| Dividends | 23,000 | |
| Service revenue | | 252,000 |
| Rent expense | 25,000 | |
| Advertising expense | 4,000 | |
| Wage expense | 65,000 | |
| Supplies expense | 7,000 | |
| Total | €519,000 | €519,000 |

Rebecca Smith, your best friend, is considering making an investment in Advantage Specialties, Inc. Rebecca seeks your advice in interpreting the company's information. Specifically, she asks how to use this trial balance to compute the company's total assets, total liabilities, and net income or net loss for the year.

### *Requirement*

1. Write a short note to answer Rebecca's questions. In your note, state the amounts of Advantage Specialties' total assets, total liabilities, and net income or net loss for the year. Also show how you computed each amount.

**P2-68B** ***(Learning Objective 1: Analyzing transactions with the accounting equation; preparing the financial statements)*** The following amounts summarize the financial position of Rodriguez Resources on May 31, 20X6:

| | Assets | | | | | | | = | Liabilities | + | Shareholders' Equity | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cash | + | Accounts Receivable | + | Supplies | + | Land | = | Accounts Payable | + | Share Capital | + | Retained Earnings |
| Bal | 1,450 | | 1,650 | | | | 11,500 | | 7,800 | | 4,000 | | 2,800 |

During June, 20X6, the business completed these transactions:

**a.** Rodriguez Resources received cash of €8,600 and issued shares.
**b.** Performed services for a customer and received cash of €6,500.
**c.** Paid €4,700 on accounts payable.
**d.** Purchased supplies on account, €600.
**e.** Collected cash from a customer on account, €200.

**f.** Consulted on the design of a computer system and billed the customer for services rendered, €2,700.
**g.** Recorded the following expenses for the month: (1) paid office rent—€900; (2) paid advertising—€800.
**h.** Declared and paid a cash dividend of €2,300.

### *Requirements*

1. Analyze the effects of the preceding transactions on the accounting equation of Rodriguez Resources, Inc.
2. Prepare the income statement of Rodriguez Resources, Inc., for the month ended June 30, 20X6. List expenses in decreasing order by amount.
3. Prepare the statement of changes in equity of Rodriguez Resources, Inc., for the month ended June 30, 20X6.
4. Prepare the balance sheet of Rodriguez Resources, Inc., at June 30, 20X6.

**P2-69B** ***(Learning Objectives 2, 3: Understanding how accounting works; journalizing transactions; posting)*** This problem can be used in conjunction with Problem 2-68B. Refer to Problem 2-68B.

### *Requirements*

1. Journalize the transactions of Rodriguez Resources, Inc. Explanations are not required.
2. Prepare T-accounts for each account. Insert in each T-account its May 31 balance as given (example: Cash €1,450). Then, post the June transactions to the T-accounts.
3. Compute the balance in each account.

**P2-70B** ***(Learning Objectives 1, 2, 3: Analyzing transactions; understanding how accounting works; journalizing transactions)*** Smith Real Estate Co. experienced the following events during the organizing phase and its first month of operations. Some of the events were personal for the shareholders and did not affect the business. Others were transactions of the business.

| | | |
|---|---|---|
| Nov | 4 | John Smith, the major shareholder of real estate company, received €108,000 cash from an inheritance. |
| | 5 | Smith deposited €59,000 cash in a new business bank account titled Smith Real Estate Co. The business issued ordinary shares to Smith. |
| | 6 | The business paid €500 cash for letterhead stationery for the new office. |
| | 7 | The business purchased office equipment. The company paid cash of €12,000 and agreed to pay the account payable for the remainder, €8,500, within three months. |
| | 10 | Smith sold DLD shares, which he owned for several years, receiving €74,000 cash from his stockbroker. |
| | 11 | Smith deposited the €74,000 cash from sale of the DLD shares in his personal bank account. |
| | 12 | A representative of a large company telephoned Smith and told him of the company's intention to transfer €12,500 of business to Smith. |
| | 18 | Smith finished a real estate deal for a client and submitted his bill for services, €3,000. Smith expects to collect from the client within two weeks. |
| | 21 | The business paid half its account payable for the equipment purchased on November 7. |
| | 25 | The business paid office rent of €500. |
| | 30 | The business declared and paid a cash dividend of €1,700. |

## Requirements

1. Classify each of the preceding events as one of the following:
   a. A business-related event but not a transaction to be recorded by Smith Real Estate Co.
   b. A business transaction for a shareholder, not to be recorded by Smith Real Estate Co.
   c. A business transaction to be recorded by the Smith Real Estate Co.
2. Analyze the effects of the preceding events on the accounting equation of Smith Real Estate Co.
3. Record the transactions of the business in its journal. Include an explanation for each entry.

**P2-71B** ***(Learning Objectives 2, 3: Analyzing and recording transactions)*** During December, Swanson Auction Co. completed the following transactions:

| | | |
|---|---|---|
| Dec | 1 | Swanson received €28,000 cash and issued ordinary shares to the shareholders. |
| | 5 | Paid monthly rent, €2,000. |
| | 9 | Paid €11,500 cash and signed a €33,000 note payable to purchase land for an office site. |
| | 10 | Purchased supplies on account, €1,700. |
| | 19 | Paid €800 on account. |
| | 22 | Borrowed €18,500 from the bank for business use. Swanson signed a note payable to the bank in the name of the business. |
| | 31 | Service revenue earned during the month included €14,500 cash and €4,500 on account. |
| | 31 | Paid employees' salaries (€2,100), advertising expense (€1,000), and utilities expense (€1,100). |
| | 31 | Declared and paid a cash dividend of €2,000. |

Swanson's business uses the following accounts: Cash, Accounts Receivable, Supplies, Land, Accounts Payable, Notes Payable, Share Capital, Dividends, Service Revenue, Salary Expense, Rent Expense, Advertising Expense, and Utilities Expense.

## Requirements

1. Journalize each transaction of Swanson Auction Co. Explanations are not required.
2. Post to these T-accounts: Cash, Accounts Payable, and Notes Payable.
3. After these transactions, how much cash does the business have? How much does it owe in total liabilities?

**P2-72B** ***(Learning Objectives 2, 3, 4: Understanding how accounting works; journalizing transactions; posting; preparing and using a trial balance)*** During the first month of operations, O'Shea Plumbing, Inc., completed the following transactions:

| | | |
|---|---|---|
| Jan | 2 | O'Shea received €33,000 cash and issued ordinary shares to the shareholders. |
| | 3 | Purchased supplies, €400, and equipment, €2,900, on account. |
| | 4 | Performed service for a client and received cash, €1,700. |
| | 7 | Paid cash to acquire land, €22,000. |
| | 11 | Performed service for a customer and billed the customer, €1,100. We expect to collect within one month. |
| | 16 | Paid for the equipment purchased January 3 on account. |
| | 17 | Paid the telephone bill, €130. |
| | 18 | Received partial payment from customer on account, €550. |
| | 22 | Paid the water and electricity bills, €150. |
| | 29 | Received €1,100 cash for servicing the heating unit of a customer. |
| | 31 | Paid employee salaries, €2,300. |
| | 31 | Declared and paid dividends of €2,900. |

**Requirements**

1. Record each transaction in the journal. Key each transaction by date. Explanations are not required.
2. Post the transactions to the T-accounts, using transaction dates as posting references.
3. Prepare the trial balance of O'Shea Plumbing, Inc., at January 31 of the current year.
4. The manager asks you how much in total resources the business has to work with, how much it owes, and whether January was profitable (and by how much).

**P2-73B** ***(Learning Objectives, 4, 5: Recording transactions directly in T-accounts; preparing and using a trial balance)*** During the first month of operations (March 20X6), Silver Entertainment Corporation completed the following selected transactions:

- **a.** The business received cash of €32,000 and a building valued at €52,000. The corporation issued ordinary shares to the shareholders.
- **b.** Borrowed €35,800 from the bank; signed a note payable.
- **c.** Paid €32,000 for music equipment.
- **d.** Purchased supplies on account, €200.
- **e.** Paid employees' salaries, €2,300.
- **f.** Received €1,700 for music service performed for customers.
- **g.** Performed service for customers on account, €2,800.
- **h.** Paid €100 of the account payable created in Transaction d.
- **i.** Received a €900 bill for advertising expense that will be paid in the near future.
- **j.** Received cash on account, €1,600.
- **k.** Paid the following cash expenses: (1) rent, €1,200; (2) advertising, €800.

**Requirements**

1. Record each transaction directly in the T-accounts without using a journal. Use the letters to identify the transactions.
2. Prepare the trial balance of Silver Entertainment Corporation, at March 31, 20X6.

# APPLY YOUR KNOWLEDGE

## Decision Cases

**Case 1.** ***(Learning Objectives 4, 5: Recording transactions directly in T-accounts; preparing a trial balance; measuring net income or loss)*** A friend named Jay Barlow has asked what effect certain transactions will have on his company. Time is short, so you cannot apply the detailed procedures of journalizing and posting. Instead, you must analyze the transactions without the use of a journal. Barlow will continue the business only if he can expect to earn monthly net income of at least $5,000. The following transactions occurred this month:

- **a.** Barlow deposited $5,000 cash in a business bank account, and the corporation issued ordinary shares to him.
- **b.** Borrowed $5,000 cash from the bank and signed a note payable due within 1 year.
- **c.** Paid $1,300 cash for supplies.
- **d.** Purchased advertising in the local newspaper for cash, $1,800.
- **e.** Purchased office furniture on account, $4,400.
- **f.** Paid the following cash expenses for 1 month: employee salary, $2,000; office rent, $1,200.
- **g.** Earned revenue on account, $7,000.
- **h.** Earned revenue and received $2,500 cash.
- **i.** Collected cash from customers on account, $1,200.
- **j.** Paid on account, $1,000.

### *Requirements*

1. Set up the following T-accounts: Cash, Accounts Receivable, Supplies, Furniture, Accounts Payable, Notes Payable, Share Capital, Service Revenue, Salary Expense, Advertising Expense, and Rent Expense.
2. Record the transactions directly in the accounts without using a journal. Key each transaction by letter.
3. Prepare a trial balance for Barlow Networks, Inc., at the current date. List expenses with the largest amount first, the next largest amount second, and so on.
4. Compute the amount of net income or net loss for this first month of operations. Why would you recommend (or not) that Barlow continue in business?

**Case 2.** ***(Learning Objective 2: Correcting financial statements; deciding whether to expand a business)*** Sophia Loren opened an Italian restaurant. Business has been good, and Loren is considering expanding the restaurant. Loren, who knows little accounting, produced the following financial statements for Little Italy, Inc., at December 31, 20X7, the end of the first month of operations:

**Little Italy, Inc.**
**Income Statement**
Month Ended December 31, 20X7

| | |
|---|---|
| Sales revenue | $42,000 |
| Share capital | 10,000 |
| Total revenue | 52,000 |
| | |
| Accounts payable | $ 8,000 |
| Advertising expense | 5,000 |
| Rent expense | 6,000 |
| Total expenses | 19,000 |
| Net income | $33,000 |

**Little Italy, Inc.**
**Balance Sheet**
December 31, 20X7

| | |
|---|---|
| Assets | |
| Cash | $12,000 |
| Cost of goods sold (expense) | 22,000 |
| Food inventory | 5,000 |
| Furniture | 10,000 |
| Total Assets | $49,000 |
| Liabilities | |
| None | |
| Owners' Equity | $49,000 |

In these financial statements all *amounts* are correct, except for Owners' Equity. Loren heard that total assets should equal total liabilities plus owners' equity, so she plugged in the amount of owners' equity at $49,000 to make the balance sheet come out even.

### *Requirement*

1. Sophia Loren has asked whether she should expand the restaurant. Her banker says Loren may be wise to expand if (a) net income for the first month reached $10,000 and (b) total assets are at least $35,000. It appears that the business has reached these milestones, but Loren doubts whether her financial statements tell the true story. She needs your help in making this decision. Prepare a corrected income statement and balance sheet. (Remember that Retained Earnings, which was omitted from the balance sheet, should equal net income for the first month; there were no dividends.) After preparing the statements, give Sophia Loren your recommendation as to whether she should expand the restaurant.

## Ethical Issues

**Issue 1.** Scruffy Murphy is the president and principal shareholder of Scruffy's Bar & Grill, Inc. To expand, the business is applying for a $250,000 bank loan. To get the loan, Murphy is considering two options for beefing up the owners' equity of the business:

*Option 1.* Issue $100,000 of ordinary shares for cash. A friend has been wanting to invest in the company. This may be the right time to extend the offer.

*Option 2.* Transfer $100,000 of Murphy's personal land to the business, and issue ordinary shares to Murphy. Then, after obtaining the loan, Murphy can transfer the land back to himself and zero out the ordinary shares.

### *Requirements*

Use the ethical decision model (in Chapter 1) to answer the following questions:

1. What is the ethical issue?
2. Who are the stakeholders? What are the possible consequences to each?
3. Analyze the alternatives from the following standpoints: (a) economic, (b) legal, and (c) ethical.
4. What would you do? How would you justify your decision? How would your decision make you feel afterward?

**Issue 2.** Part a. You have received your grade in your first accounting course, and to your amazement, it is an A. You feel the instructor must have made a big mistake. Your grade was a B going into the final, but you are sure that you really "bombed" the exam, which is worth 30% of the final grade. In fact, you walked out after finishing only 50% of the exam, and the grade report says you made 99% on the exam!

### *Requirements*

1. What is the ethical issue?
2. Who are the stakeholders? What are the possible consequences to each?
3. Analyze the alternatives from the following standpoints: (a) economic, (b) legal, and (c) ethical.
4. What would you do? How would you justify your decision? How would it make you feel afterward?

Part b. Now assume the same facts as above, except that you have received your final grade for the course and the grade is a B. You are confident that you "aced" the final. In fact, you stayed to the very end of the period, and checked every figure twice! You are confident that the instructor must have made a mistake grading the final.

### *Requirements*

1. What is the ethical issue?
2. Who are the stakeholders and what are the consequences to each?
3. Analyze the alternatives from the following standpoints: (a) economic, (b) legal, and (c) ethical.
4. What would you do? How would you justify your decision? How would it make you feel?

Part c. How is this situation like a financial accounting misstatement? How is it different?

## Focus on Financials: ■ Vodafone Corporation

This case spans all 12 chapters and is based on the consolidated financial statements of **Vodafone Corporation**. As you work with Vodafone throughout this course, you will develop the confidence and ability to use the financial statements of other companies as well. Refer to Vodafone's financial statements in Appendix A. Alternatively, you may choose to obtain the full annual report from Vodafone's website at www.vodafone.com.

Assume that Vodafone completed the following transactions during 2011.

a. Made company sales (revenue) of £45,884 million, all on account
b. Collected cash on accounts receivable £45,409 million
c. Purchased inventories, paying cash of £30,918 million
d. Incurred cost of sales in the amount of £30,814 million (debit Cost of Goods Sold (Expense) and credit Inventory)
e. Paid in cash selling and distribution expenses of £3,067 million

f. Paid in cash administrative expenses of £5,300 million
g. Collected other income of £4,315 million in cash
h. Paid income tax expenses of £1,628 million in cash
i. Incurred other non-cash expenses of £1,520 million, to be recorded as "accrued expenses"
j. Purchased other assets in cash for £6,982 million

*Requirements*

1. Set up T-accounts for Cash (beginning debit balance of £4,423 million); Trade Receivables, (debit balance of £8,784 million); Inventories (debit balance £433 million); Sales (£0 balance); Cost of Sales (£0 balance); Selling and distribution expenses (£0 balance); Administrative expenses (£0 balance); Other income (£0 balance); Income tax expense (£0 balance) and Other non-cash expenses (£0 balance).
2. Journalize Vodafone's transactions a—j. Explanations are not required.
3. Post to the T-accounts, and compute the balance for each account. Key postings by transaction letters a—j.
4. For each of the following accounts, compare your computed balance to Vodafone's actual balances as shown on its 2011 income statement or balance sheet in Appendix A. Note that in this question, 'Other expenses' include Vodafone's financing costs, share of result in associates, and inpairment losses and 'Other income' includes Vodafone's non-operating income and expense, investment income, and other income and expense. Your amounts should agree with the actual figures in Vodafone's financial statements.
   a. Cash
   b. Trade Receivable
   c. Inventories
   d. Sales
   e. Cost of Sales
   f. Selling and distribution expenses
   g. Administrative expenses
   h. Other income
   i. Income tax expense
   j. Other assets
5. Use the relevant accounts from requirement 4 to prepare a summary income statement for Vodafone for 2011. Compare the net income you computed with Vodafone's actual net income. The two amounts should be equal.

## Group Projects

**Project 1.** You are promoting a rock concert in your area. Your purpose is to earn a profit, so you need to establish the formal structure of a business entity. Assume you organize as a corporation.

*Requirements*

1. Make a detailed list of 10 factors you must consider as you establish the business.
2. Describe 10 of the items your business must arrange to promote and stage the rock concert.
3. Identify the transactions that your business can undertake to organize, promote, and stage the concert. Journalize the transactions, and post to the relevant T-accounts. Set up the accounts you need for your business ledger. Refer to Appendix D if needed.
4. Prepare the income statement, statement of changes in equity, and balance sheet immediately after the rock concert, that is, before you have had time to pay all the business bills and to collect all receivables.
5. Assume that you will continue to promote rock concerts if the venture is successful. If it is unsuccessful, you will terminate the business within three months after the concert. Discuss how to evaluate the success of your venture and how to decide whether to continue in business.

**Project 2.** Contact a local business and arrange with the owner to learn what accounts the business uses.

### *Requirements*

1. Obtain a copy of the business's chart of accounts.
2. Prepare the company's financial statements for the most recent month, quarter, or year. You may use either made-up account balances or balances supplied by the owner.

If the business has a large number of accounts within a category, combine related accounts and report a single amount on the financial statements. For example, the company may have several cash accounts. Combine all cash amounts and report a single Cash amount on the balance sheet.

You will probably encounter numerous accounts that you have not yet learned. Deal with these as best you can. The charts of accounts given in Appendix D can be helpful.

## Quick Check Answers

1. *b*
2. *d*
3. *b*
4. *c* ($1,600 + 900 − 300)
5. *c*
6. *a*
7. *a* ($9,000 + $x$ − 25,000 = 11,000; $x$ = 27,000)
8. *c*
9. *c*
10. *c*
11. *d*
12. *d*

# Demo Doc

## Debit/Credit Transaction Analysis

*To make sure you understand this material, work through the following demonstration "Demo Doc" with detailed comments to help you see the concept within the framework of a worked-through problem.*

*Learning Objectives 1, 2, 3, 4*

On September 1, 20X6, Michael Moe incorporated Moe's Mowing, Inc., a company that provides mowing and landscaping services. During the month of September, the business incurred the following transactions:

**a. To begin operations, Michael deposited $10,000 cash in the business's bank account. The business received the cash and issued shares to Michael.**

**b. The business purchased equipment for $3,500 on account.**

**c. The business purchased office supplies for $800 cash.**

**d. The business provided $2,600 of landscaping works to a customer on account.**

**e. The business paid $500 cash toward the equipment previously purchased on account in transaction b.**

**f. The business received $2,000 in cash for services provided to a new customer.**

**g. The business paid $200 cash to repair equipment.**

**h. The business paid $900 cash for September's salary expense.**

**i. The business received a utilities bill amounting to $150; it has not paid this bill.**

**j. The business received $2,100 cash from a customer on account.**

**k. The business paid cash dividends of $1,500.**

### Requirements

1. Create blank T-accounts for the following accounts: Cash, Accounts Receivable, Supplies, Equipment, Accounts Payable, Utilities Payable, Share Capital, Dividends, Service Revenue, Salary Expense, Repair Expense.
2. Journalize the transactions and then post to the T-accounts. Use the table in Exhibit 2-16 to help with the journal entries.

**EXHIBIT 2-16 | The Rules of Debit and Credit**

| | Increase | Decrease |
|---|---|---|
| Assets | debit | credit |
| Liabilities | credit | debit |
| Shareholders' Equity | credit | debit |
| Revenues | credit | debit |
| Expenses | debit | credit |
| Dividends | debit | credit |

3. Total each T-account to determine its balance at the end of the month.
4. Prepare the trial balance of Moe's Mowing, Inc., at September 30, 20X6.

# Demo Doc Solutions

## Requirement 1

Create blank T-accounts for the following accounts: Cash, Accounts Receivable, Supplies, Equipment, Accounts Payable, Share Capital, Dividends, Service Revenue, Salary Expense, Repair Expense.

| Part 1 | Part 2 | Part 3 | Part 4 | Demo Doc Complete |
|---|---|---|---|---|

ASSETS = LIABILITIES + SHAREHOLDERS' EQUITY

**ASSETS**

Cash

Accounts Receivable

Supplies

Equipment

**LIABILITIES**

Accounts Payable

Utilities Payable

**SHAREHOLDERS' EQUITY**

Share Capital

Dividends

REVENUE

Service Revenue

EXPENSES

Salary Expense

Repair Expense

Utilities Expense

Opening a T-account means drawing a blank account that looks like a capital "T" and putting the account title across the top. T-accounts show the additions and subtractions made to each account. For easy reference, the accounts are grouped into assets, liabilities, shareholders' equity, revenue, and expenses (in that order).

## Requirement 2

**Journalize the transactions and show how they are recorded in T-accounts.**

| Part 1 | **Part 2** | Part 3 | Part 4 | Demo Doc Complete |
|---|---|---|---|---|

**a. To begin operations, Michael deposited $10,000 cash in the business's bank account. The business received the cash and issued shares to Michael.**

First, we must determine which accounts are affected by the transaction.

The business received $10,000 cash from its principal shareholder (Michael Moe). In exchange, the business issued shares to Michael. So, the accounts involved are Cash and Share Capital.

Remember that we are recording the transactions of Moe's Mowing, Inc., not the transactions of Michael Moe, the person. Michael and his business are two entirely separate accounting entities.

The next step is to determine what type of accounts these are. Cash is an asset, share capital is part of equity.

Next, we must determine if these accounts increased or decreased. From the business's point of view, Cash (an asset) has increased. Share Capital (equity) has also increased.

Now we must determine if these accounts should be debited or credited. According to the rules of debit and credit (see Exhibit 2-16), an increase in assets is a debit, while an increase in equity is a credit.

So, Cash (an asset) increases, which requires a debit. Share Capital (equity) also increases, which requires a credit.

The journal entry follows ordinary shares.

| | | | | |
|---|---|---|---|---|
| a. | | Cash (Asset ↑; debit) | 10,000 | |
| | | Share Capital (Equity ↑; credit) | | 10,000 |
| | | *Issued ordinary shares.* | | |

The total dollar amounts of debits must always equal the total dollar amounts of credits.

Remember to use the transaction letters as references. This will help as we post entries to the T-accounts.

Each T-account has two sides—one for recording debits and the other for recording credits. To post the transaction to a T-account, simply transfer the amount of each debit to the correct account as a debit (left-side) entry, and transfer the amount of each credit to the correct account as a credit (right-side) entry.

This transaction includes a debit of $10,000 to cash. This means that $10,000 is posted to the left side of the Cash T-account. The transaction also includes a credit of $10,000 to Share Capital. This means that $10,000 is posted to the right side of the Share Capital account, as follows:

| Cash | | Share Capital | |
|---|---|---|---|
| a. 10,000 | | | a. 10,000 |

Now the first transaction has been journalized and posted. We repeat this process for every journal entry. Let's proceed to the next transaction.

### b. The business purchased equipment for $3,500 on account.

The business received equipment in exchange for a promise to pay for the $3,500 cost at a future date. So the accounts involved in the transaction are Equipment and Accounts Payable.

Equipment is an asset and Accounts Payable is a liability.

The asset Equipment has increased. The liability Accounts Payable has also increased.

Looking at Exhibit 2-16, an increase in assets (in this case, the increase in Equipment) is a debit, while an increase in liabilities (in this case, Accounts Payable) is a credit.

The journal entry follows.

| | | | | |
|---|---|---|---|---|
| b. | | Equipment (Asset ↑; debit) | 3,500 | |
| | | Accounts Payable (Liability ↑; credit) | | 3,500 |
| | | *Purchased equipment on account.* | | |

$3,500 is then posted to the debit (left) side of the Equipment T-account. $3,500 is posted to the credit (right) side of Accounts Payable, as follows:

| Equipment | | Accounts Payable | |
|---|---|---|---|
| b. 3,500 | | | b. 3,500 |

### c. The business purchased office supplies for $800 cash.

The business purchased supplies, paying cash of $800. So the accounts involved in the transaction are Supplies and Cash.

Supplies and Cash are both assets.

Supplies (an asset) has increased. Cash (an asset) has decreased.

Looking at Exhibit 2-16, an increase in assets is a debit, while a decrease in assets is a credit.

So the increase to Supplies (an asset) is a debit, while the decrease to Cash (an asset) is a credit.

The journal entry follows:

| | | | | |
|---|---|---|---|---|
| c. | | Supplies (Asset ↑; debit) | 800 | |
| | | Cash (Asset ↓; credit) | | 800 |
| | | *Purchased supplies for cash.* | | |

$800 is then posted to the debit (left) side of the Supplies T-account. $800 is posted to the credit (right) side of the Cash account, as follows:

| Cash | | | | Supplies | | | |
|---|---|---|---|---|---|---|---|
| a. | 10,000 | c. | 800 | c. | 800 | | |

Notice the $10,000 already on the debit side of the Cash account. This came from transaction a.

**d. The business provided $2,600 of landscaping works to a customer on account.**

The business rendered landscaping services to a customer and received a promise from the customer to pay us $2,600 cash next month. So the accounts involved in the transaction are Accounts Receivable and Service Revenue.

Accounts Receivable is an asset and Service Revenue is revenue.

Accounts Receivable (an asset) has increased. Service Revenue (revenue) has also increased.

Looking at Exhibit 2-16, an increase in assets is a debit, while an increase in revenue is a credit.

So the increase to Accounts Receivable (an asset) is a debit, while the increase to Service Revenue (revenue) is a credit.

The journal entry follows.

| | | | | |
|---|---|---|---|---|
| d. | | Accounts Receivable (Asset ↑; debit) | 2,600 | |
| | | Service Revenue (Revenue ↑; credit) | | 2,600 |
| | | *Provided services on account.* | | |

$2,600 is posted to the debit (left) side of the Accounts Receivable T-account. $2,600 is posted to the credit (right) side of the Service Revenue account, as follows:

| Accounts Receivable | | | | Service Revenue | | | |
|---|---|---|---|---|---|---|---|
| d. | 2,600 | | | | | d. | 2,600 |

**e. The business paid $500 cash toward the equipment previously purchased on account in transaction b.**

The business paid some of the money that it owed on the purchase of equipment in transaction b. The accounts involved in the transaction are Accounts Payable and Cash.

Accounts Payable is a liability that has decreased. Cash is an asset that has also decreased.

Remember that Accounts Payable shows the amount the business must pay in the future (a liability). When the business pays these creditors, Accounts Payable will decrease because the business will then owe less (in this case, Accounts Payable drops from $3,500—in transaction b—to $3,000).

Looking at Exhibit 2-16, a decrease in liabilities is a debit, while a decrease in assets is a credit.

So Accounts Payable (a liability) decreases, which is a debit. Cash (an asset) decreases, which is a credit.

| | | | | |
|---|---|---|---|---|
| e. | | Accounts Payable (Liability ↓; debit) | 500 | |
| | | Cash (Asset ↓; credit) | | 500 |
| | | *Partial payment on account.* | | |

$500 is posted to the debit (left) side of the Accounts Payable T-account. $500 is posted to the credit (right) side of the Cash account, as follows:

**Cash**

| | | | |
|---|---|---|---|
| a. | 10,000 | c. | 800 |
| | | e. | 500 |

**Accounts Payable**

| | | | |
|---|---|---|---|
| e. | 500 | b. | 3,500 |

Again notice the amounts already in the T-accounts from previous transactions. The reference letters show which transaction caused each amount to appear in the T-account.

**f. The business received $2,000 in cash for services provided to a new customer.**

The business received $2,000 cash in exchange for mowing and landscaping services rendered to a customer. The accounts involved in the transaction are Cash and Service Revenue.

Cash is an asset that has increased and Service Revenue is revenue, which has also increased.

Looking at Exhibit 2-16, an increase in assets is a debit, while an increase in revenue is a credit.

So the increase to Cash (an asset) is a debit. The increase to Service Revenue (revenue) is a credit.

| | | | | |
|---|---|---|---|---|
| f. | | Cash (Asset ↑; debit) | 2,000 | |
| | | Service Revenue (Revenue ↑; credit) | | 2,000 |
| | | *Provided services for cash.* | | |

$2,000 is then posted to the debit (left) side of the Cash T-account. $2,000 is posted to the credit (right) side of the Service Revenue account, as follows:

**Cash**

| | | | |
|---|---|---|---|
| a. | 10,000 | c. | 800 |
| f. | 2,000 | e. | 500 |

**Service Revenue**

| | | | |
|---|---|---|---|
| | | d. | 2,600 |
| | | f. | 2,000 |

Notice how we keep adding onto the T-accounts. The values from previous transactions remain in their places.

**g. The business paid $200 cash to repair equipment.**

The business paid $200 cash to have equipment repaired. Because the benefit of the repairs has already been used, the repairs are recorded as Repair Expense. Because the repairs were paid in cash, the Cash account is also involved.

Repair Expense is an expense that has increased and Cash is an asset that has decreased.

Looking at Exhibit 2-16, an increase in expenses calls for a debit, while a decrease in an asset requires a credit.

| | | | | |
|---|---|---|---|---|
| g. | | Repair Expense (Expense ↑; debit) | 200 | |
| | | Cash (Asset ↓; credit) | | 200 |
| | | *Paid for repairs.* | | |

So Repair Expense (an expense) increases, which is a debit. Cash (an asset) decreases, which is a credit.

$200 is then posted to the debit (left) side of the Repair Expense T-account. $200 is posted to the credit (right) side of the Cash account, as follows:

**Cash**

| | | | |
|---|---|---|---|
| a. | 10,000 | c. | 800 |
| f. | 2,000 | e. | 500 |
| | | g. | 200 |

**Repair Expense**

| | | | |
|---|---|---|---|
| g. | 200 | | |

**h. The business paid $900 cash for September's salary expense.**

The business paid employees $900 in cash. Because the benefit of the employees' work has already been used, their salaries are recorded as Salary Expense. Because the salaries were paid in cash, the Cash account is also involved.

Salary Expense is an expense that has increased and Cash is an asset that has decreased.

Looking at Exhibit 2-16, an increase in expenses is a debit, while a decrease in an asset is a credit.

In this case, Salary Expense (an expense) increases, which is a debit. Cash (an asset) decreases, which is a credit.

| | | | | |
|---|---|---|---|---|
| h. | | Salary Expense (Expense ↑; debit) | 900 | |
| | | Cash (Asset ↓; credit) | | 900 |
| | | *Paid salary.* | | |

$900 is posted to the debit (left) side of the Salary Expense T-account. $900 is posted to the credit (right) side of the Cash account, as follows:

**Cash**

| | | | |
|---|---|---|---|
| a. | 10,000 | c. | 800 |
| f. | 2,000 | e. | 500 |
| | | g. | 200 |
| | | h. | 900 |

**Salary Expense**

| | | | |
|---|---|---|---|
| h. | 900 | | |

**i. The business received utilities bill amounting to $150, it has not paid this bill.**

The business received a bill for benefits consumed during the period but has not paid this bill as at September 30, 20X6. This amount owed is a liability and it decreases equity, and thus must be recognized as an expense. We will discuss the accrual accounting concept in more detail later (see Chapter 3).

The accounts affected by this transaction are Utilities Payable and Utilities Expense. The liability account Utilities Payable has increased, and the expense Utilities Expense has increased. Note that we use a different liability account ("Utility Payable" as opposed to the general "Accounts Payable") to signify the specific liability. Accounts Payable is typically used when we purchase assets or services on account. Looking at Exhibit 2-16, an increase in expense is a debit and an increase in liability is a credit.

| | | | | |
|---|---|---|---|---|
| i. | | Utilities Expense (Expense ↑; debit) | 150 | |
| | | Utilities Payable (Liability ↑; credit) | | 150 |
| | | *Received utilities bill (unpaid).* | | |

$150 is posted to the debit (left) side of the Utilities Expense T-account and the other $150 is posted to the credit (right) side of the Utilities Payable account, as follows:

**Utilities Payable**

| | | | |
|---|---|---|---|
| | | i. | 150 |

**Utilities Expense**

| | | | |
|---|---|---|---|
| i. | 150 | | |

**j. The business received $2,100 cash from a customer on account.**

The business received cash of $2,100 from a customer for services previously provided in transaction d. The accounts affected by this transaction are Cash and Accounts Receivable.

Cash and Accounts Receivable are both assets.

The asset Cash has increased, and the asset Accounts Receivable has decreased.

Remember, Accounts Receivable shows the amount of cash the business has coming from customers. When the business receives cash from these customers, Accounts Receivable will decrease, because the business will have less to receive in the future (in this case, it reduces from $2,600—in transaction d—to $500).

Looking at Exhibit 2-16, an increase in assets is a debit, while a decrease in assets is a credit.

So Cash (an asset) increases, which is a debit. Accounts Receivable (an asset) decreases, which is a credit.

| | | | | |
|---|---|---|---|---|
| | | Cash (Asset ↑; debit) | 2,100 | |
| | | Accounts Receivable (Asset ↓; credit) | | 2,100 |
| | | *Received cash on account.* | | |

$2,100 is posted to the debit (left) side of the Cash T-account. $2,100 is posted to the credit (right) side of the Accounts Receivable account, as follows:

**Cash**

| | | | |
|---|---|---|---|
| a. | 10,000 | c. | 800 |
| f. | 2,000 | e. | 500 |
| i. | 2,100 | g. | 200 |
| | | h. | 900 |

**Accounts Receivable**

| | | | |
|---|---|---|---|
| d. | 2,600 | j. | 2,100 |

**k. The business declared and paid cash dividends of $1,500.**

The business paid Michael dividends from the earnings it had retained on his behalf. This caused Michael's ownership interest (equity) to decrease. The accounts involved in this transaction are Dividends and Cash.

Dividends have increased and Cash is an asset that has decreased.

Looking at Exhibit 2-16, an increase in dividends is a debit, while a decrease in an asset is a credit.

Remember that Dividends are a negative element of shareholders' equity. Therefore, when Dividends increase, shareholders' equity decreases. So in this case, Dividends decrease equity with a debit. Cash (an asset) decreases with a credit.

| | | | | |
|---|---|---|---|---|
| k. | | Dividends (Dividends ↑; debit) ↓SE | 1,500 | |
| | | Cash (Asset ↓; credit) | | 1,500 |
| | | *Paid dividends.* | | |

$1,500 is posted to the debit (left) side of the Dividends T-account. $1,500 is posted to the credit (right) side of the Cash account, as follows:

**Cash**

| | | | |
|---|---|---|---|
| a. | 10,000 | c. | 800 |
| f. | 2,000 | e. | 500 |
| i. | 2,100 | g. | 200 |
| | | h. | 900 |
| | | k. | 1,500 |

**Dividends**

| | | | |
|---|---|---|---|
| k. | 1,500 | | |

Now we can summarize all of the journal entries during the month.

| Ref. | | Accounts and Explanation | Debit | Credit |
|---|---|---|---|---|
| a. | | Cash | 10,000 | |
| | | Share Capital | | 10,000 |
| | | *Issued share capital.* | | |
| | | | | |
| b. | | Equipment | 3,500 | |
| | | Accounts Payable | | 3,500 |
| | | *Purchased equipment on account.* | | |
| | | | | |
| c. | | Supplies | 800 | |
| | | Cash | | 800 |
| | | *Purchased supplies for cash.* | | |
| | | | | |
| d. | | Accounts Receivable | 2,600 | |
| | | Service Revenue | | 2,600 |
| | | *Provided services on account.* | | |
| | | | | |
| e. | | Accounts Payable | 500 | |
| | | Cash | | 500 |
| | | *Partial payment on account.* | | |
| | | | | |
| f. | | Cash | 2,000 | |
| | | Service Revenue | | 2,000 |
| | | *Provided services for cash.* | | |
| | | | | |
| g. | | Repair Expense | 200 | |
| | | Cash | | 200 |
| | | *Paid for repairs.* | | |
| | | | | |
| h. | | Salary Expense | 900 | |
| | | | | 900 |
| | | *Paid salary.* | | |
| | | | | |
| i | | DR Utilities Expense | 150 | |
| | | Utilities Payable | | 150 |
| | | *Received utilities bill (not paid)* | | |
| | | | | |
| j. | | Cash | 2,100 | |
| | | Accounts Receivable | | 2,100 |
| | | *Received cash on account.* | | |
| | | | | |
| k. | | Dividends | 1,500 | |
| | | Cash | | 1,500 |
| | | *Paid dividends.* | | |

## Requirement 3

Total each T-account to determine its balance at the end of the month.

| Part 1 | Part 2 | **Part 3** | Part 4 | Demo Doc Complete |
|---|---|---|---|---|

To compute the balance in a T-account (total the T-account), add up the numbers on the debit/left side of the account and (separately) add the credit/right side of the account. The difference between the total debits and the total credits is the account's balance, which is placed on the side that holds the larger total. This gives the balance in the T-account.

For example, for the Cash account, the numbers on the debit/left side total \$10,000 + \$2,000 + \$2,100 = \$14,100. The credit/right side = \$800 + \$500 + \$200 + \$900 + \$1,500 = \$3,900. The difference is \$14,100 – \$3,900 = \$10,200. At the end of the period Cash has a debit balance of \$10,200. We put the \$10,200 at the bottom of the debit side because that was the side that showed the bigger total (\$14,100). This is called a debit balance.

An easy way to think of totaling T-accounts is:

> Beginning balance in a T-account
> \+ Increases to the T-account
> – Decreases to the T-account
> T-account balance (net total)

T-accounts after posting all transactions and totaling each account are as follows:

ASSETS = LIABILITIES + SHAREHOLDERS' EQUITY

**ASSETS**

**Cash**

| | | | |
|---|---|---|---|
| a. | 10,000 | c. | 800 |
| f. | 2,000 | e. | 500 |
| j. | 2,100 | g. | 200 |
| | | h. | 900 |
| | | k. | 1,500 |
| Bal | 10,200 | | |

**Accounts Receivable**

| | | | |
|---|---|---|---|
| d. | 2,600 | | |
| | | i. | 2,100 |
| Bal | 500 | | |

**Supplies**

| | | | |
|---|---|---|---|
| c. | 800 | | |
| Bal | 800 | | |

**Equipment**

| | | | |
|---|---|---|---|
| b. | 3,500 | | |
| Bal | 3,500 | | |

**LIABILITIES**

**Accounts Payable**

| | | | |
|---|---|---|---|
| e. | 500 | b. | 3,500 |
| | | Bal | 3,000 |

**Utilities Payable**

| | | | |
|---|---|---|---|
| | | i. | 150 |
| | | Bal | 150 |

**SHAREHOLDERS' EQUITY**

**Share Capital**

| | | | |
|---|---|---|---|
| | | a. | 10,000 |
| | | Bal | 10,000 |

**Dividends**

| | | | |
|---|---|---|---|
| j. | 1,500 | | |
| Bal | 1,500 | | |

**REVENUE**

**Service Revenue**

| | | | |
|---|---|---|---|
| | | d. | 2,600 |
| | | f. | 2,000 |
| | | Bal | 4,600 |

**EXPENSES**

**Salary Expense**

| | | | |
|---|---|---|---|
| h. | 900 | | |
| Bal | 900 | | |

**Repair Expense**

| | | | |
|---|---|---|---|
| g. | 200 | | |
| Bal | 200 | | |

**Utilities Expense**

| | | | |
|---|---|---|---|
| l. | 150 | | |
| Bal | 150 | | |

## Requirement 4

| Part 1 | Part 2 | Part 3 | **Part 4** | Demo Doc Complete |
|---|---|---|---|---|

The trial balance lists all the accounts along with their balances. This listing is helpful because it summarizes all the accounts in one place. Otherwise one must plow through all the T-accounts to find the balance of Accounts Payable, Salary Expense, or any other account.

The trial balance is an *internal* accounting document that accountants and managers use to prepare the financial statements. It's not like the income statement and balance sheet, which are presented to the public.

Data for the trial balance come directly from the T-accounts that we prepared in Requirement 3. A debit balance in a T-account remains a debit in the trial balance, and likewise for credits. For example, the T-account for Cash shows a debit balance of $10,200, and the trial balance lists Cash the same way. The Accounts Payable T-account shows a $3,000 credit balance, and the trial balance lists Accounts Payable correctly.

The trial balance for Moe's Mowing at September 30, 20X6, appears as follows. Notice that we list the accounts in their proper order—assets, liabilities, shareholder's equity, revenues, and expenses.

**Moe's Mowing, Inc.**
**Trial Balance**
**September 30, 20X6**

| | | Balance | |
|---|---|---|---|
| | | Debit | Credit |
| *Assets* | Cash | $10,200 | |
| | Accounts receivable | 500 | |
| | Supplies | 800 | |
| | Equipment | 3,500 | |
| *Liabilities* | Accounts payable | | $ 3,000 |
| | Utilities payable | | 150 |
| *Equity* | Share capital | | 10,000 |
| | Dividends | 1,500 | |
| *Revenues* | Service revenue | | 4,600 |
| *Expenses* | Salary expense | 900 | |
| | Repair expense | 200 | |
| | Utilities expense | 150 | |
| | Total | $17,600 | $17,600 |

You should trace each account from the T-accounts to the trial balance.

| Part 1 | Part 2 | Part 3 | Part 4 | **Demo Doc Complete** |
|---|---|---|---|---|

# 3 Accrual Accounting




**SPOTLIGHT: Richemont** www.richemont.com

You may not have heard of Richemont, but its products and brands are amongst the most recognized in the world. From jewelry (Cartier), watches (Montblanc, Jaeger-LeCoultre, Piaget, Baume & Mercier and many others), to Alfred Dunhill, Shanghai Tang, Chloé and net-a-porter.com (the world's premier online luxury fashion retailer). Richemont was created via a spin-off of the Rembrandt Group of South Africa in 1988 and it is the third largest luxury goods company in the world. Richemont is listed on the SIX (Swiss) and (JSE) South Africa stock exchanges.

At the beginning of the 2011 financial year, Richemont started with cash (and cash equivalents) of €940 million. During the financial year, Richemont made a net profit of €1,079 million from sales of €6,892 million. Yet, it ended the financial year with less cash and cash equivalents at €657 million. How is this possible?

Cash and profits are not the same thing. You may have used part of your profits to pay for new assets. You may have collected cash in advance from your customers, and you may have expenses that you have not paid, or prepaid some expenses ahead of utilizing them.

We use accrual accounting in financial reporting because it is a better measure of performance than cash payments and receipts. Let's find out more about accrual accounting!

**Compagnie Financière Richemont**
**Consolidated Income Statement (Adapted)**
Financial Year Ended March 31, 2011

| | (In millions € Euros) | **2011** | **2010** |
|---|---|---|---|
| 1 | Total sales | 6,892 | 5,176 |
| 2 | Cost of sales | (2,498) | (1,985) |
| 3 | Gross profit | 4,394 | 3,191 |
| 4 | Selling and distribution expenses | (1,654) | (1,277) |
| 5 | Communication expenses | (699) | (506) |
| 6 | Administrative expenses | (656) | (545) |
| 7 | Other operating expenses | (30) | (33) |
| 8 | Operating profit | 1,355 | 830 |
| 9 | Finance costs | (292) | (161) |
| 10 | Finance income | 111 | 24 |
| 11 | Share of profit of associated companies | 101 | 4 |
| 12 | Operating profit | 1,275 | 697 |
| 13 | Taxation | (196) | (94) |
| 14 | Profit from continuing operations | 1,079 | 603 |
| 15 | Discontinued operations | 0 | (3) |
| 16 | Profit for the year | 1,079 | 600 |

**Compagnie Financière Richemont**
**Consolidated Balance Sheet (Adapted)**
As at March 31, 2011

| | (In millions € Euros) | 2011 | 2010 |
|---|---|---|---|
| | **Assets** | | |
| 1 | Cash at bank and on hand | 1,227 | 1,258 |
| 2 | Prepayments | 119 | 84 |
| 3 | Inventory | 2,789 | 2,260 |
| 4 | Trade and other receivables | 597 | 626 |
| 5 | Other current assets | 2,302 | 1,352 |
| 6 | Total non-current assets | 2,659 | 2,163 |
| 7 | Total assets | 9,693 | 7,743 |
| | **Liabilities** | | |
| 8 | Trade and other payables | 825 | 574 |
| 9 | Accruals and deferred income | 294 | 242 |
| 10 | Provisions | 126 | 105 |
| 11 | Borrowings | 672 | 375 |
| 12 | Tax payable | 260 | 230 |
| 13 | Other current liabilities | 36 | 79 |
| 14 | Total non-current liabilities | 488 | 477 |
| 15 | Total liabilities | 2,701 | 2,082 |
| | **Equity** | | |
| 16 | Total equity | 6,992 | 5,661 |
| 17 | Total liability and equity | 9,693 | 7,743 |



**Compagnie Financière Richemont**
**Consolidated Statement of Cash Flows (Adapted)**
As at March 31, 2011

| | (In millions € Euros) | 2011 | 2010 |
|---|---|---|---|
| 1 | Cash flows from operating activities | 1,493 | 1,378 |
| 2 | Cash flows from investing activities | (1,357) | (519) |
| 3 | Cash flows from financing activities | (416) | (365) |
| 4 | Net cash flows | (280) | 494 |
| 5 | Cash and cash equivalents, beginning of the year | 940 | 1,363 |
| 6 | Adjustments (foreign exchange translations and others) | (3) | (917) |
| 7 | Cash and cash equivalents, end of the year | 657 | 940 |



This chapter will complete our coverage of the accounting cycle. It will provide the basics of what you need before tackling individual topics such as receivables, inventory, PPEs, and liabilities.

## LEARNING OBJECTIVES

1 **Relate** accrual accounting and cash flows

2 **Apply** the revenue recognition principles

3 **Adjust** the accounts

4 **Prepare** the financial statements

5 **Close** the books

# Accrual Accounting Versus Cash Basis Accounting

OBJECTIVE

1 **Relate** accrual accounting and cash flows

Shareholders want to earn a profit. Investors search for companies whose share prices will increase. Banks seek borrowers who will service and pay their debts. Accounting provides the information these people use for decision making. Accounting can be based on either the:

- accrual basis, or the
- cash basis.

**Accrual accounting** records the impact of business transactions and events on an entity's assets and liabilities in the period in which those transactions and events occur, even if the resulting cash receipts or payments occur in a prior or future period. For example, when a business performs a service, makes a sale, or incurs an expense, the accountant records the transaction even if it receives or pays no cash in the same period.

**Cash basis accounting** records only cash transactions—cash receipts and cash payments. Cash receipts are treated as revenues, and cash payments are handled as expenses. Profits occur when cash receipts are greater than cash payments, and similarly, loses occur when cash receipts is less than cash payments.

To illustrate the difference between the two bases of accounting, consider the following example. Richemont produced a merchandise inventory at a cost of €500 and sold it to a customer on account for €800, who promises to pay in 60 days' time. Accrual accounting would recognize €800 as income because Richemont now have rights to some future economic benefits (in the form of the receivable, an asset) that were not there previously before the sale. The eventual payment is merely an exchange of one asset (receivable) for another (cash) and has no impact on Richemont's income. On the other hand, under cash accounting, as there was no exchange of cash at the point of sale, the sale will not be recorded. Only when cash is eventually received will cash basis accounting record the transaction.

Clearly, the use of cash accounting fails to capture the underlying economic phenomenon. First, the €800 receivable represents a claim to receive cash in the future, which is an asset, and it should appear on the balance sheet. Without it, assets are understated. Second, the increase in assets also results in an increase in equity and should be recognized as income. Without it, income is understated.

Similarly, suppose Richemont paid some office rental in advance of actual occupation. Cash may have been paid, but has Richemont actually incurred the expense? Obviously not. If you look at Richemont's balance sheet at the start of this chapter, you will see on line 2, prepayments totaling €119 million. These are monies paid to various parties that still represent future economic benefits to Richemont, and are thus accounted for as an asset. As the prepayments are consumed, Richemont will recognize a reduction of assets and an increase in expense. Cash accounting would have treated all payments as expenses, i.e. understating assets and overstating expenses.

On the other hand, Richemont may have consumed economic benefits without paying for them. It will "accrue" (more on this later) these obligations as liabilities. Richemont also collected money in advance of selling its merchandise. You can see from its balance sheet (line 9) that accruals and deferred income totaled €294 million.

The take-away lessons from this discussion are as follows:

- Virtually all businesses use the accrual basis of accounting as required by financial reporting standards.
- Entities that use the cash basis of accounting do not follow accounting standards. Their financial statements omit important information and thus are less relevant to users of financial statements.

We are not saying that cash flows are not important, they are! However, in measuring financial performance and financial position, accrual accounting gives us a better understanding of how businesses actually performed during a financial period. We will look at cash flows in more detail later (in Chapter 11).

## Accrual Accounting and Cash Flows

CASH FLOW

Accrual accounting is a more faithful representation of economic reality than cash basis accounting. To be sure, accrual accounting records cash transactions, such as:

- collecting cash from customers
- receiving cash from interest earned
- paying salaries, rent, and other expenses
- borrowing money
- paying off loans
- issuing shares

But accrual accounting also records *non-cash* transactions, such as:

- sales on account
- purchases of inventory on account
- accrual of expenses incurred but not yet paid
- depreciation expense
- usage of prepaid rent, insurance, and supplies
- earning of revenue when cash was collected in advance

Remember that the *Conceptual Framework* tells us that profit is determined by income and expense. Excluding transactions with owners (such as additional capital contributions or dividend payments), income is further defined as increases in equity in the form of inflows or enhancements of assets or decreases in liabilities, and expense is a decrease in equity in the form of outflows, depletion of assets, or incurrence of liabilities.

To use accrual accounting, we need to understand a few more concepts. We turn now to the time-period concept, the revenue recognition principle, and the matching concept.

## The Time-Period Concept

The only way for a business to know for certain how well it has performed is to shut down, sell the assets, pay the liabilities, and return any leftover cash to the owners. This process, called liquidation, means going out of business. Ongoing companies cannot close down operations just to measure income! Instead, they need regular progress reports. Accountants, therefore, prepare financial statements for specific periods. The **time-period concept** ensures that accounting information is reported at regular intervals.

*IAS 1 – Presentation of Financial Statements* requires an entity to present a complete set of financial statements (including comparative information, as appropriate) at least annually. This is why you have been looking at extracts of *annual* reports of companies at the start of every chapter.

Companies also prepare financial statements for interim periods of less than a year, such as a month, a quarter (three months), or a half-yearly period (six months). Usually, this is a requirement of the stock exchange where the company is listed. In general, as a company gets larger, it may be subjected to more frequent reporting requirements. Most of the discussions in this text are based on an annual accounting period.

## The Revenue Recognition Principle

**OBJECTIVE**

**2** **Apply** the revenue recognition principles

When should you recognize revenue? In short, when you "earn" the revenue. It sounds simple, but revenue recognition can be a very contentious topic. Think about the things you buy (such as music and DVDs from **HMV**, your new electronic gadgets from **Asus**, clothes from **Zara**), the services you consume (your **Time** magazine or **World of Warcraft** or **Xbox Live** subscription, your tuition fees), and ask yourself when do the companies that provide you with these goods or services actually earn your money?

The basic guidance on the **revenue recognition principle** comes from *IAS 18 – Revenue*. In general, for the sale of goods, revenue is recognized when:

- the entity has transferred to the buyer the significant risks and rewards of ownership of the goods;
- the entity retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;
- the amount of revenue can be measured reliably;
- it is probable that the economic benefits associated with the transaction will flow to the entity; and
- the costs incurred or to be incurred in respect of the transaction can be measured reliably.

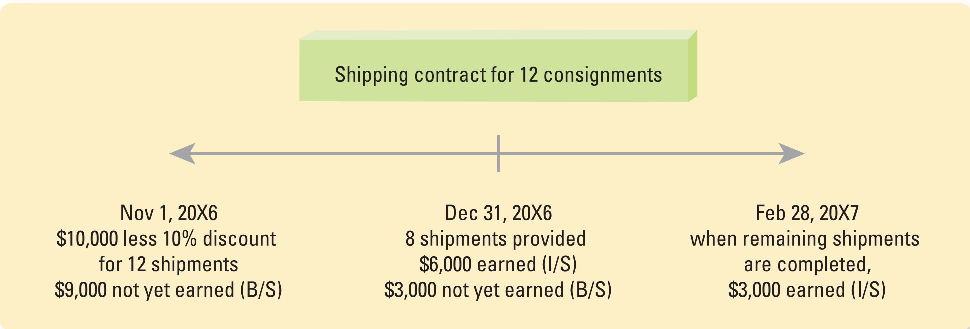
Thus, for consumer sales transactions, it is usually at the point of sale, when you hand over your hard-earned cash in return for the goods you wish to purchase. Think about how such over the counter purchases would meet the *IAS 18* criteria above.

For services, similar principles apply. The only difference is the services you engage may not be consumed at the same time. Revenue is thus earned by reference to a "stage of completion" of the transaction at the balance sheet date. For example, suppose you engaged **Maersk** (A.P. Møller – Mærsk, www.maersk.com), the world's biggest shipping company, to make 12 shipments of your goods and paid the entire shipping fee in advance on November 1, 20X6. Should Maersk recognize the entire revenue for the 12 shipments when you sign the contract? No, it shouldn't. Maersk only earns the relevant shipping revenue when services are provided. Suppose by the end of the financial year December 31, 20X6, Maersk shipped a total of eight consignments. Maersk's obligation has been partially satisfied. It now only owes you four more shipments. This reduction in liability increases equity. Maersk will report the remaining four shipments as its obligations on its balance sheet and the revenue for the eight shipments in its income statement. Stage of completion can also be estimated using time period, milestones (such as engineering estimates), or percentage of cost incurred in relation to total costs.

The *amount* of revenue to record is the fair value of the consideration received or receivable taking into account the amount of any trade discounts and volume rebates allowed by the entity. If the shipment fees for your 12 shipments totaled $10,000 and you were given a discount of 10%, Maersk should recognize a total of $6,000 at year ended December 31, 20X6 and a further $3,000 when the remaining shipments have been performed, say in February 20X7.

This revenue recognition example is depicted in Exhibit 3-1.

**EXHIBIT 3-1 | When to Record Revenue**




So, to conclude, when should you record revenue? After it has been earned—and not before. Revenue is earned when there is an increase in or reduction in liability that results in an increase in equity (excluding transactions with owners). In most cases, revenue is earned when the business delivers goods or services to its customer.

## A CLOSER LOOK

*IAS 18* also provides additional criteria for recognizing interest income (using the effective interest rate method) and dividend income (when the rights to the dividends are established). *IAS 18's* Illustrative Examples provides additional examples of various revenue recognition scenarios that may interest you.

Every reporting entity must disclose its revenue recognition policy. You would find this in the notes to the accounts that accompany the financial statements. Here is Richemont's revenue recognition policy.

**ADAPTED EXCERPTS FROM RICHEMONT'S NOTES TO THE FINANCIAL STATEMENTS**

**2.18. Revenue recognition**

***(a) Goods***

Sales revenue comprises the fair value of the sale of goods, net of value-added tax, duties, other sales taxes, rebates and trade discounts and after eliminating sales within the Group. Revenue is recognized when significant risks and rewards of ownership of the goods are transferred to the buyer. Where there is a practice of agreeing to customer returns, accumulated experience is used to estimate and provide for such returns at the time of sale.

***(b) Interest income***

Interest income is recognized on a time-proportion basis using the effective interest method.

***(c) Royalty income***

Royalty income is recognized on the accruals basis in accordance with the substance of the relevant agreements.

***(d) Dividend income***

Dividend income is recognized when the right to receive payment is established.



## The Matching Concept

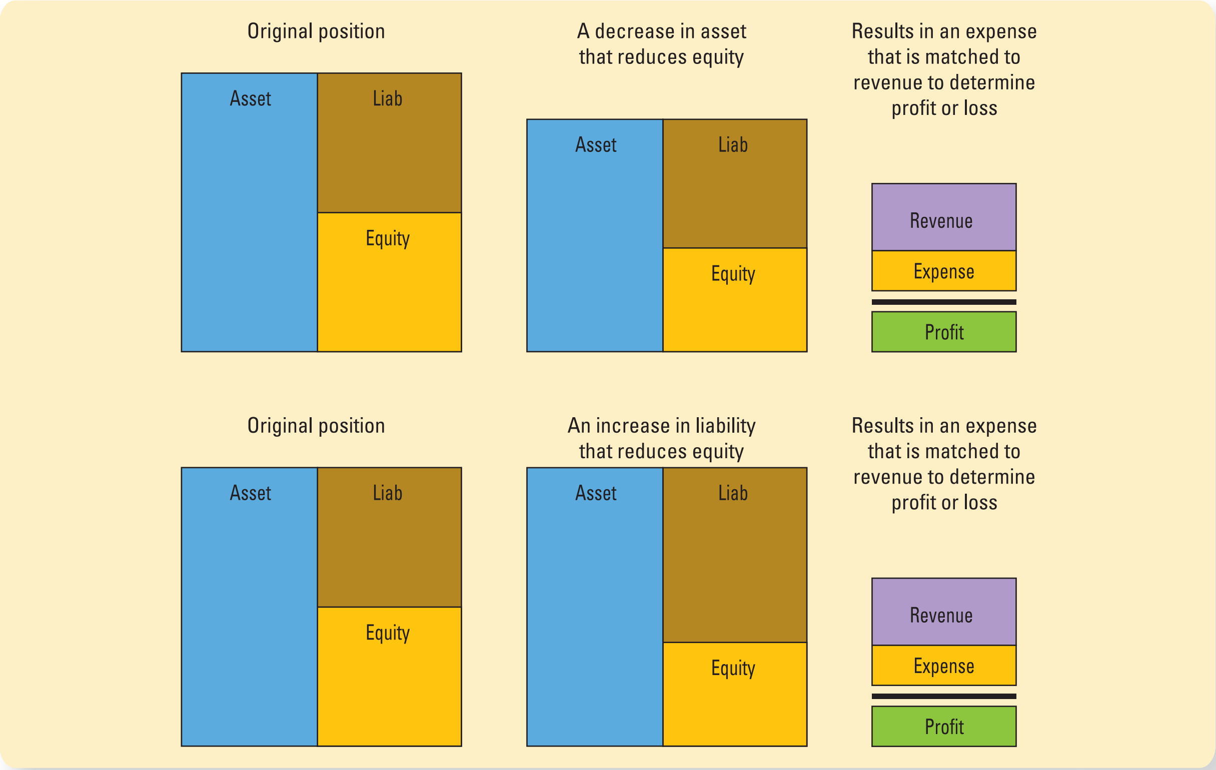
**Matching** is a concept used to explain the relationship between expenses and revenues. The *Conceptual Framework* states that expenses are recognized in the income statement on the basis of a direct association between the costs incurred and the earning of specific items of income. This process is commonly referred to as the "matching of costs with revenues." Unlike assets, expenses offer no future benefits to the company. Matching includes two steps:

1. Identify decreases in assets or increases in liabilities that result in reduction in equity (excluding transactions with owners) during the period. These are expenses.
2. Measure these expenses, and subtract expenses from revenues to compute profit or loss.

Remember that the change in assets and liabilities determines profit or loss, not the application of a matching concept. You should not let the matching concept result in assets and liabilities (on the statement of financial position) that do not meet the definition of assets and liabilities as stated in the *Conceptual Framework*. Exhibit 3-2 illustrates the matching concept.

The author's thank Professor Mary Barth for her guidance on this topic.

**EXHIBIT 3-2 | The Matching Concept**




## STOP & THINK . . .

1. A customer pays Maersk $1,000 on March 15 for a shipment in April. Has Maersk earned revenue on March 15? When will Maersk earn the revenue?
2. Maersk pays $4,500 on July 1 for office rent for the next three months. Has Maersk incurred an expense on July 1?

*Answers:*

1. No. Maersk has received the cash but will not perform the shipping services until later. Maersk earns the revenue when it has completed the service for the customer.
2. No. Maersk has paid cash for rent in advance. There is no expense. This prepaid rent is an asset because Maersk has some future economic benefits (i.e. the use of an office space).

Some expenses are paid in cash. Other expenses arise from using up an asset such as supplies. When expenses are incurred but not yet paid, a company has a liability. For example, Richemont incurs salary expense when employees work for the company. Richemont may pay the salary expense immediately, or it may record a liability for the salary to be paid later. In either case, Richemont incurs salary expense. The critical event for recording an expense is the employees working for the company, not the payment of cash. We will discuss other issues related to expense capitalization later (in Chapter 7 on PPE and Intangibles).

# Ethics in Business and Accounting Decisions

Accrual accounting provides some ethical challenges that cash accounting avoids. For example, suppose that on January 15, 20X6, Richemont pays €3 million for an advertising campaign to be conducted by an advertising agency. The advertisements are scheduled to run during February to May of 20X6. At the time of payment, Richemont is buying an asset, a prepaid expense. Under accrual accounting, Richemont should record two-thirds of the expense (€2 million) during its financial year ended March 31, 20X6, and one-third (€1 million) for April 20X6 in the next financial year 20X7.

Now, let's say financial year 20X6 is a great year for Richemont—net income is better than expected. Richemont's top managers believe that fiscal 20X7 will not be as profitable. In this case, the company may be motivated to expense the full €3 million during financial year 20X6 in order to report all the advertising expense in the 20X6 income statement. This questionable action would keep €1 million of advertising expense off the 20X7 income statement and make 20X7's net income look €1 million better.

## COOKING THE BOOKS with Revenue

**The Deloitte Forensic Center**[1] published a report on financial statement fraud schemes alleged by the United States' Securities and Exchange Commission (SEC) in enforcement releases issued from 2000 to 2008. Revenue recognition was the most susceptible area to fraud, accounting for almost 40% of the financial statement frauds alleged during the period. The two most common alleged methods of cheating on revenue recognition identified in the SEC enforcement releases were recording fictitious revenue and recognition of revenue when products or services are not yet delivered, delivery is incomplete or delivered without customer acceptance.

| Proportion of financial statement fraud schemes represented by each alleged fraud scheme in SEC enforcement releases from 2000–2008 | Percentage |
|---|---|
| Revenue Recognition | 38 |
| Manipulation of Expense | 12 |
| Improper Disclosures | 12 |
| Manipulation of Liabilities | 8 |
| Manipulation of Assets | 7 |
| Manipulation of Reserves | 7 |
| Bribery & Kickbacks | 4 |
| Asset Misappropriation | 3 |
| Manipulation of A/R | 3 |
| Investments | 2 |
| Aiding and Abetting | 2 |
| Goodwill | 2 |
| **Total** | 100 |

*Source*: Adapted from Ten Things about Financial Statement Fraud—3rd Edition, A review of SEC enforcement releases, 2000–2008 *Deloitte Forensic Center*, 2009.

[1] The Deloitte Forensic Center is a think tank aimed at exploring new approaches for mitigating the costs, risks and effects of fraud, corruption and other issues facing the global business community. The Center aims to advance the state of thinking in areas such as fraud and corruption by exploring issues from the perspective of forensic accountants, corporate leaders, and other professionals involved in forensic matters. The Deloitte Forensic Center is sponsored by Deloitte Financial Advisory Services LLP. For more information, visit www.deloitte.com/forensiccenter.

# MID-CHAPTER SUMMARY PROBLEM

## *Requirements*

Think about the following independent revenue scenarios, and identify what is the key revenue issue and propose the appropriate revenue recognition policy. Support your arguments with revenue recognition policies used by similar businesses.

1. Stamps sold by a post office
2. Concert tickets sold by a ticketing agency
3. Course fees paid to universities
4. Gift vouchers sold by a retailer
5. Computer games with options for Internet gaming

## Answers

**1. Stamps sold by a post office**

The key revenue issue is whether or not stamps sold are recognized as revenue upon sale or upon usage by customers. When stamps are sold, there is a performance obligation (liability) and this obligation is only satisfied when the stamps are actually used by customers. The post office will probably rely on some estimates of unused stamps and defer the revenue until such time as they have been used or deemed earned. Examples of revenue recognition policies are as follows:

**ADAPTED EXCERPTS FROM SINGPOST'S NOTES TO THE FINANCIAL STATEMENTS** (www.singpost.com)

Accrual for unearned revenue is made for stamps which have been sold, but for which services have not been rendered as at the balance sheet date. This accrual is classified as advanced billings under trade and other payables.



**ADAPTED EXCERPTS FROM ROYAL MAIL'S NOTES TO THE FINANCIAL STATEMENTS** (www.royalmailgroup.com)

Account revenue is derived from specific contracts and recognized when the delivery of an item is complete. Prepaid revenue mainly relating to stamps is recognized when the sale is made, adjusted to reflect a value of stamps held but not used by the customer.



**2. Concert tickets sold by a ticketing agency**

The key revenue issues are the amount and timing of revenue. Some concert tickets may be sold on "agency" basis, which means the revenue to be recognized should only be the booking fee/commission amount. For example, you paid Ticketmaster $105 for a Lady Gaga concert ticket, where $5 was the booking fee on top of the $100 concert ticket. Tickemaster will recognize ticket processing fee revenue of $5 at the time of sale. On the other hand, if Ticketmaster's parent company, Live Nation Entertainment, was responsible for staging the concert, Ticketmaster can't recognize the $5 processing fee immediately but will have to defer it until the concert takes place, which is the same time as when Live Nation also would recognize the $100 from the concert ticket revenue. Live Nation Entertainment is the parent company of Ticketmaster and its revenue recognition policy states the following:

**ADAPTED EXCERPTS FROM LIVE NATION ENTERTAINMENT'S NOTES TO THE FINANCIAL STATEMENTS** (www.livenation.com)

Revenue from our ticketing operations primarily consists of convenience and order processing fees charged at the time a ticket for an event is sold and is recorded on a net basis (net of the face value of the ticket). For tickets sold for events at our owned and/or operated venues in the U.S., and where we control the tickets internationally, this revenue is recognized after the performance occurs upon settlement of the event. Revenue for these ticket fees collected in advance of the event is recorded as deferred revenue until the event occurs. These fees will be shared between our Ticketing segment and our Concerts segment. For tickets sold for events for third-party venues, this revenue is recognized at the time of the sale and is recorded by our Ticketing segment.



**3. Course fees paid to universities**

The key revenue issue is timing of the revenue recognition. The consideration paid is usually fixed and easily determinable. For example, is the tuition earned at the start of the semester/term, and earned progressively, or earned in its entirety at the start of each term? What happens when the school term does not coincide with the financial period? For example, the University of Cambridge has this revenue recognition policy:

**ADAPTED EXCERPTS FROM UNIVERSITY OF CAMBRIDGE'S NOTES TO THE FINANCIAL STATEMENTS** (www.cam.ac.uk)

**Academic fees**

Tuition fees for degree courses are charged to students by academic term. Income is recognized for academic terms falling within the period. For short courses, fees are charged in advance for the entire course and income is recognized to the extent that the course duration falls within the period.



**4. Gift vouchers sold by a retailer**

The key revenue question is timing of the revenue recognition. Is revenue earned when the gift voucher is sold or used? Gift vouchers are similar in principle to prepayments made by customers, i.e. a liability for the business. Thus, a business should not recognize gift vouchers as revenue upon the sale of gift vouchers. For example, Amazon.com provides the following information about its gift vouchers.

**ADAPTED EXCERPTS FROM AMAZON.COM'S NOTES TO THE FINANCIAL STATEMENTS** (www.amazon.com)

At December 31, 2011 and 2010 were liabilities of $788 million and $503 million for unredeemed gift certificates. We reduce the liability for a gift certificate when redeemed by a customer. If a gift certificate is not redeemed, we recognize revenue when it expires or, for a certificate without an expiration date, when the likelihood of its redemption becomes remote, generally two years from the date of issuance.

5. **Computer games with options for Internet gaming**
The key revenue issues are amount and timing of revenue. Whilst the sale price may be easily determined, a computer game that offers an Internet gaming option may mean that the game developer will continue to have an obligation to ensure that the Internet platform is available to customers, long after the sale. It may be difficult to "cost" the obligation to do so. For example, Vivendi (parent company of Activision Blizzard, the maker of *World of Warcraft* games), states:

**ADAPTED EXCERPTS FROM VIVENDI'S NOTES TO THE FINANCIAL STATEMENTS** (www.vivendi.com)

**Video Games**

Revenues from the sale of boxes for video-games are recorded, net of a provision for estimated returns and price guarantees and rebates, if any. Regarding boxes for video-games with significant online functionality, revenues are recorded ratably over the estimated relationship period with the customer, usually beginning in the month following the shipment of boxes for video-games developed by Activision Blizzard and upon activation of the subscription for Massively Multiplayer Online Role Playing Games (MMORPG) of Blizzard (World of Warcraft and its expansion packs). The estimated relationship period with the customer over which revenues are recognized currently ranges from a minimum of five months to a maximum of less than a year.

***Deferral of Activision Blizzard revenues***

The growing development of online functionality for console games has led Activision Blizzard to believe that online functionality, along with its obligation to ensure durability, constitutes, for certain games, a service forming an integral part of the game itself. In this case, Activision Blizzard does not account separately for the revenues linked to the sale of the boxed software and those linked to the online services because it is not possible to determine their respective values, the online services not being charged for separately. As a result, the company recognizes all of the revenues from the sale of these games ratably over the estimated service period, usually beginning the month following shipment.



On the other hand, Electronic Arts, the maker of other popular games such as *The Sims*, *Command & Conquer*, and many sports titles, states:

**ADAPTED EXCERPTS FROM ELECTRONIC ARTS INC.'S NOTES TO THE FINANCIAL STATEMENTS** (www.ea.com)

Depending on the type of product, we may offer an online service that permits consumers to play against others via the Internet and/or receive additional updates or content from us. For those games that consumers can play via the Internet, we may provide a "matchmaking" service that permits consumers to connect with other consumers to play against each other online. In those situations where we do not require an additional fee for this online service, we account for the sale of the software product and the online service as a "bundled" sale, or multiple element arrangement, in which we sell both the software product and the online service for one combined price.

We defer net revenue from sales of these games for which we do not have vendor specific objective evidence for the online service that we provided in connection with the sale, and recognize the revenue from these games over the estimated online service period, which is generally estimated to be six months beginning in the month after shipment. In addition, for some software products we also provide updates or additional digital content to be delivered via the Internet that can be used with the original software product. In many cases we separately sell digital content for an additional fee; however, some purchased digital content can only be accessed via the Internet (i.e., the consumer never takes possession of the digital content). We account for online transactions in which the consumer does not take possession of the digital content as a service transaction and, accordingly, we recognize the associated revenue over the estimated service period. In other transactions, at the date we sell the software product we have an obligation to provide incremental unspecified digital content in the future without an additional fee. In these cases, we account for the sale of the software product as a multiple element arrangement and recognize the revenue on a straight-line basis over the estimated period of game play.



## Updating the Accounts: The Adjusting Process

**OBJECTIVE**

**3 Adjust** the accounts

At the end of the period, a reporting entity presents its financial statements to its users. This process begins with the trial balance introduced earlier (in Chapter 2). We refer to this trial balance as unadjusted because the accounts are not yet ready for the financial statements. We shall continue with our ShineBrite Car Wash example in the following discussions.

### Which Accounts Need to Be Updated (Adjusted)?

The shareholders need to know how well ShineBrite Car Wash, Inc., is performing. The financial statements report this information, and all accounts must be up-to-date. That means some accounts must be adjusted. Exhibit 3-3 gives the unadjusted trial balance of ShineBrite Car Wash, Inc., at June 30, 20X6.

**EXHIBIT 3-3 | Unadjusted Trial Balance**

**ShineBrite Car Wash, Inc.**
**Unadjusted Trial Balance**
June 30, 20X6

| | | |
|---|---|---|
| Cash | $24,800 | |
| Accounts receivable | 2,200 | |
| Supplies | 700 | |
| Prepaid rent | 3,000 | |
| Equipment | 24,000 | |
| Accounts payable | | $13,100 |
| Unearned service revenue | | 400 |
| Share capital | | 20,000 |
| Retained earnings | | 18,800 |
| Dividends | 3,200 | |
| Service revenue | | 7,000 |
| Salary expense | 900 | |
| Utilities expense | 500 | |
| Total | $59,300 | $59,300 |

This trial balance is unadjusted. That means it's not completely up-to-date. It's not quite ready to be used as the basis for preparing the financial statements.

Cash, Equipment, Accounts Payable, Share Capital, and Dividends are up-to-date and need no adjustment at the end of the period. Why? Because the day-to-day transactions provide all the data for these accounts.

Accounts Receivable, Supplies, Prepaid Rent, and the other accounts are another story. These accounts are not yet up-to-date on June 30. Why? Because certain transactions have not yet been recorded. Consider Supplies. During June, ShineBrite Car Wash used cleaning supplies to wash cars. But ShineBrite didn't make a journal entry for every supply item used every time it washed a car. That would be inefficient, wasting time and money. Instead, ShineBrite waits until the end of the period and then records the supplies used up during the entire month.

The cost of supplies used up is an expense. An adjusting entry at the end of June updates both Supplies (an asset) and Supplies Expense. We must adjust all accounts whose balances are not yet up-to-date.

## Categories of Adjusting Entries

Accounting adjustments fall into three basic categories: deferrals, depreciation, and accruals.

**Deferrals.** A **deferral** is an adjustment for an item for which the business paid or received cash in advance. Richemont purchases supplies for use in its operations. During the period, some supplies (assets) are used up and become expenses. At the end of the period, an adjustment is needed to decrease the supplies account for the supplies used up and to record the supplies expense. Prepaid rent, prepaid insurance, and all other prepaid expenses require deferral adjustments.

There are also deferral adjustments for liabilities. Companies such as Richemont may collect cash from its customers in advance of earning the revenue. When Richemont receives cash up front, it has an obligation (i.e. a liability) to provide port and shipping services for its customer. This liability is called Unearned Revenue or Deferred Income. Then, when Richemont delivers the goods to the customer, the obligation is reduced and it recognizes an increase in Sales Revenue. This earning process requires an adjustment at the end of the period. The adjustment decreases the liability and increases the revenue for the amount earned. Publishers of magazines such as **Fortune**, and your cell-phone company usually collect cash in advance from their subscribers. They too must make adjusting entries for revenues earned after initial receipt of cash.

**Depreciation.** **Depreciation** allocates the cost of an item of Property, Plant and Equipment (PPE) to expense over the asset's useful life. Depreciation is the most common long-term deferral. Richemont buys buildings, equipment and other fixed assets to use in its operations. As Richemont uses the assets, it allocates the cost of the PPE over its useful life. The accounting adjustment records Depreciation Expense and decreases the asset's carrying amount over its life. The process is identical to a deferral-type adjustment; the only difference is the type of asset involved. We will look at other issues related to PPE and depreciation later (in Chapter 7).

**Accruals.** An **accrual** is the opposite of a deferral. For an accrued expense, DP World records the expense before (eventually) paying for it. For an accrued revenue, DP World records the revenue before (eventually) collecting cash.

Salary Expense is an example of an accrual adjustment. As employees work for Richemont, the company's salary expense accrues with the passage of time. At March 31, 2011, Richemont owed employees some salaries to be paid after year-end, so Richemont recorded Salary Expense and Salary Payable for the amount owed. Other examples of expense accruals include interest expense and income tax expense.

An accrued revenue is a revenue that the business has earned and will collect next year. At year-end, Richemont must accrue such revenue. The adjustment debits a receivable and credits a revenue. For example, accrual of interest revenue debits Interest Receivable and credits Interest Revenue.

Let's see how the adjusting process actually works for ShineBrite Car Wash at June 30. We start with prepaid expenses.

## Prepaid Expenses

A **prepaid expense (or prepayment)** is an expense paid in advance. Therefore, prepaid expenses are assets because they provide a future benefit for the owner. Let's do the adjustments for prepaid rent and supplies.

**Prepaid Rent.** Companies pay rent in advance. This prepayment creates an asset for the renter, who can then use the rented item in the future. Suppose ShineBrite Car Wash prepays three months' store rent ($3,000) on June 1. The entry for the prepayment of three months' rent debits Prepaid Rent is as follows:

| | | | |
|---|---|---|---|
| Jun 1 | Prepaid Rent ($1,000 × 3) | 3,000 | |
| | Cash | | 3,000 |
| | *Paid three months' rent in advance.* | | |

The accounting equation shows that one asset increases and another decreases. Total assets are unchanged. Again, we show the impact of revenue and expense transactions directly to equity.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 3,000 | = | 0 | + | 0 |
| − 3,000 | | | | |

After posting, the Prepaid Rent account appears as follows:

| Prepaid Rent | | |
|---|---|---|
| Jun 1 | 3,000 | |

Throughout June, the Prepaid Rent account carries this beginning balance, as shown in Exhibit 3-3. The adjustment transfers $1,000 from Prepaid Rent to Rent Expense as follows:[2]

Adjusting entry *a*

| | | | |
|---|---|---|---|
| Jun 30 | Rent Expense ($3,000 × 1/3) | 1,000 | |
| | Prepaid Rent | | 1,000 |
| | *To record rent expense.* | | |

Both assets and shareholders' equity decrease.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| − 1,000 | = | 0 | + | − 1,000 | (rent expense) |

After posting, Prepaid Rent and Rent Expense appear as follows:

| Prepaid Rent | | | |
|---|---|---|---|
| Jun 1 | 3,000 | Jun 30 | 1,000 |
| Bal | 2,000 | | |

| Rent Expense | | |
|---|---|---|
| Jun 30 | 1,000 | |
| Bal | 1,000 | |

This expense illustrates the matching concept. The decrease in future economic benefits of "prepaid rent" results in an increase in expenses (and reduces equity).

**Supplies.** Supplies are another type of prepaid expense. On June 2, ShineBrite Car Wash paid cash of $700 for cleaning supplies:

| | | | |
|---|---|---|---|
| Jun 2 | Supplies | 700 | |
| | Cash | | 700 |
| | *Paid cash for supplies.* | | |

[2] See Exhibit 3-8 for a summary of adjustments a–g.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 700 | = | 0 | + | 0 |
| – 700 | | | | |

The cost of the supplies ShineBrite used is supplies expense. To measure June's supplies expense, the business counts the supplies on hand at the end of the month. The count shows that $400 of supplies remains. Subtracting the $400 of supplies on hand from the supplies available ($700) measures supplies expense for the month ($300), as follows:

| Asset Available During the Period | – | Asset on Hand at the End of the Period | = | Asset Used (Expense) During the Period |
|---|---|---|---|---|
| $700 | – | $400 | = | $300 |

The June 30 adjusting entry debits the expense and credits the asset, as follows:

*Adjusting entry b*

| | | | |
|---|---|---|---|
| Jun 30 | Supplies Expense ($700 – $400) | 300 | |
| | Supplies | | 300 |
| | *To record supplies expense.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| – 300 | = | 0 | + | – 300 | (supplies expense) |

After posting, the Supplies and Supplies Expense accounts appear as follows. The adjustment is highlighted for emphasis.

**Supplies**

| | | | |
|---|---|---|---|
| Jun 2 | 700 | Jun 30 | 300 |
| Bal | 400 | | |

**Supplies Expense**

| | | | |
|---|---|---|---|
| Jun 30 | 300 | | |
| Bal | 300 | | |

At the start of July, Supplies has this $400 balance, and the adjustment process is repeated each month.

## STOP & THINK . . .

At the beginning of the month, supplies were $5,000. During the month, $7,000 of supplies were purchased. At month's end, $3,000 of supplies are still on hand. What is the:

- adjusting entry?
- ending balance in the Supplies account?

*Answer:*

| | | | |
|---|---|---|---|
| | Supplies Expense ($5,000 + $7,000 – $3,000) | 9,000 | |
| | Supplies | | 9,000 |
| | *To record supplies used.* | | |

Ending balance of supplies = $3,000 (the supplies still on hand)

## Depreciation of Property, Plant and Equipment

**Property, Plant and Equipment (PPE)** are long-lived tangible assets, such as land, buildings, furniture, and equipment. Sometimes you may see them referred to as fixed assets or plant assets. All PPE (except for freehold land) has finite useful lives, and the passage of time reduces their usefulness, and this decline is an expense. Accountants allocate the cost of each PPE item over its useful life. Depreciation is the process of allocating cost to expense for PPE. Note that in some countries, land titles are not issued in perpetuity, so in such cases you may see "leasehold land" (as opposed to freehold land) that is depreciated over the period of the leasehold.

To illustrate depreciation, consider ShineBrite Car Wash. Suppose that on June 2, ShineBrite purchased car-washing equipment on account for $24,000:

| | | | |
|---|---|---|---|
| Jun 2 | Equipment | 24,000 | |
| | Accounts Payable | | 24,000 |
| | *Purchased equipment on account.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 24,000 | = | + 24,000 | + | 0 |

After posting, the Equipment account appears as follows:

| Equipment | | |
|---|---|---|
| **Jun 2** | **24,000** | |

ShineBrite records an asset when it purchases equipment. Then, as the asset is used, a portion of the asset's cost is transferred to Depreciation Expense. This is an example of the application of the matching concept. Computerized accounting systems program the depreciation for automatic entry each period.

ShineBrite estimates that equipment will remain useful for five years. One simple way to allocate the amount of depreciation for each year is to divide the cost of the asset ($24,000 in our example) by its expected useful life (five years). This procedure —called the straight-line depreciation method—gives annual depreciation of $4,800. (Chapter 7 covers PPE and depreciation in more detail.)

Annual Depreciation = $24,000/5 years = $4,800 per year

Depreciation for June is $400.

Monthly Depreciation = $4,800/12 months = $400 per month

**The Accumulated Depreciation Account.** Depreciation expense for June is recorded as follows:

*Adjusting entry c*

| | | | |
|---|---|---|---|
| Jun 30 | Depreciation Expense—Equipment | 400 | |
| | Accumulated Depreciation—Equipment | | 400 |
| | *To record depreciation.* | | |

Total assets decrease by the amount of the expense:

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| – 400 | = | 0 | + | – 400 | (depreciation expense) |

The Accumulated Depreciation account, not Equipment, is credited to preserve the original cost of the asset in the Equipment account. Managers can then refer to the Equipment account if they ever need to know how much the asset cost.

The **Accumulated Depreciation** account shows the sum of all depreciation expense from using the asset. Therefore, the balance in the Accumulated Depreciation account increases over the asset's life.

Accumulated Depreciation is a contra asset account—an asset account with a normal credit balance. A **contra account** has two distinguishing characteristics:

1. It always has a companion account.
2. Its normal balance is opposite that of the companion account.

In this case, Accumulated Depreciation is the contra account to Equipment, so Accumulated Depreciation appears directly after Equipment on the balance sheet. A business carries an accumulated depreciation account for each class of depreciable asset, for example, Accumulated Depreciation—Building and Accumulated Depreciation—Equipment.

After posting, the PPE accounts of ShineBrite Car Wash are as follows—with the adjustment highlighted:

**Equipment**

| Debit | | Credit |
|---|---|---|
| Jun 3 | 24,000 | |
| Bal | 24,000 | |

**Accumulated Depreciation—Equipment**

| Debit | Credit | |
|---|---|---|
| | Jun 30 | 400 |
| | Bal | 400 |

**Depreciation Expense—Equipment**

| Debit | | Credit |
|---|---|---|
| Jun 30 | 400 | |
| Bal | 400 | |

**Carrying amount.** The net amount of a PPE (cost minus accumulated depreciation) is called that asset's **carrying amount (of a PPE)**. Sometimes carrying amount is also referred to as "book value," but this is less appropriate because it has nothing to do with value of the asset. Exhibit 3-4 shows how ShineBrite would report the carrying amount of its equipment and building at June 30 (the building data are assumed for this illustration).

**EXHIBIT 3-4 | PPE on the Balance Sheet of ShineBrite Car Wash**

| ShineBrite Car Wash PPE at June 30 | | |
|---|---|---|
| Equipment | $24,000 | |
| Less: Accumulated Depreciation | (400) | $23,600 |
| Building | $50,000 | |
| Less: Accumulated Depreciation | (200) | 49,800 |
| Carrying amount of PPE | | $73,400 |

At June 30, the carrying amount of equipment is $23,600; the carrying amount of the building is $49,800.

## STOP & THINK . . .

What will be the carrying amount of ShineBrite's equipment at the end of July?

***Answer:***

$24,000 – $400 – $400 = $23,200.

Exhibit 3-5 shows how Richemont reports its property, plant and equipment in its annual report. As you can see, Richemont reports four categories of PPE. You will find that different companies categorize their PPE differently. Lines 1 to 4 list the four asset categories and their costs, accumulated depreciation and carrying amounts. Line 5 shows that the total cost of PPE is €2,539 million, with accumulated depreciation of €1,272 million, resulting in a carrying amount of €1,267 million. Note that assets under construction are also not depreciated until they are ready for use.

**EXHIBIT 3-5 | Richemont's PPE (Adapted)**

| As at March 31, 2011 in (€ millions) | Cost | Acc. Depn. | Carrying amount |
|---|---|---|---|
| 1 Land and buildings | 685 | (191) | 494 |
| 2 Plant and machinery | 483 | (312) | 171 |
| 3 Fixtures, fittings, tools and equipment | 1,323 | (769) | 554 |
| 4 Assets under construction | 48 | 0 | 48 |
| 5 Total PPE | 2,539 | (1,272) | 1,267 |

## Accrued Expenses

Businesses incur expenses before they pay cash. Consider an employee's salary. Richemont's salary expense and payable will grow as the employee works, so the liability is said to accrue. Another example is interest expense on a note payable. Interest accrues as the clock ticks. The term **accrued expense** refers to a liability that arises from an expense that has not yet been paid.

Businesses do not record accrued expenses daily or weekly. Instead, they wait until the end of the period and use an adjusting entry to update each expense (and related liability) for the financial statements. Let's look at salary expense.

Most companies pay their employees at set times. Suppose ShineBrite Car Wash pays its employee a monthly salary of $1,800, half on the 15th and half on the last day of the month. The following calendar for June has the paydays highlighted:

| June | | | | | | |
|---|---|---|---|---|---|---|
| Sun. | Mon. | Tue. | Wed. | Thur. | Fri. | Sat. |
| | | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | | | | | | |

Assume that if a payday falls on a Sunday, ShineBrite pays the employee on the following Monday. During June, ShineBrite paid its employees the first half-month salary of $900 and made the following entry:

| | | | |
|---|---|---|---|
| Jun 15 | Salary Expense | 900 | |
| | Cash | | 900 |
| | *To pay salary.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| − 900 | = | 0 | + | − 900 | (salary expense) |

After posting, the Salary Expense account is

| Salary Expense | | | |
|---|---|---|---|
| Jun 15 | 900 | | |

The trial balance at June 30 (Exhibit 3-3) includes Salary Expense with its debit balance of $900. Because June 30, the second payday of the month, falls on a Sunday, the second half-month amount of $900 will be paid on Monday, July 1. At June 30, therefore, ShineBrite adjusts for additional salary expense and salary payable of $900 as follows:

*Adjusting entry d*

| | | | |
|---|---|---|---|
| Jun 30 | Salary Expense | 900 | |
| | Salary Payable | | 900 |
| | *To accrue salary expense.* | | |

An accrued expense increases liabilities and decreases shareholders' equity:

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| 0 | = | + 900 | + | − 900 | (salary expense) |

After posting, the Salary Payable and Salary Expense accounts appear as follows (adjustment highlighted):

**Salary Payable**

| Debit | Credit | |
|---|---|---|
| | Jun 30 | 900 |
| | Bal | 900 |

**Salary Expense**

| Debit | | Credit |
|---|---|---|
| Jun 15 | 900 | |
| Jun 30 | 900 | |
| Bal | 1,800 | |

The accounts now hold all of June's salary information. Salary Expense has a full month's salary, and Salary Payable shows the amount owed at June 30. All accrued expenses are recorded this way—debit the expense and credit the liability.

Computerized systems usually contain a payroll module. Accrued salaries can be automatically journalized and posted at the end of each period.

## Accrued Revenues

Businesses may earn revenue before they receive the cash. A revenue that has been earned but not yet collected is called an **accrued revenue**.

Assume that **FedEx** hires ShineBrite on June 15 to wash FedEx delivery trucks each month. Suppose FedEx will pay ShineBrite $600 monthly, with the first payment on July 15. During June, ShineBrite will earn half a month's fee, $300, for work done June 15 through June 30. On June 30, ShineBrite makes the following adjusting entry:

*Adjusting entry e*

| | | | |
|---|---|---|---|
| Jun 30 | Accounts Receivable ($600 × 1/2) | 300 | |
| | Service Revenue | | 300 |
| | *To accrue service revenue.* | | |

Revenue increases both total assets and shareholders' equity:

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 300 | = | 0 | + | + 300 | (service revenue) |

Recall that Accounts Receivable has an unadjusted balance of $2,200, and Service Revenue's unadjusted balance is $7,000 (Exhibit 3-3). This June 30 adjusting entry has the following effects (adjustment highlighted):

**Unearned Service Revenue**

| | | | |
|---|---|---|---|
| Jun 30 | 200 | Jun 15 | 400 |
| | | Bal | 200 |

**Service Revenue**

| | | | |
|---|---|---|---|
| | | | 7,000 |
| | | Jun 30 | 300 |
| | | Jun 30 | 200 |
| | | Bal | 7,500 |

All accrued revenues are accounted for similarly—debit a receivable and credit a revenue.

## STOP & THINK . . .

Suppose ShineBrite Car Wash holds a note receivable as an investment. At the end of June, $100 of interest revenue has been earned but not yet received. Journalize the accrued revenue adjustment at June 30.

***Answer:***

| | | | |
|---|---|---|---|
| Jun 30 | Interest Receivable | 100 | |
| | Interest Revenue | | 100 |
| | *To accrue interest revenue.* | | |

## Unearned Revenues

Some businesses collect cash from customers before earning the revenue. This creates a liability called **unearned revenue** or deferred income. Only when the job is completed does the business earn the revenue. Suppose **UPS** engages Shine Brite Car Wash to wash UPS delivery vehicles, agreeing to pay ShineBrite $400 monthly, beginning immediately. If ShineBrite collects the first amount on June 15, then ShineBrite records this transaction as follows:

| | | | |
|---|---|---|---|
| Jun 15 | Cash | 400 | |
| | Unearned Service Revenue | | 400 |
| | *Received cash for revenue in advance.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 400 | = | + 400 | + | 0 |

After posting, the liability account appears as follows:

| Unearned Service Revenue | | | |
|---|---|---|---|
| | | Jun 15 | 400 |

Unearned Service Revenue is a liability because ShineBrite is obligated to perform services for UPS. The June 30 unadjusted trial balance (Exhibit 3-3) lists Unearned Service Revenue with a $400 credit balance. During the last 15 days of the month, ShineBrite will earn one-half of the $400, or $200. On June 30, ShineBrite makes the following adjustment:

*Adjusting entry f*

| | | | |
|---|---|---|---|
| Jun 30 | Unearned Service Revenue ($400 × 1/2) | 200 | |
| | Service Revenue | | 200 |
| | *To record unearned service revenue that has been earned.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| 0 | = | − 200 | + | + 200 | (service revenue) |

This adjusting entry shifts $200 of the total amount received ($400) from liability to revenue. After posting, Unearned Service Revenue is reduced to $200, and Service Revenue is increased by $200, as follows (adjustment highlighted):

| Unearned Service Revenue | | | |
|---|---|---|---|
| Jun 30 | 200 | Jun 15 | 400 |
| | | Bal | 200 |

| Service Revenue | | | |
|---|---|---|---|
| | | | 7,000 |
| | | Jun 30 | 300 |
| | | Jun 30 | 200 |
| | | Bal | 7,500 |

All revenues collected in advance are accounted for this way. An unearned revenue represents an obligation to perform and, as such, is a liability, not a revenue.

One company's prepaid expense is the other company's unearned revenue. For example, UPS's prepaid expense is ShineBrite Car Wash's liability for unearned revenue.

Exhibit 3-6 tracks the distinctive timing of prepaids and accruals. Study prepaid expenses all the way across. Then study unearned revenues across, and so on.

**EXHIBIT 3-6 | Prepaid and Accruals Adjustments**

**PREPAIDS—Cash First**

| | First | | | Later | | |
|---|---|---|---|---|---|---|
| Prepaid expenses | *Pay cash and record an asset:* | | | *Record an expense and decrease the asset:* | | |
| | Prepaid Expense...... | XXX | | Expense............................ | XXX | |
| | Cash.............. | | XXX | Prepaid Expense......... | | XXX |
| Unearned revenues | *Receive cash and record unearned revenue:* | | | *Record revenue and decrease unearned revenue:* | | |
| | Cash....................... | XXX | | Unearned Revenue ............ | XXX | |
| | Unearned Revenue | | XXX | Revenue .................... | | XXX |

**ACCRUALS—Cash Later**

| | First | | | Later | | |
|---|---|---|---|---|---|---|
| Accrued expenses | *Accrue expense and a payable:* | | | *Pay cash and decrease the payable:* | | |
| | Expense.................. | XXX | | Payable............................. | XXX | |
| | Payable.......... | | XXX | Cash......................... | | XXX |
| Accrued revenues | *Accrue revenue and a receivable:* | | | *Receive cash and decrease the receivable:* | | |
| | Receivable.............. | XXX | | Cash................................. | XXX | |
| | Revenue ......... | | XXX | Receivable................. | | XXX |

The authors thank Professors Darrel Davis and Alfonso Oddo for suggesting this exhibit.

## Summary of the Adjusting Process

Two purposes of the adjusting process are to:

- update the balance sheet, and
- measure income.

Therefore, every adjusting entry affects at least one of the following:

- asset or liability—to update the balance sheet;
- revenue or expense—to measure income.

Exhibit 3-7 summarizes the basic accounting adjustments at the end of an accounting period.

**EXHIBIT 3-7 | Summary of Adjusting Entries**

| | Type of Account | |
|---|---|---|
| **Category of Adjusting Entry** | **Debit** | **Credit** |
| Prepaid expense.................. | Expense | Asset |
| Depreciation....................... | Expense | Contra asset |
| Accrued expense................. | Expense | Liability |
| Accrued revenue................. | Asset | Revenue |
| Unearned revenue............... | Liability | Revenue |

*Source*: Adapted from material provided by Beverly Terry.

Exhibit 3-8 summarizes the adjustments of ShineBrite Car Wash, Inc., at June 30—the adjusting entries we've examined over the past few pages:

- Panel A repeats the data for each adjustment.
- Panel B gives the adjusting entries.
- Panel C shows the accounts after posting the adjusting entries. The adjustments are keyed by letter.

**EXHIBIT 3-8 | The Adjusting Process of ShineBrite Car Wash, Inc.**

| PANEL A—Information for Adjustments at June 30, 20X6 | PANEL B—Adjusting Entries | | |
|---|---|---|---|
| (a) Prepaid rent expired, $1,000. | (a) Rent Expense | 1,000 | |
| | Prepaid Rent | | 1,000 |
| | To record rent expense. | | |
| (b) Supplies used, $300. | (b) Supplies Expense | 300 | |
| | Supplies | | 300 |
| | To record supplies used. | | |
| (c) Depreciation on equipment, $400. | (c) Depreciation Expense—Equipment | 400 | |
| | Accumulated Depreciation—Equipment | | 400 |
| | To record depreciation. | | |
| (d) Accrued salary expense, $900. | (d) Salary Expense | 900 | |
| | Salary Payable | | 900 |
| | To accrue salary expense. | | |
| (e) Accrued service revenue, $300. | (e) Accounts Receivable | 300 | |
| | Service Revenue | | 300 |
| | To accrue service revenue. | | |
| (f) Amount of unearned service revenue that has been earned, $200. | (f) Unearned Service Revenue | 200 | |
| | Service Revenue | | 200 |
| | To record unearned revenue that has been earned. | | |
| (g) Accrued income tax expense, $600. | (g) Income Tax Expense | 600 | |
| | Income Tax Payable | | 600 |
| | To accrue income tax expense. | | |

PANEL C—Ledger Accounts

**Assets**

Cash

| Debit | Credit |
|---|---|
| Bal 24,800 | |

Accounts Receivable

| Debit | Credit |
|---|---|
| 2,200 | |
| (e) 300 | |
| Bal 2,500 | |

Supplies

| Debit | Credit |
|---|---|
| 700 | (b) 300 |
| Bal 400 | |

Prepaid Rent

| Debit | Credit |
|---|---|
| 3,000 | (a) 1,000 |
| Bal 2,000 | |

Equipment

| Debit | Credit |
|---|---|
| Bal 24,000 | |

Accumulated Depreciation—Equipment

| Debit | Credit |
|---|---|
| | (c) 400 |
| | Bal 400 |

**Liabilities**

Accounts Payable

| Debit | Credit |
|---|---|
| | Bal 13,100 |

Salary Payable

| Debit | Credit |
|---|---|
| | (d) 900 |
| | Bal 900 |

Unearned Service Revenue

| Debit | Credit |
|---|---|
| (f) 200 | 400 |
| | Bal 200 |

Income Tax Payable

| Debit | Credit |
|---|---|
| | (g) 600 |
| | Bal 600 |

**Shareholders' Equity**

Share Capital

| Debit | Credit |
|---|---|
| | Bal 20,000 |

Retained Earnings

| Debit | Credit |
|---|---|
| | Bal 18,800 |

Dividends

| Debit | Credit |
|---|---|
| Bal 3,200 | |

Revenue

Service Revenue

| Debit | Credit |
|---|---|
| | 7,000 |
| | (e) 300 |
| | (f) 200 |
| | Bal 7,500 |

Expenses

Rent Expense

| Debit | Credit |
|---|---|
| (a) 1,000 | |
| Bal 1,000 | |

Salary Expense

| Debit | Credit |
|---|---|
| 900 | |
| (d) 900 | |
| Bal 1,800 | |

Supplies Expense

| Debit | Credit |
|---|---|
| (b) 300 | |
| Bal 300 | |

Depreciation Expense—Equipment

| Debit | Credit |
|---|---|
| (c) 400 | |
| Bal 400 | |

Utilities Expense

| Debit | Credit |
|---|---|
| Bal 500 | |

Income Tax Expense

| Debit | Credit |
|---|---|
| (g) 600 | |
| Bal 600 | |

Exhibit 3-8 includes an additional adjusting entry that we have not yet discussed—the accrual of income tax expense. Like individual taxpayers, corporations are subject to income tax. They typically accrue income tax expense and the related income tax payable as the final adjusting entry of the period. Obviously, taxation systems vary from country to country, and we are simplifying tax for now and assuming that income tax payable is $600. We will treat income tax expense like an accrued expense. ShineBrite Car Wash accrues income tax expense with adjusting entry g, as follows:

*Adjusting entry g*

| | | | |
|---|---|---|---|
| Jun 30 | Income Tax Expense | 600 | |
| | Income Tax Payable | | 600 |
| | *To accrue income tax expense.* | | |

The income tax accrual follows the pattern for accrued expenses.

## The Adjusted Trial Balance

This chapter began with the unadjusted trial balance (see Exhibit 3-3). After the adjustments are journalized and posted, the accounts appear as shown in Exhibit 3-8, Panel C. A useful step in preparing the financial statements is to list the accounts, along with their adjusted balances, on an **adjusted trial balance**. This document lists all the accounts and their final balances in a single place. Exhibit 3-9 shows the adjusted trial balance of ShineBrite Car Wash.

**EXHIBIT 3-9 | Adjusted Trial Balance**

**ShineBrite Car Wash, Inc.**
**Preparation of Adjusted Trial Balance**
June 30, 20X6

| | Trial Balance | | Adjustments | | Adjusted Trial Balance | | |
|---|---|---|---|---|---|---|---|
| Account Title | Debit | Credit | Debit | Credit | Debit | Credit | |
| Cash | 24,800 | | | | 24,800 | | Balance Sheet (*Exhibit 3-12*) |
| Accounts receivable | 2,200 | | (e) 300 | | 2,500 | | |
| Supplies | 700 | | | (b) 300 | 400 | | |
| Prepaid rent | 3,000 | | | (a) 1,000 | 2,000 | | |
| Equipment | 24,000 | | | | 24,000 | | |
| Accumulated depreciation—equipment | | | | (c) 400 | | 400 | |
| Accounts payable | | 13,100 | | | | 13,100 | |
| Salary payable | | | | (d) 900 | | 900 | |
| Unearned service revenue | | 400 | (f) 200 | | | 200 | |
| Income tax payable | | | | (g) 600 | | 600 | |
| Share capital | | 20,000 | | | | 20,000 | |
| Retained earnings | | 18,800 | | | | 18,800 | Statement of Changes in Equity (*Exhibit 3-11*) |
| Dividends | 3,200 | | | | 3,200 | | |
| Service revenue | | 7,000 | | (e) 300 | | 7,500 | Income Statement (*Exhibit 3-10*) |
| | | | | (f) 200 | | | |
| Rent expense | | | (a) 1,000 | | 1,000 | | |
| Salary expense | 900 | | (d) 900 | | 1,800 | | |
| Supplies expense | | | (b) 300 | | 300 | | |
| Depreciation expense | | | (c) 400 | | 400 | | |
| Utilities expense | 500 | | | | 500 | | |
| Income tax expense | | | (g) 600 | | 600 | | |
| | 59,300 | 59,300 | 3,700 | 3,700 | 61,500 | 61,500 | |

Note how clearly the adjusted trial balance presents the data. The Account Title and the Trial Balance data come from the trial balance. The two Adjustments columns summarize the adjusting entries. The Adjusted Trial Balance columns then give the final account balances. Each adjusted amount in Exhibit 3-9 is the unadjusted balance plus or minus the adjustments. For example, Accounts Receivable starts with a balance of $2,200. Add the $300 debit adjustment to get Accounts Receivable's ending balance of $2,500. Spreadsheets are very useful for this type of analysis.

## Preparing the Financial Statements

The June financial statements of ShineBrite Car Wash can be prepared from the adjusted trial balance. At the far right, Exhibit 3-9 shows how the accounts are distributed to the financial statements:

**OBJECTIVE**

**4** **Prepare** the financial statements

- The income statement (Exhibit 3-10) lists the revenue and expense accounts.
- The statement of changes in equity (Exhibit 3-11) shows the changes in various components of equity during the period.
- The balance sheet (Exhibit 3-12) reports assets, liabilities, and shareholders' equity.

The arrows in Exhibits 3-10, 3-11, and 3-12 show the flow of data from one statement to the next.

Why is the income statement prepared first and the balance sheet last?

1. The income statement reports net income or net loss, the result of revenues minus expenses. Revenues and expenses will affect shareholders' equity, hence net income is then transferred to retained earnings. The first arrow tracks net income.
2. The statement of changes in equity reflects the increase in retained earnings from the income statement and records the payment of dividends. If there was any additional capital contribution from owners, it would also be reflected in this statement. The ending balance of equity from Exhibit 3-11 is carried to the balance sheet in Exhibit 3-12 as shown by the second arrow.

**EXHIBIT 3-10 | Income Statement**

**ShineBrite Car Wash, Inc.**
**Income Statement**
Month Ended June 30, 20X6

| | | |
|---|---|---|
| Revenues: | | |
| Service revenue | | $7,500 |
| Expenses: | | |
| Salary expense | $1,800 | |
| Rent expense | 1,000 | |
| Utilities expense | 500 | |
| Depreciation expense | 400 | |
| Supplies expense | 300 | 4,000 |
| Income before tax | | 3,500 |
| Income tax expense | | 600 |
| Net income | | $2,900 |

**EXHIBIT 3-11 | Statement of Changes in Equity**

①

**ShineBrite Car Wash, Inc.**
**Statement of Changes in Equity**
Month Ended June 30, 20X6

| | |
|---|---|
| Total equity, May 31, 20X6 | $38,800 |
| Add: Net income | 2,900 |
| | 21,700 |
| Less: Dividends | (3,200) |
| Total equity, June 30, 20X6 | $38,500 |

**EXHIBIT 3-12 | Balance Sheet**

**ShineBrite Car Wash, Inc.**
**Balance Sheet**
June 30, 20X6

| **Assets** | | | **Liabilities** | |
|---|---|---|---|---|
| Cash | | $24,800 | Accounts payable | $13,100 |
| Accounts receivable | | 2,500 | Salary payable | 900 |
| Supplies | | 400 | Unearned service revenue | 200 |
| Prepaid rent | | 2,000 | Income tax payable | 600 |
| Equipment | $24,000 | | Total liabilities | 14,800 |
| Less: Accumulated | | | | |
| depreciation | (400) | 23,600 | **Stockholders' Equity** | |
| | | | Common stock | 20,000 |
| | | | Retained earnings | 18,500 |
| | | | Total shareholders' equity | 38,500 |
| | | | Total liabilities and | |
| Total assets | | $53,300 | shareholders' equity | $53,300 |

②

## Which Accounts Need to be Closed?

**OBJECTIVE**

**5** **Close** the books

It is now June 30, the end of the month. Van Gray, the manager, will continue ShineBrite Car Wash into July, August, and beyond. But wait—the revenue and the expense accounts still hold amounts for June. At the end of each accounting period, it is necessary to close the books.

**Closing the books** means to prepare the accounts for the next period's transactions. The **closing entries** set the revenue, expense, and dividends balances back to zero at the end of the period. The idea is the same as setting the scoreboard back to zero after a game.

Closing is easily handled by computers. Recall that the income statement for a particular year reports only one year's income. For example, 2011 net income for Richemont relates exclusively to the year ended March 31, 2011. At each year-end, Richemont's accountants close the company's revenues and expenses for that year.

**Temporary Accounts.** Because income and expenses relate to a limited period, they are called **temporary accounts**. The Dividends account is also temporary because it is used to record the amount of distributions to owners during the period. The closing process applies only to temporary accounts (income, expenses, and dividends).

**Permanent Accounts.** Let's contrast the temporary accounts with the **permanent accounts**: assets, liabilities, and shareholders' equity. The permanent accounts are not closed at the end of the period because they carry over to the next period. Consider Cash, Receivables, Equipment, Accounts Payable, Share Capital, and Retained Earnings. Their ending balances at the end of one period become the beginning balances of the next period.

Closing entries transfer the revenue, expense, and dividends balances to Retained Earnings. Here are the steps to close the books of a company such as Richemont or ShineBrite Car Wash:

1. Debit each income account for the amount of its credit balance. Credit Retained Earnings for the sum of the revenues. Now the sum of the revenues is in Retained Earnings.
2. Credit each expense account for the amount of its debit balance. Debit Retained Earnings for the sum of the expenses. The sum of the expenses is now in Retained Earnings.
3. Credit the Dividends account for the amount of its debit balance. Debit Retained Earnings. This entry places the dividends amount in the debit side of Retained Earnings. Remember that dividends are not expenses. Dividends never affect net income.

After closing the books, the Retained Earnings account of ShineBrite Car Wash appears as follows (data from Exhibits 3-10 to 3-12):

**Retained Earnings**

| | | | |
|---|---|---|---|
| | | **Beginning balance** | **18,800** |
| **Expenses** | **4,600** | **Revenues** | **7,500** |
| **Dividends** | **3,200** | | |
| | | **Ending balance** | **18,500** |

Assume that ShineBrite Car Wash closes the books at the end of June. Exhibit 3-13 presents the complete closing process for the business. Panel A gives the closing journal entries, and Panel B shows the accounts after closing.

### EXHIBIT 3-13 | Journalizing and Posting the Closing Entries

**PANEL A—Journalizing the Closing Entries**

**Closing Entries**

| | | | | |
|---|---|---|---|---|
| ① | Jun 30 | Service Revenue | 7,500 | |
| | | Retained Earnings | | 7,500 |
| ② | Jun 30 | Retained Earnings | 4,600 | |
| | | Rent Expense | | 1,000 |
| | | Salary Expense | | 1,800 |
| | | Supplies Expense | | 300 |
| | | Depreciation Expense | | 400 |
| | | Utilities Expense | | 500 |
| | | Income Tax Expense | | 600 |
| ③ | Jun 30 | Retained Earnings | 3,200 | |
| | | Dividends | | 3,200 |

PANEL B—Posting to the Accounts

**Rent Expense**

| | | | |
|---|---|---|---|
| Adj | 1,000 | | |
| Bal | 1,000 | Clo | 1,000 |

**Salary Expense**

| | | | |
|---|---|---|---|
| | 900 | | |
| Adj | 900 | | |
| Bal | 1,800 | Clo | 1,800 |

**Supplies Expense**

| | | | |
|---|---|---|---|
| Adj | 300 | | |
| Bal | 300 | Clo | 300 |

**Depreciation Expense**

| | | | |
|---|---|---|---|
| Adj | 400 | | |
| Bal | 400 | Clo | 400 |

**Utilities Expense**

| | | | |
|---|---|---|---|
| | 500 | | |
| Bal | 500 | Clo | 500 |

**Income Tax Expense**

| | | | |
|---|---|---|---|
| Adj | 600 | | |
| Bal | 600 | Clo | 600 |

**Service Revenue**

| | | | |
|---|---|---|---|
| | | | 7,000 |
| | | Adj | 300 |
| | | Adj | 200 |
| Clo | 7,500 | Bal | 7,500 |

**Retained Earnings**

| | | | |
|---|---|---|---|
| Clo | 4,600 | | 18,800 |
| Clo | 3,200 | Clo | 7,500 |
| | | Bal | 18,500 |

**Dividends**

| | | | |
|---|---|---|---|
| Bal | 3,200 | Clo | 3,200 |

Adj = Amount posted from an adjusting entry
Clo = Amount posted from a closing entry
Bal = Balance
As arrow ② in Panel B shows, we can make a compound closing entry for all the expenses.

Instead of closing the revenue and expense account directly to retained earnings, some accountants prefer to use a temporary account (usually called Income Summary). After closing all income and expense accounts to the Income Summary account, the balance of Income Summary (i.e. the profit or loss for the period) is, in turn, closed to the retained earnings account.

# END-OF-CHAPTER SUMMARY PROBLEM

The trial balance of Goldsmith Company shown below pertains to December 31, 20X6, which is the end of its year-long accounting period. Data needed for the adjusting entries include the following:

**a.** Supplies on hand at year-end, $2,000.
**b.** Depreciation on furniture and fixtures, $20,000.
**c.** Depreciation on building, $10,000.
**d.** Salaries owed but not yet paid, $5,000.
**e.** Accrued service revenue, $12,000.
**f.** Of the $45,000 balance of unearned service revenue, $32,000 was earned during the year.
**g.** Accrued income tax expense, $35,000.

## *Requirements*

1. Open the ledger accounts with their unadjusted balances. Show dollar amounts in thousands, as shown for Accounts Receivable:

| Accounts Receivable | |
|---|---|
| 370 | |

2. Journalize the Goldsmith Company adjusting entries at December 31, 20X6. Key entries by letter, as in Exhibit 3-8.
3. Post the adjusting entries.
4. Prepare an adjusted trial balance, as shown in Exhibit 3-9.
5. Prepare the income statement, the statement of changes in equity, and the balance sheet. (At this stage, it is not necessary to classify assets or liabilities as current or long term.) Draw arrows linking these three financial statements.
6. Make Goldsmith Company's closing entries at December 31, 20X6. Explain what the closing entries accomplish and why they are necessary. Show amounts in thousands.
7. Post the closing entries to Retained Earnings and compare Retained Earnings' ending balance with the amount reported on the balance sheet in requirement 5. The two amounts should be the same.

**Goldsmith Company**
**Trial Balance**
December 31, 20X6

| | | |
|---|---|---|
| Cash | $ 198,000 | |
| Accounts receivable | 370,000 | |
| Supplies | 6,000 | |
| Furniture and fixtures | 100,000 | |
| Accumulated depreciation—furniture and fixtures | | $ 40,000 |
| Building | 250,000 | |
| Accumulated depreciation—building | | 130,000 |
| Accounts payable | | 380,000 |
| Salary payable | | |
| Unearned service revenue | | 45,000 |
| Income tax payable | | |
| Share capital | | 100,000 |
| Retained earnings | | 193,000 |
| Dividends | 65,000 | |
| Service revenue | | 286,000 |
| Salary expense | 172,000 | |
| Supplies expense | | |
| Depreciation expense—furniture and fixtures | | |
| Depreciation expense—building | | |
| Income tax expense | | |
| Miscellaneous expense | 13,000 | |
| Total | $1,174,000 | $1,174,000 |

## Answers

### Requirements 1 and 3

*(Amounts in thousands)*

#### Assets

**Cash**

| | | | |
|---|---|---|---|
| Bal | 198 | | |

**Accounts Receivable**

| | | | |
|---|---|---|---|
| | 370 | | |
| (e) | 12 | | |
| Bal | 382 | | |

**Supplies**

| | | | |
|---|---|---|---|
| | 6 | (a) | 4 |
| Bal | 2 | | |

**Furniture and Fixtures**

| | | | |
|---|---|---|---|
| Bal | 100 | | |

**Accumulated Depreciation—Furniture and Fixtures**

| | | | |
|---|---|---|---|
| | | | 40 |
| | | (b) | 20 |
| | | Bal | 60 |

**Building**

| | | | |
|---|---|---|---|
| Bal | 250 | | |

**Accumulated Depreciation—Building**

| | | | |
|---|---|---|---|
| | | | 130 |
| | | (c) | 10 |
| | | Bal | 140 |

#### Liabilities

**Accounts Payable**

| | | | |
|---|---|---|---|
| | | Bal | 380 |

**Salary Payable**

| | | | |
|---|---|---|---|
| | | (d) | 5 |
| | | Bal | 5 |

**Unearned Service Revenue**

| | | | |
|---|---|---|---|
| (f) | 32 | | 45 |
| | | Bal | 13 |

**Income Tax Payable**

| | | | |
|---|---|---|---|
| | | (g) | 35 |
| | | Bal | 35 |

#### Shareholders' Equity

**Share Capital**

| | | | |
|---|---|---|---|
| | | Bal | 100 |

**Retained Earnings**

| | | | |
|---|---|---|---|
| | | Bal | 193 |

**Dividends**

| | | | |
|---|---|---|---|
| Bal | 65 | | |

#### Revenues

**Service Revenue**

| | | | |
|---|---|---|---|
| | | | 286 |
| | | (e) | 12 |
| | | (f) | 32 |
| | | Bal | 330 |

#### Expenses

**Salary Expense**

| | | | |
|---|---|---|---|
| | 172 | | |
| (d) | 5 | | |
| Bal | 177 | | |

**Supplies Expense**

| | | | |
|---|---|---|---|
| (a) | 4 | | |
| Bal | 4 | | |

**Depreciation Expense—Furniture and Fixtures**

| | | | |
|---|---|---|---|
| (b) | 20 | | |
| Bal | 20 | | |

**Depreciation Expense—Building**

| | | | |
|---|---|---|---|
| (c) | 10 | | |
| Bal | 10 | | |

**Income Tax Expense**

| | | | |
|---|---|---|---|
| (g) | 35 | | |
| Bal | 35 | | |

**Miscellaneous Expense**

| | | | |
|---|---|---|---|
| Bal | 13 | | |

### Requirement 2

| | | | | |
|---|---|---|---|---|
| (a) | Dec 31 | Supplies Expense ($6,000 – $2,000) | 4,000 | |
| | | Supplies | | 4,000 |
| | | *To record supplies used.* | | |
| | | | | |
| (b) | 31 | Depreciation Expense—Furniture and Fixtures | 20,000 | |
| | | Accumulated Depreciation—Furniture and Fixtures | | 20,000 |
| | | *To record depreciation expense on furniture and fixtures.* | | |
| | | | | |
| (c) | 31 | Depreciation Expense—Building | 10,000 | |
| | | Accumulated Depreciation—Building | | 10,000 |
| | | *To record depreciation expense on building.* | | |
| | | | | |
| (d) | 31 | Salary Expense | 5,000 | |
| | | Salary Payable | | 5,000 |
| | | *To accrue salary expense.* | | |
| | | | | |
| (e) | 31 | Accounts Receivable | 12,000 | |
| | | Service Revenue | | 12,000 |
| | | *To accrue service revenue.* | | |
| | | | | |
| (f) | 31 | Unearned Service Revenue | 32,000 | |
| | | Service Revenue | | 32,000 |
| | | *To record unearned service revenue that has been earned.* | | |
| | | | | |
| (g) | 31 | Income Tax Expense | 35,000 | |
| | | Income Tax Payable | | 35,000 |
| | | *To accrue income tax expense.* | | |

*Requirement 4*

**Goldsmith Company**
**Preparation of Adjusted Trial Balance**
December 31, 20X6

| *(Amounts in thousands)* | Trial Balance | | Adjustments | | Adjusted Trial Balance | |
|---|---|---|---|---|---|---|
| **Account Title** | Debit | Credit | Debit | Credit | Debit | Credit |
| Cash | 198 | | | | 198 | |
| Accounts receivable | 370 | | (e) 12 | | 382 | |
| Supplies | 6 | | | (a) 4 | 2 | |
| Furniture and fixtures | 100 | | | | 100 | |
| Accumulated depreciation—furniture and fixtures | | 40 | | (b) 20 | | 60 |
| Building | 250 | | | | 250 | |
| Accumulated depreciation—building | | 130 | | (c) 10 | | 140 |
| Accounts payable | | 380 | | | | 380 |
| Salary payable | | | | (d) 5 | | 5 |
| Unearned service revenue | | 45 | (f) 32 | | | 13 |
| Income tax payable | | | | (g) 35 | | 35 |
| Share capital | | 100 | | | | 100 |
| Retained earnings | | 193 | | | | 193 |
| Dividends | 65 | | | | 65 | |
| Service revenue | | 286 | | (e) 12 | | 330 |
| | | | | (f) 32 | | |
| Salary expense | 172 | | (d) 5 | | 177 | |
| Supplies expense | | | (a) 4 | | 4 | |
| Depreciation expense—furniture and fixtures | | | (b) 20 | | 20 | |
| Depreciation expense—building | | | (c) 10 | | 10 | |
| Income tax expense | | | (g) 35 | | 35 | |
| Miscellaneous expense | 13 | | | | 13 | |
| | 1,174 | 1,174 | 118 | 118 | 1,256 | 1,256 |

*Requirement 5*

**Goldsmith Company**
**Income Statement**
Year Ended December 31, 20X6

| | | |
|---|---|---|
| *(Amounts in thousands)* | | |
| Revenue: | | |
| Service revenue | | $330 |
| Expenses: | | |
| Salary expense | $177 | |
| Depreciation expense—furniture and fixtures | 20 | |
| Depreciation expense—building | 10 | |
| Supplies expense | 4 | |
| Miscellaneous expense | 13 | 224 |
| Income before tax | | 106 |
| Income tax expense | | 35 |
| Net income | | $ 71 |

①

**Goldsmith Company**
**Statement of Changes in Equity**
Year Ended December 31, 20X6

| | |
|---|---|
| *(Amounts in thousands)* | |
| Total equity, December 31, 2009 | $293 |
| Add: Net income | 71 |
| | 264 |
| Less: Dividends | (65) |
| Total equity, December 31, 2010 | $299 |

②

**Goldsmith Company**
**Balance Sheet**
December 31, 20X6

*(Amounts in thousands)*

| **Assets** | | | **Liabilities** | |
|---|---|---|---|---|
| Cash | | $198 | Accounts payable | $380 |
| Accounts receivable | | 382 | Salary payable | 5 |
| Supplies | | 2 | Unearned service revenue | 13 |
| Furniture and fixtures | $100 | | Income tax payable | 35 |
| Less: Accumulated | | | Total liabilities | 433 |
| depreciation | (60) | 40 | | |
| | | | **Shareholders' Equity** | |
| Building | $250 | | Share capital | 100 |
| Less: Accumulated | | | Retained earnings | 199 |
| depreciation | (140) | 110 | Total shareholders' equity | 299 |
| | | | Total liabilities and | |
| Total assets | | $732 | shareholders' equity | $732 |

## *Requirement 6*

| 20X6 | | (In thousands) | |
|---|---|---|---|
| Dec 31 | Service Revenue | 330 | |
| | Retained Earnings | | 330 |
| | | | |
| 31 | Retained Earnings | 259 | |
| | Salary Expense | | 177 |
| | Depreciation Expense—Furniture and Fixtures | | 20 |
| | Depreciation Expense—Building | | 10 |
| | Supplies Expense | | 4 |
| | Income Tax Expense | | 35 |
| | Miscellaneous Expense | | 13 |
| | | | |
| 31 | Retained Earnings | 65 | |
| | Dividends | | 65 |

## *Explanation of Closing Entries*

The closing entries set the balance of each revenue, expense, and Dividends account back to zero for the start of the next accounting period. We must close these accounts because their balances relate only to one accounting period.

## *Requirement 7*

The balance in the Retained Earnings account agrees with the amount reported on the balance sheet, as it should.

**Retained Earnings**

| | | | |
|---|---|---|---|
| | | | 193 |
| Clo | 259 | Clo | 330 |
| Clo | 65 | | |
| | | Bal | 199 |

# REVIEW ACCRUAL ACCOUNTING

## Quick Check (Answers are given at the end of the chapter.)

1. On October 1, River Place Apartments received $5,200 from a tenant for four months' rent. The receipt was credited to Unearned Rent Revenue. What adjusting entry is needed on December 31?

| | | |
|---|---|---|
| **a.** Unearned Rent Revenue | 1,300 | |
| Rent Revenue | | 1,300 |
| **b.** Cash | 1,300 | |
| Rent Revenue | | 1,300 |
| **c.** Rent Revenue | 1,300 | |
| Unearned Rent Revenue | | 1,300 |
| **d.** Unearned Rent Revenue | 3,900 | |
| Rent Revenue | | 3,900 |

2. The following normal balances appear on the *adjusted* trial balance of Greenville National Company:

| | |
|---|---|
| Equipment | $110,000 |
| Accumulated depreciation, equipment | 22,000 |
| Depreciation expense, equipment | 5,500 |

The carrying amount of the equipment is
**a.** $82,500.
**b.** $66,000.
**c.** $88,000.
**d.** $104,500.

3. Details, Inc., purchased supplies for $1,300 during 20X6. At year-end Details had $800 of supplies left. The adjusting entry should
**a.** debit Supplies $800.
**b.** credit Supplies $800.
**c.** debit Supplies $500.
**d.** debit Supplies Expense $500.

4. The accountant for Exeter Corp. failed to make the adjusting entry to record depreciation for the current year. The effect of this error is which of the following?
**a.** Assets, net income, and shareholders' equity are all overstated.
**b.** Assets and expenses are understated; net income is understated.
**c.** Net income is overstated and liabilities are understated.
**d.** Assets are overstated, shareholders' equity and net income are understated.

5. Interest earned on a note receivable at December 31 equals $375. What adjusting entry is required to accrue this interest?

| | | |
|---|---|---|
| **a.** Interest Expense | 375 | |
| Interest Payable | | 375 |
| **b.** Interest Receivable | 375 | |
| Interest Revenue | | 375 |
| **c.** Interest Payable | 375 | |
| Interest Expense | | 375 |
| **d.** Interest Expense | 375 | |
| Cash | | 375 |

6. If a real estate company fails to accrue commission revenue
**a.** Revenues are understated and net income is overstated.
**b.** Assets are understated and net income is understated.
**c.** Net income is understated and shareholders' equity is overstated.
**d.** Liabilities are overstated and owners' equity is understated.

7. All of the following statements are true except one. Which statement is false?
   a. A financial year is not always the same as a calendar year.
   b. The matching concept directs accountants to identify and measure all expenses incurred and deduct them from revenues earned during the same period.
   c. Adjusting entries are required for a business that uses the cash basis.
   d. Accrual-basis accounting produces better information than cash-basis accounting.
8. The account Unearned Revenue is a(n)
   a. asset.
   b. expense.
   c. revenue.
   d. liability.
9. Adjusting entries
   a. update the accounts.
   b. are needed to measure the period's net income or net loss.
   c. do not debit or credit cash.
   d. all of the above.
10. An adjusting entry that debits an expense and credits a liability is which type?
   a. Depreciation expense
   b. Cash expense
   c. Accrued expense
   d. Prepaid expense
11. On a trial balance, which of the following would indicate that an error has been made?
   a. Accumulated Depreciation has a credit balance.
   b. Salary Expense has a debit balance.
   c. Service Revenue has a debit balance.
   d. All of the above indicate errors.
12. The entry to close Management Fee Revenue would be which of the following?
   a. Management Fee Revenue
      Retained Earnings
   b. Management Fee Revenue does not need to be closed.
   c. Retained Earnings
      Management Fee Revenue
   d. Management Fee Revenue
      Service Revenue
13. Which of the following accounts is not closed?
   a. Dividends
   b. Depreciation Expense
   c. Interest Revenue
   d. Accumulated Depreciation

## Accounting Vocabulary

**accrual** (p. 152) An expense or a revenue that occurs before the business pays or receives cash. An accrual is the opposite of a deferral.

**accrual accounting** (p. 140) Accounting that records the impact of a business event as it occurs, regardless of whether the transaction affected cash.

**accrued expense** (p. 158) An expense incurred but not yet paid in cash.

**accrued revenue** (p. 159) A revenue that has been earned but not yet received in cash.

**accumulated depreciation** (p. 156) The cumulative sum of all depreciation expense from the date of acquiring a PPE.

**adjusted trial balance** (p. 165) A list of all the ledger accounts with their adjusted balances.

**carrying amount (of a PPE)** (p. 156) The asset's cost minus accumulated depreciation.

**cash basis accounting** (p. 140) Accounting that records only transactions in which cash is received or paid.

**closing the books** (p. 167) The process of preparing the accounts to begin recording the next period's transactions.

Closing the accounts consists of journalizing and posting the closing entries to set the balances of the revenue, expense, and dividends accounts to zero. Also called closing the accounts.

**closing entries** (p. 167) Entries that transfer the income, expense, and dividends balances from these respective accounts to the Retained Earnings account.

**contra account** (p. 156) An account that always has a companion account and whose normal balance is opposite that of the companion account.

**deferral** (p. 151) An adjustment for which the business paid or received cash in advance. Examples include prepaid rent, prepaid insurance, and supplies.

**depreciation** (p. 152) Allocation of the cost of a PPE to expense over its useful life.

**matching concept** (p. 144) A concept for matching expenses to revenue. Directs accountants to identify all expenses incurred during the period, to measure the expenses, and to match them against the revenues earned during that same period.

**permanent accounts** (p. 167) Asset, liability, and shareholders' equity accounts that are not closed at the end of the period.

**prepaid expense** (p. 152) A category of miscellaneous assets that typically expire or get used up in the near future. Examples include prepaid rent, prepaid insurance, and supplies.

**property, plant and equipment or PPE** (p. 155) Long-lived assets, such as land, buildings, and equipment, used in the operation of the business. Sometimes referred to as fixed assets or plant assets.

**revenue recognition principle** (p. 142) The basis for recording and measurement of revenues; tells accountants when to record revenue and the amount of revenue to record.

**temporary accounts** (p. 167) The revenue and expense accounts that relate to a limited period and are closed at the end of the period are temporary accounts. For a corporation, the Dividends account is also temporary.

**time-period concept** (p. 142) Ensures that accounting information is reported at regular intervals.

**unearned revenue** (p. 160) A liability created when a business collects cash from customers in advance of earning the revenue. The obligation is to provide a product or a service in the future.

# ASSESS YOUR PROGRESS

## Short Exercises

**S3-1** ***(Learning Objective 1: Linking accrual accounting and cash flows)*** St. Pierre Corporation made sales of $960 million during 20X6. Of this amount, St. Pierre collected cash for all but $25 million. The company's cost of goods sold was $270 million, and all other expenses for the year totaled $300 million. Also during 20X6, St. Pierre paid $370 million for its inventory and $285 million for everything else. Beginning cash was $105 million. St. Pierre's top management is interviewing you for a job and they ask two questions:

**a.** How much was St. Pierre's net income for 20X6?
**b.** How much was St. Pierre's cash balance at the end of 20X6?

You will get the job only if you answer both questions correctly.

**S3-2** ***(Learning Objective 1: Linking accrual accounting and cash flows)*** Capeside Corporation began 20X6 owing notes payable of $3.9 million. During 20X6, Capeside borrowed $2.3 million on notes payable and paid off $2.0 million of notes payable from prior years. Interest expense for the year was $1.8 million, including $0.1 million of interest payable accrued at December 31, 20X6.

Show what Capeside should report for these facts on the following financial statements:

1. Income statement
   **a.** Interest expense
2. Balance sheet
   **a.** Notes payable
   **b.** Interest payable

**S3-3** ***(Learning Objectives 1, 2: Linking accrual accounting and cash flows; applying accounting principles)*** As the controller of Eden Consulting, you have hired a new employee,

■ **writing assignment**

whom you must train. She objects to making an adjusting entry for accrued salaries at the end of the period. She reasons, "We will pay the salaries soon. Why not wait until payment to record the expense? In the end, the result will be the same." Write a reply to explain to the employee why the adjusting entry is needed for accrued salary expense.

■ **writing assignment**

**S3-4** ***(Learning Objective 2: Applying the revenue recognition principles)*** A large auto manufacturer sells large fleets of vehicles to auto rental companies, such as Acme and Harris. Suppose Acme is negotiating with the auto manufacturer to purchase 950 vehicles. Write a short paragraph to explain to the auto manufacturer when the company should, and should not, record this sales revenue and the related expense for cost of goods sold. Mention the accounting principles that provide the basis for your explanation.

**S3-5** ***(Learning Objective 2: Applying accounting concepts and principles)*** Write a short paragraph to explain in your own words the concept of depreciation as used in accounting.

**S3-6** ***(Learning Objective 2: Applying accounting concepts and principles)*** Identify the accounting concept or principle that gives the most direction on how to account for each of the following situations:

- **a.** Salary expense of $35,000 is accrued at the end of the period to measure income properly.
- **b.** May has been a particularly slow month, and the business will have a net loss for the second quarter of the year. Management is considering not following its customary practice of reporting quarterly earnings to the public.
- **c.** A physician performs a surgical operation and bills the patient's insurance company. It may take four months to collect from the insurance company. Should the physician record revenue now or wait until cash is collected?
- **d.** A construction company is building a highway system, and construction will take five years. When should the company record the revenue it earns?
- **e.** A utility bill is received on December 28 and will be paid next year. When should the company record utility expense?

**S3-7** ***(Learning Objective 3: Adjusting prepaid expenses)*** Answer the following questions about prepaid expenses:

- **a.** On March 1, Blue & Green Travel prepaid $4,800 for six months' rent. Give the adjusting entry to record rent expense at March 31. Include the date of the entry and an explanation. Then post all amounts to the two accounts involved, and show their balances at March 31. Blue & Green Travel adjusts the accounts only at March 31, the end of its fiscal year.
- **b.** On December 1, Blue & Green Travel paid $900 for supplies. At March 31, Blue & Green Travel has $700 of supplies on hand. Make the required journal entry at March 31. Then post all amounts to the accounts and show their balances at March 31.

**S3-8** ***(Learning Objectives 1, 3: Recording depreciation; linking accrual accounting and cash flows)*** Suppose that on January 1, Georgetown Golf Company paid cash of $80,000 for computers that are expected to remain useful for four years. At the end of four years, the computers' values are expected to be zero.

1. Make journal entries to record (a) purchase of the computers on January 1 and (b) annual depreciation on December 31. Include dates and explanations, and use the following accounts: Computer Equipment; Accumulated Depreciation—Computer Equipment; and Depreciation Expense—Computer Equipment.
2. Post to the accounts and show their balances at December 31.
3. What is the computer equipment's carrying amount at December 31?

**S3-9** ***(Learning Objective 2: Applying the revenue recognition principles and matching concept)*** During 20X6, Lufthansa Airlines paid salary expense of €38.3 million. At December 31, 20X6, Lufthansa accrued salary expense of €2.8 million. Lufthansa then paid €1.8 million to its employees on January 3, 20X7, the company's next payday after the end of the 20X6 year.

For this sequence of transactions, show what Lufthansa would report on its 20X6 income statement and on its balance sheet at the end of 20X6.

**S3-10** ***(Learning Objective 3: Accruing and paying interest expense)*** Resort Travel borrowed $80,000 on October 1 by signing a note payable to Texas First Bank. The interest expense for each month is $500. The loan agreement requires Resort to pay interest on December 31.

1. Make Resort's adjusting entry to accrue monthly interest expense at October 31, at November 30, and at December 31. Date each entry and include its explanation.
2. Post all three entries to the Interest Payable account. You need not take the balance of the account at the end of each month.
3. Record the payment of three months' interest at December 31.

**S3-11** ***(Learning Objective 3: Accruing and receiving cash from interest revenue)*** Return to the situation in Short Exercise 3-10. Here you are accounting for the same transactions on the books of Texas First Bank, which lent the money to Resort Travel.

1. Make Texas First Bank's adjusting entry to accrue monthly interest revenue at October 31, at November 30, and at December 31. Date each entry and include its explanation.
2. Post all three entries to the Interest Receivable account. You need not take the balance of the account at the end of each month.
3. Record the receipt of three months' interest at December 31.

**S3-12** ***(Learning Objectives 1, 3: Relating accrual accounting to cash flows; adjusting the accounts)*** Write a paragraph to explain why unearned revenues are liabilities instead of revenues. In your explanation, use the following example: *The Asahi Shimbun*, a Japanese national newspaper, collects cash from subscribers in advance and later delivers newspapers to subscribers over a one-year period. Explain what happens to the unearned revenue over the course of a year as *The Globe and Trail* delivers papers to subscribers. Into what account does the earned subscription revenue go as *The Globe and Trail* delivers papers? Give the journal entries that *The Globe and Trail* would make to (a) collect ¥5 million of subscription revenue in advance and (b) record earning ¥5 million of subscription revenue. Include an explanation for each entry, as illustrated in the chapter.

■ **writing assignment**

**S3-13** ***(Learning Objective 3, 4: Adjusting the accounts; reporting prepaid expenses)*** Crow Golf Co. prepaid three years' rent ($24,000) on January 1, 20X6. At December 31, 20X6, Crow prepared a trial balance and then made the necessary adjusting entry at the end of the year. Crow adjusts its accounts once each year—on December 31.

What amount appears for Prepaid Rent on

**a.** Crow's *unadjusted* trial balance at December 31, 20X6?
**b.** Crow's *adjusted* trial balance at December 31, 20X6?

What amount appears for Rent Expense on

**a.** Crow's *unadjusted* trial balance at December 31, 20X6?
**b.** Crow's *adjusted* trial balance at December 31, 20X6?

**S3-14** ***(Learning Objective 3: Adjusting the accounts)*** Bryson, Inc., collects cash from customers two ways:

**a.** Accrued revenue. Some customers pay Bryson after Bryson has performed services for the customer. During 20X6, Bryson made sales of $60,000 on account and later received cash of $45,000 on account from these customers.
**b.** Unearned revenue. A few customers pay Bryson in advance, and Bryson later performs the service for the customer. During 20X6 Bryson collected $7,500 cash in advance and later earned $3,500 of this amount.

Journalize for Bryson

**a.** Earning service revenue of $60,000 on account and then collecting $45,000 on account.
**b.** Receiving $7,500 in advance and then earning $3,500 as service revenue.

**S3-15** ***(Learning Objective 4: Preparing the financial statements)*** Suppose Vulture Sporting Goods Company reported the following data at March 31, 20X6, with amounts in thousands:

| | | | |
|---|---|---|---|
| Retained earnings, March 31, 20X5 | $ 2,000 | Cost of goods sold | $136,800 |
| Accounts receivable | 28,200 | Cash | 1,300 |
| Net revenues | 174,000 | Property and equipment, net | 6,000 |
| Total current liabilities | 53,000 | Share capital | 27,000 |
| All other expenses | 26,000 | Inventories | 37,000 |
| Other current assets | 5,200 | Long-term liabilities | 12,500 |
| Other assets | 28,000 | Dividends | 0 |

Use these data to prepare Vulture Sporting Goods Company's income statement for the year ended March 31, 20X6; statement of changes in equity for the year ended March 31, 20X6; and classified balance sheet at March 31, 20X6. Use the report format for the balance sheet. Draw arrows linking the three statements.

**S3-16** ***(Learning Objective 5: Making closing entries)*** Use the Vulture Sporting Goods Company data in Short Exercise 3-15 to make the company's closing entries at March 31, 20X6.

Then set up a T-account for Retained Earnings and post to that account. Compare Retained Earnings' ending balance to the amount reported on Vulture's statement of changes in equity and balance sheet. What do you find?

## Exercises

MyAccountingLab

All of the A and B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

### (Group A)

**E3-17A** ***(Learning Objective 1: Linking accrual accounting and cash flows)*** During 20X6 Galaxy Corporation made sales of $4,100 (assume all on account) and collected cash of $4,900 from customers. Operating expenses totaled $1,400, all paid in cash. At year-end, 20X6, Galaxy customers owed the company $700. Galaxy owed creditors $1,300 on account. All amounts are in millions.

1. For these facts, show what Galaxy reported on the following financial statements:
   - Income statement
   - Balance sheet
2. Suppose Galaxy had used the cash basis of accounting. What would Galaxy have reported for these facts?

**E3-18A** ***(Learning Objective 1: Linking accrual accounting and cash flows)*** During 20X6 Prairie Sales, Inc., earned revenues of $580,000 on account. Prairie collected $590,000 from customers during the year. Expenses totaled $480,000, and the related cash payments were $460,000. Show what Prairie would report on its 20X6 income statement under the

**a.** cash basis.
**b.** accrual basis.

Compute net income under both bases of accounting. Which basis measures net income better? Explain your answer.

**E3-19A** ***(Learning Objectives 1, 2: Using the accrual basis of accounting; applying accounting principles)*** During 20X6, Carson Network, Inc., which designs network servers, earned revenues of $800 million. Expenses totaled $590 million. Carson collected all but $28 million of the revenues and paid $610 million on its expenses. Carson's top managers are evaluating 20X6, and they ask you the following questions:

**a.** Under accrual accounting, what amount of revenue should Carson Network report for 20X6? Is the revenue the $800 million earned or is it the amount of cash actually collected? How does the revenue principle help to answer these questions?
**b.** Under accrual accounting, what amount of total expense should Carson Network report for 20X6—$590 million or $610 million? Which accounting principle helps to answer this question?
**c.** Which financial statement reports revenues and expenses? Which statement reports cash receipts and cash payments?

**E3-20A** ***(Learning Objectives 1, 3: Journalizing adjusting entries and analyzing their effects on net income; comparing accrual and cash basis)*** An accountant made the following adjustments at December 31, the end of the accounting period:

**a.** Prepaid insurance, beginning, $500. Payments for insurance during the period, $1,500. Prepaid insurance, ending, $1,000.
**b.** Interest revenue accrued, $1,100.
**c.** Unearned service revenue, beginning, $1,200. Unearned service revenue, ending, $400.
**d.** Depreciation, $4,900.
**e.** Employees' salaries owed for three days of a five-day work week; weekly payroll, $14,000.
**f.** Income before income tax, $22,000. Income tax rate is 25%.

### *Requirements*

1. Journalize the adjusting entries.
2. Suppose the adjustments were not made. Compute the overall overstatement or understatement of net income as a result of the omission of these adjustments.

**E3-21A** ***(Learning Objectives 2, 3: Applying the matching concept; allocating supplies cost between the asset and the expense)*** Bird-Bath, Inc., experienced four situations for its supplies. Compute the amounts that have been left blank for each situation. For situations 1 and 2, journalize the needed transaction. Consider each situation separately.

■ spreadsheet

| | Situation | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Beginning supplies | $ 100 | $ 600 | $ 1,400 | $ 900 |
| Payments for supplies during the year | ? | 600 | ? | 700 |
| Total amount to account for | 1,400 | ? | ? | 1,600 |
| Ending supplies | (200) | (200) | (1,000) | ? |
| Supplies expense | $1,200 | $ ? | $ 1,200 | $1,300 |

**E3-22A** ***(Learning Objective 3: Journalizing adjusting entries)*** Jenkins Motor Company faced the following situations. Journalize the adjusting entry needed at December 31, 20X6, for each situation. Consider each fact separately.

**a.** The business has interest expense of $9,500 that it must pay early in January 20X7.
**b.** Interest revenue of $4,500 has been earned but not yet received.
**c.** On July 1, when we collected $13,600 rent in advance, we debited Cash and credited Unearned Rent Revenue. The tenant was paying us for two years' rent.
**d.** Salary expense is $1,800 per day—Monday through Friday—and the business pays employees each Friday. This year, December 31 falls on a Wednesday.
**e.** The unadjusted balance of the Supplies account is $3,300. The total cost of supplies on hand is $1,200.

**f.** Equipment was purchased at the beginning of this year at a cost of $100,000. The equipment's useful life is five years. There is no residual value. Record depreciation for this year and then determine the equipment's carrying amount.

**E3-23A** ***(Learning Objective 3: Making adjustments in T-accounts)*** The accounting records of Fletcher Publishing Company include the following unadjusted balances at May 31: Accounts Receivable, $1,600; Supplies, $600; Salary Payable, $0; Unearned Service Revenue, $900; Service Revenue, $4,800; Salary Expense, $2,500; Supplies Expense, $0.

Fletcher's accountant develops the following data for the May 31 adjusting entries:

**a.** Supplies on hand, $100
**b.** Salary owed to employees, $300
**c.** Service revenue accrued, $800
**d.** Unearned service revenue that has been earned, $200

Open the foregoing T-accounts with their beginning balances. Then record the adjustments directly in the accounts, keying each adjustment amount by letter. Show each account's adjusted balance. Journal entries are not required.

**E3-24A** ***(Learning Objective 4: Preparing the financial statements)*** The adjusted trial balance of Delicious Hams, Inc., follows.

**Delicious Hams, Inc.**
**Adjusted Trial Balance**
December 31, 20X6

| *(Amounts in thousands)* | **Adjusted Trial Balance** | |
|---|---|---|
| **Account** | **Debit** | **Credit** |
| Cash | $ 3,800 | |
| Accounts receivable | 1,500 | |
| Inventories | 1,100 | |
| Prepaid expenses | 1,700 | |
| Property, plant and equipment | 6,500 | |
| Accumulated depreciation | | $ 2,300 |
| Other assets | 9,300 | |
| Accounts payable | | 7,600 |
| Income tax payable | | 600 |
| Other liabilities | | 2,200 |
| Share capital | | 4,700 |
| Retained earnings (beginning, December 31, 20X5) | | 4,700 |
| Dividends | 1,500 | |
| Sales revenue | | 41,400 |
| Cost of goods sold | 25,100 | |
| Selling, administrative, and general expenses | 10,700 | |
| Income tax expense | 2,300 | |
| Total | $63,500 | $63,500 |

## *Requirement*

1. Prepare Delicious Hams, Inc.'s income statement and statement of changes in equity for the year ended December 31, 20X6, and its balance sheet on that date.

**E3-25A** ***(Learning Objectives 3, 4: Measuring financial statement amounts; preparing financial statement amounts)*** The adjusted trial balances of Dickens Corporation at March 31, 20X6, and March 31, 20X5, include these amounts (in millions):

| | 20X6 | 20X5 |
|---|---|---|
| Receivables | $390 | $270 |
| Prepaid insurance | 190 | 160 |
| Accrued liabilities payable (for other operating expenses) | 730 | 610 |

Dickens completed these transactions during the year ended March 31, 20X6.

| | |
|---|---|
| Collections from customers | $20,200 |
| Payment of prepaid insurance | 420 |
| Cash payments for other operating expenses | 4,100 |

Compute the amount of sales revenue, insurance expense, and other operating expenses to report on the income statement for the year ended March 31, 20X6.

**E3-26A** ***(Learning Objective 4: Reporting on the financial statements)*** This question deals with the items and the amounts that two entities, Mother Meghan Hospital (Mother Meghan) and City of Antwerp (Antwerp), should report in their financial statements. Fill in the blanks.

### *Requirements*

1. On July 1, 20X6, Mother Meghan collected $6,000 in advance from Antwerp, a client. Under the contract, Mother Meghan is obligated to perform medical exams for City of Antwerp employees evenly during the 12 months ending June 30, 20X7. Assume you are Mother Meghan.
   Mother Meghan's income statement for the year ended December 31, 20X6, will report _____ of $ _____.
   Mother Meghan's balance sheet at December 31, 20X6, will report _____ of $ _____.
2. Assume now that you are Antwerp.
   Antwerp's income statement for the year ended December 31, 20X6, will report _____ of $ _____.
   Antwerp's balance sheet at December 31, 20X6, will report _____ of $ _____.

**E3-27A** ***(Learning Objectives 1, 3: Linking deferrals and cash flows)*** Nanofone, the British wireless phone service provider, collects cash in advance from customers. All amounts are in millions of pounds sterling (£), the British monetary unit. Assume Nanofone collected £460 in advance during 20X6 and at year-end still owed customers phone service worth £110.

### *Requirements*

1. Show what Nanofone will report for 20X6 on its income statement and balance sheet.
2. Use the same facts for Nanofone as in Requirement 1. Further, assume Nanofone reported unearned service revenue of £55 back at the end of 20X5. Show what Nanofone will report for 20X6 on the same financial statements. Explain why your answer here differs from your answer to Requirement 1.

**E3-28A** ***(Learning Objective 5: Closing the accounts)*** Prepare the closing entries from the following selected accounts from the records of Sunnydale Corporation at December 31, 20X6:

| | | | |
|---|---|---|---|
| Cost of services sold | $11,200 | Service revenue | $24,100 |
| Accumulated depreciation | 41,800 | Depreciation expense | 4,800 |
| Selling, general, and administrative expenses | 6,100 | Other revenue | 500 |
| | | Dividends | 900 |
| Retained earnings, December 31, 20X5 | 2,400 | Income tax expense | 400 |
| | | Income tax payable | 900 |

How much net income did Sunnydale earn during 20X6? Prepare a T-account for Retained Earnings to show the December 31, 20X6, balance of Retained Earnings.

**E3-29A** ***(Learning Objectives 3, 5: Identifying and recording adjusting and closing entries)*** The unadjusted trial balance and income statement amounts from the December 31 adjusted trial balance of Draper Production Company follow.

**Draper Production Company**

| Account | Unadjusted Trial Balance | | From the Adjusted Trial Balance | |
|---|---|---|---|---|
| Cash | 14,800 | | | |
| Prepaid rent | 1,000 | | | |
| Equipment | 44,000 | | | |
| Accumulated depreciation | | 3,100 | | |
| Accounts payable | | 5,100 | | |
| Salary payable | | | | |
| Unearned service revenue | | 9,300 | | |
| Income tax payable | | | | |
| Notes payable, long-term | | 13,000 | | |
| Share capital | | 8,500 | | |
| Retained earnings | | 14,100 | | |
| Dividends | 1,300 | | | |
| Service revenue | | 13,600 | | 20,100 |
| Salary expense | 4,600 | | 5,100 | |
| Rent expense | 1,000 | | 1,300 | |
| Depreciation expense | | | 400 | |
| Income tax expense | | | 1,000 | |
| Total | 66,700 | 66,700 | 7,800 | 20,100 |

### *Requirement*

1. Journalize the adjusting and closing entries of Draper Production Company at December 31. There was only one adjustment to Service Revenue.

## (Group B)

**E3-30B** ***(Learning Objective 1: Linking accrual accounting and cash flows)*** During 20X6 Nebula Corporation made sales of €4,800 (assume all on account) and collected cash of €4,900 from customers. Operating expenses totaled €1,100, all paid in cash. At year-end, 20X6, Nebula customers owed the company €300. Nebula owed creditors €500 on account. All amounts are in millions.

1. For these facts, show what Nebula reported on the following financial statements:
   - Income statement
   - Balance sheet
2. Suppose Nebula had used the cash basis of accounting. What would Nebula have reported for these facts?

**E3-31B** ***(Learning Objective 1: Linking accrual accounting and cash flows)*** During 20X6 Mountain Sales, Inc., earned revenues of €510,000 on account. Mountain collected €580,000 from customers during the year. Expenses totaled €470,000, and the related cash payments were €440,000. Show what Mountain would report on its 20X6 income statement under the

**a.** cash basis.
**b.** accrual basis.

Compute net income under both bases of accounting. Which basis measures net income better? Explain your answer.

**E3-32B** ***(Learning Objectives 1, 2: Using the accrual basis of accounting; applying accounting principles)*** During 20X6 Carlton Network, Inc., which designs network servers, earned revenues of €740 million. Expenses totaled €560 million. Carlton collected all but €24 million of the revenues and paid €580 million on its expenses. Carlton's top managers are evaluating 20X6, and they ask you the following questions:

**a.** Under accrual accounting, what amount of revenue should Carlton Network report for 20X6? Is it the revenue of €740 million earned or is it the amount of cash actually collected? How does the revenue principle help to answer these questions?
**b.** Under accrual accounting, what amount of total expense should Carlton report for 20X6—€560 million or €580 million? Which accounting principle helps to answer this question?
**c.** Which financial statement reports revenues and expenses? Which statement reports cash receipts and cash payments?

**E3-33B** ***(Learning Objectives 1, 3: Journalizing adjusting entries and analyzing their effects on net income; comparing accrual and cash basis)*** An accountant made the following adjustments at December 31, the end of the accounting period:

**a.** Prepaid insurance, beginning, €800. Payments for insurance during the period, €2,400. Prepaid insurance, ending, €1,600.
**b.** Interest revenue accrued, €1,000.
**c.** Unearned service revenue, beginning, €1,500. Unearned service revenue, ending, €400.
**d.** Depreciation, €4,600.
**e.** Employees' salaries owed for three days of a five-day work week; weekly payroll, €16,000.
**f.** Income before income tax, €21,000. Income tax rate is 25%.

### *Requirements*

1. Journalize the adjusting entries.
2. Suppose the adjustments were not made. Compute the overall overstatement or understatement of net income as a result of the omission of these adjustments.

**E3-34B** ***(Learning Objectives 2, 3: Applying the revenue recognition principles; allocating supplies cost between the asset and the expense)*** Mighty Minds, Inc., experienced four situations for its supplies. Compute the amounts that have been left blank for each situation. For situations 1 and 2, journalize the needed transaction. Consider each situation separately.

■ spreadsheet

| | Situation | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| Beginning supplies | € 100 | € 400 | €1,200 | € 800 |
| Payments for supplies during the year | ? | 1,000 | ? | 800 |
| Total amount to account for | 1,500 | ? | ? | 1,600 |
| Ending supplies | (400) | (500) | (700) | ? |
| Supplies Expense | €1,100 | € ? | €1,300 | €1,100 |

**E3-35B** ***(Learning Objective 3: Journalizing adjusting entries)*** Folton Motor Company faced the following situations. Journalize the adjusting entry needed at December 31, 20X6, for each situation. Consider each fact separately.

**a.** The business has interest expense of €9,200 that it must pay early in January 20X7.
**b.** Interest revenue of €4,200 has been earned but not yet received.
**c.** On July 1, when we collected €12,600 rent in advance, we debited Cash and credited Unearned Rent Revenue. The tenant was paying us for two years' rent.
**d.** Salary expense is €1,900 per day—Monday through Friday—and the business pays employees each Friday. This year, December 31 falls on a Wednesday.
**e.** The unadjusted balance of the Supplies account is €2,600. The total cost of supplies on hand is €1,200.
**f.** Equipment was purchased at the beginning of this year at a cost of €160,000. The equipment's useful life is five years. There is no residual value. Record depreciation for this year and then determine the equipment's carrying amount.

**E3-36B** ***(Learning Objective 3: Making adjustments in T-accounts)*** The accounting records of Harris Publishing Company include the following unadjusted balances at May 31: Accounts Receivable, €1,200; Supplies, €300; Salary Payable, €0; Unearned Service Revenue, €800; Service Revenue, €4,400; Salary Expense, €1,900; Supplies Expense, €0.

Harris' accountant develops the following data for the May 31 adjusting entries:

**a.** Supplies on hand, €200
**b.** Salary owed to employees, €600
**c.** Service revenue accrued, €800
**d.** Unearned service revenue that has been earned, €100

Open the foregoing T-accounts with their beginning balances. Then record the adjustments directly in the accounts, keying each adjustment amount by letter. Show each account's adjusted balance. Journal entries are not required.

**E3-37B** ***(Learning Objective 4: Preparing the financial statements)*** The adjusted trial balance of Holiday Hams, Inc., follows.

**Holiday Hams, Inc.**
**Adjusted Trial Balance**
December 31, 20X6

| *(Amounts in thousands)* | **Adjusted Trial Balance** | |
|---|---|---|
| **Account** | **Debit** | **Credit** |
| Cash | € 3,500 | |
| Accounts receivable | 1,700 | |
| Inventories | 1,200 | |
| Prepaid expenses | 1,600 | |
| Property, plant and equipment | 6,700 | |
| Accumulated depreciation | | € 2,700 |
| Other assets | 9,500 | |
| Accounts payable | | 7,900 |
| Income tax payable | | 900 |
| Other liabilities | | 2,700 |
| Share capital | | 4,800 |
| Retained earnings (beginning, December 31, 20X5) | | 4,700 |
| Dividends | 1,200 | |
| Sales revenue | | 39,900 |
| Cost of goods sold | 25,400 | |
| Selling, administrative, and general expenses | 10,400 | |
| Income tax expense | 2,400 | |
| Total | €63,600 | €63,600 |

## Requirement

1. Prepare Holiday Hams, Inc.'s income statement and statement of changes in equity for the year ended December 31, 20X6, and its balance sheet on that date. Draw the arrows linking the three statements.

**E3-38B** ***(Learning Objectives 3, 4: Measuring financial statement amounts; preparing financial statement amounts)*** The adjusted trial balances of Victory Corporation at March 31, 20X6, and March 31, 20X5, include these amounts (in millions):

| | 20X6 | 20X5 |
|---|---|---|
| Receivables | €330 | €250 |
| Prepaid insurance | 140 | 130 |
| Accrued liabilities payable (for other operating expenses) | 760 | 600 |

Victory completed these transactions during the year ended March 31, 20X6.

| | |
|---|---|
| Collections from customers | €20,600 |
| Payment of prepaid insurance | 450 |
| Cash payments for other operating expenses | 4,100 |

Compute the amount of sales revenue, insurance expense, and other operating expenses to report on the income statement for the year ended March 31, 20X6.

**E3-39B** ***(Learning Objective 4: Reporting on the financial statements)*** This question deals with the items and the amounts that two entities, Mother Elizabeth Hospital (Mother Elizabeth) and City of Rotterdam (Rotterdam), should report in their financial statements. Fill in the blanks.

## Requirements

1. On July 1, 20X6, Mother Elizabeth collected €9,600 in advance from Rotterdam, a client. Under the contract, Mother Elizabeth is obligated to perform medical exams for City of Rotterdam employees evenly during the 12 months ending June 30, 20X7. Assume you are Mother Elizabeth.
   Mother Elizabeth's income statement for the year ended December 31, 20X6, will report ___ of € ___.
   Mother Elizabeth's balance sheet at December 31, 20X6, will report ___ of € ___.
2. Assume now that you are Rotterdam.
   Rotterdam's income statement for the year ended December 31, 20X6, will report ___ of € ___.
   Portland's balance sheet at December 31, 20X6, will report ___ of € ___.

**E3-40B** ***(Learning Objectives 1, 3: Linking deferrals and cash flows)*** Direct, the British wireless phone service provider, collects cash in advance from customers. All amounts are in millions of pounds sterling (£), the British monetary unit. Assume Direct collected £400 in advance during 20X6 and at year-end still owed customers phone service worth £105.

## Requirements

1. Show what Direct will report for 20X6 on its income statement balance sheet.
2. Use the same facts for Direct as in Requirement 1. Further, assume Direct reported unearned service revenue of £95 back at the end of 20X5. Show what Direct will report for 20X6 on the same financial statements. Explain why your answer here differs from your answer to Requirement 1.

**E3-41B** ***(Learning Objective 5: Closing the accounts)*** Prepare the closing entries from the following selected accounts from the records of East Shore Corporation at December 31, 20X6:

| | | | |
|---|---|---|---|
| Cost of services sold | €11,200 | Service revenue | €24,100 |
| Accumulated depreciation | 41,800 | Depreciation expense | 4,800 |
| Selling, general, and administrative expenses | 6,100 | Other revenue | 500 |
| Retained earnings, December 31, 20X5 | 2,400 | Dividends | 900 |
| | | Income tax expense | 400 |
| | | Income tax payable | 900 |

How much net income did East Shore earn during 20X6? Prepare a T-account for Retained Earnings to show the December 31, 20X6, balance of Retained Earnings.

**E3-42B** ***(Learning Objectives 3, 5: Identifying and recording adjusting and closing entries)*** The unadjusted trial balance and income statement amounts from the December 31 adjusted trial balance of Wallace Production Company follow.

**Wallace Production Company**

| Account | Unadjusted Trial Balance | | From the Adjusted Trial Balance | |
|---|---|---|---|---|
| Cash | €13,600 | | | |
| Prepaid rent | 1,100 | | | |
| Equipment | 48,000 | | | |
| Accumulated depreciation | | € 3,600 | | |
| Accounts payable | | 4,400 | | |
| Salary payable | | | | |
| Unearned service revenue | | 8,500 | | |
| Income tax payable | | | | |
| Notes payable, long-term | | 10,000 | | |
| Share capital | | 8,400 | | |
| Retained earnings | | 20,800 | | |
| Dividends | 1,000 | | | |
| Service revenue | | 13,400 | | €19,900 |
| Salary expense | 4,500 | | €4,900 | |
| Rent expense | 900 | | 1,400 | |
| Depreciation expense | | | 600 | |
| Income tax expense | | | 1,700 | |
| Total | €69,100 | €69,100 | €8,600 | €19,900 |

**Requirement**

1. Journalize the adjusting and closing entries of Wallace Production Company at December 31. There was only one adjustment to Service Revenue.

## Serial Exercise

Exercise 3-43 continues the Jerome Smith, Certified Public Accountant, P.C., situation begun in Exercise 2-36.

**E3-43** ***(Learning Objectives 3, 4, 5: Adjusting the accounts; preparing the financial statements; closing the accounts)*** Refer to Exercise 2-36. Start from the trial balance and the posted T-accounts that Jerome Smith, Certified Public Accountant, Professional Corporation (P.C.), prepared for his accounting practice at March 18. A professional corporation is not subject to income tax. Later in March, the business completed these transactions:

| | |
|---|---|
| Mar 21 | Received $1,800 in advance for tax work to be performed over the next 30 days. |
| 21 | Hired a secretary to be paid on the 15th day of each month. |
| 26 | Paid $500 for the supplies purchased on March 5. |
| 28 | Collected $2,100 from the client on March 18. |
| 31 | Declared and paid dividends of $1,400. |

***Requirements***

1. Journalize the transactions of March 21 through 31.
2. Post the March 21 to 31 transactions to the T-accounts, keying all items by date.
3. Prepare a trial balance at March 31.
4. At March 31, gathers the following information for the adjusting entries:
   **a.** Accrued service revenue, $1,600
   **b.** Earned $600 of the service revenue collected in advance on March 21
   **c.** Supplies on hand, $100
   **d.** Depreciation expense equipment, $40; furniture, $125
   **e.** Accrued expense for secretary's salary, $600
   Make these adjustments in the adjustments columns and complete the adjusted trial balance at January 31.
5. Journalize and post the adjusting entries. Denote each adjusting amount as Adj and an account balance as Bal.
6. Prepare the income statement and statement of changes in equity of Jerome Smith Certified Public Accountant, P.C., for the month ended March 31 and the classified balance sheet at that date.
7. Journalize and post the closing entries at March 31. Denote each closing amount as Clo and an account balance as Bal.

## Challenge Exercises

**E3-44** ***(Learning Objectives 3, 4: Computing financial statement amounts)*** The accounts of Greatbrook Company prior to the year-end adjustments follow.

| | | | |
|---|---|---|---|
| Cash | $ 16,600 | Share capital | $ 14,000 |
| Accounts receivable | 7,000 | Retained earnings | 45,000 |
| Supplies | 4,200 | Dividends | 12,000 |
| Prepaid insurance | 3,400 | Service revenue | 160,000 |
| Building | 107,000 | Salary expense | 34,000 |
| Accumulated depreciation—building | 15,000 | Depreciation expense—building | |
| Land | 52,000 | Supplies expense | |
| Accounts payable | 6,500 | Insurance expense | |
| Salary payable | | Advertising expense | 7,600 |
| Unearned service revenue | 5,400 | Utilities expense | 2,100 |

Adjusting data at the end of the year include which of the following?

**a.** Unearned service revenue that has been earned, $1,620
**b.** Accrued service revenue, $32,000
**c.** Supplies used in operations, $3,600
**d.** Accrued salary expense, $3,200
**e.** Prepaid insurance expired, $1,200
**f.** Depreciation expense—building, $2,500

Rorie Lacourse, the principal shareholder, has received an offer to sell Greatbrook Company. He needs to know the following information within one hour:

**a.** Net income for the year covered by these data
**b.** Total assets
**c.** Total liabilities
**d.** Total shareholders' equity
**e.** Prove that Total assets = Total liabilities + Total shareholders' equity after all items are updated.

***Requirement***

1. Without opening any accounts, making any journal entries, or using a work sheet, provide Mr. Lacourse with the requested information. The business is not subject to income tax.

## Practice Quiz

*Test your understanding of accrual accounting by answering the following questions. Select the best choice from among the possible answers given.*

**Questions 45–47 are based on the following facts:**
Frank Dunn began a music business in January 20X6. Dunn prepares monthly financial statements and uses the accrual basis of accounting. The following transactions are Dunn Company's only activities during January through April:

| | |
|---|---|
| Jan 14 | Bought music on account for $23, with payment to the supplier due in 90 days. |
| Feb 3 | Performed a job on account for Jimmy Jones for $38, collectible from Jones in 30 days. Used up all the music purchased on Jan 14. |
| Mar 16 | Collected the $38 receivable from Jones. |
| Apr 22 | Paid the $23 owed to the supplier from the January 14 transaction. |

**Q3-45** In which month should Dunn record the cost of the music as an expense?
**a.** January
**b.** February
**c.** March
**d.** April

**Q3-46** In which month should Dunn report the $38 revenue on its income statement?
**a.** January
**b.** February
**c.** March
**d.** April

**Q3-47** If Dunn Company uses the *cash* basis of accounting instead of the accrual basis, in what month will Dunn report revenue and in what month will it report expense?

| Revenue | Expense |
|---|---|
| **a.** March | February |
| **b.** February | April |
| **c.** February | February |
| **d.** March | April |

**Q3-48** In which month should revenue be recorded?
**a.** In the month that cash is collected from the customer
**b.** In the month that goods are shipped to the customer
**c.** In the month that goods are ordered by the customer
**d.** In the month that the invoice is mailed to the customer

**Q3-49** On January 1 of the current year, Bambi Company paid $1,200 rent to cover six months (January–June). Bambi recorded this transaction as follows:

| Journal Entry | | | |
|---|---|---|---|
| **Date** | **Accounts** | **Debit** | **Credit** |
| Jan 1 | Prepaid Rent | 1,200 | |
| | Cash | | 1,200 |

Bambi adjusts the accounts at the end of each month. Based on these facts, the adjusting entry at the end of January should include:
**a.** a credit to Prepaid Rent for $1,000
**b.** a credit to Prepaid Rent for $200
**c.** a debit to Prepaid Rent for $1,000
**d.** a debit to Prepaid Rent for $200

**Q3-50** Assume the same facts as in question 3-49. Bambi's adjusting entry at the end of February should include a debit to Rent Expense in the amount of
**a.** $200.
**b.** $1,000.
**c.** $400.
**d.** $0.

**Q3-51** What effect does the adjusting entry in question 3-50 have on Bambi's net income for February?
**a.** Increase by $200
**b.** Decrease by $200
**c.** Increase by $400
**d.** Decrease by $400

**Q3-52** An adjusting entry recorded April salary expense that will be paid in May. Which statement best describes the effect of this adjusting entry on the company's accounting equation?
**a.** Assets are decreased, liabilities are increased, and shareholders' equity is decreased.
**b.** Assets are not affected, liabilities are increased, and shareholders' equity is decreased.
**c.** Assets are decreased, liabilities are not affected, and shareholders' equity is decreased.
**d.** Assets are not affected, liabilities are increased, and shareholders' equity is increased.

**Q3-53** On April 1, 20X6, Rural Insurance Company sold a one-year insurance policy covering the year ended April 1, 20X7. Rural collected the full $2,700 on April 1, 20X6. Rural made the following journal entry to record the receipt of cash in advance:

| Journal Entry | | | |
|---|---|---|---|
| **Date** | **Accounts** | **Debit** | **Credit** |
| Apr 1 | Cash | 2,700 | |
| | Unearned Revenue | | 2,700 |

Nine months have passed, and Rural has made no adjusting entries. Based on these facts, the adjusting entry needed by Rural at December 31, 20X6, is:

| | | | |
|---|---|---|---|
| a. | Insurance Revenue | 675 | |
| | Unearned Revenue | | 675 |
| b. | Unearned Revenue | 2,025 | |
| | Insurance Revenue | | 2,025 |
| c. | Insurance Revenue | 2,025 | |
| | Unearned Revenue | | 2,025 |
| d. | Unearned Revenue | 675 | |
| | Insurance Revenue | | 675 |

**Q3-54** The Unearned Revenue account of Super Incorporated began 20X6 with a normal balance of $2,000 and ended 20X6 with a normal balance of $17,000. During 20X6, the Unearned Revenue account was credited for $26,000 that Super will earn later. Based on these facts, how much revenue did Super earn in 20X6?

**a.** $11,000
**b.** $28,000
**c.** $2,000
**d.** $26,000

**Q3-55** What is the effect on the financial statements of *recording* depreciation on equipment?

**a.** Net income is not affected, but assets and shareholders' equity are decreased.
**b.** Net income and assets are decreased, but shareholders' equity is not affected.
**c.** Net income, assets, and shareholders' equity are all decreased.
**d.** Assets are decreased, but net income and shareholders' equity are not affected.

**Q3-56** For 20X6, Matthews Company had revenues in excess of expenses. Which statement describes Matthews' closing entries at the end of 20X6?

**a.** Revenues will be credited, expenses will be debited, and retained earnings will be credited.
**b.** Revenues will be debited, expenses will be credited, and retained earnings will be debited.
**c.** Revenues will be credited, expenses will be debited, and retained earnings will be debited.
**d.** Revenues will be debited, expenses will be credited, and retained earnings will be credited.

**Q3-57** Which of the following accounts would *not* be included in the closing entries?

**a.** Depreciation Expense
**b.** Accumulated Depreciation
**c.** Retained Earnings
**d.** Service Revenue

**Q3-58** A major purpose of preparing closing entries is to

**a.** zero out the liability accounts.
**b.** close out the Supplies account.
**c.** adjust the asset accounts to their correct current balances.
**d.** update the Retained Earnings account.

**Q3-59** Unadjusted net income equals $7,500. Calculate what net income will be after the following adjustments:

**1.** Salaries payable to employees, $660
**2.** Interest due on note payable at the bank, $100
**3.** Unearned revenue that has been earned, $950
**4.** Supplies used, $300

**Q3-60** Salary Payable at the beginning of the month totals $28,000. During the month salaries of $126,000 were accrued as expense. If ending Salary Payable is $15,000, what amount of cash did the company pay for salaries during the month?

**a.** $124,000
**b.** $139,000
**c.** $126,000
**d.** $154,000

## Problems

MyAccountingLab

All of the A and B problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

### (Group A)

**P3-61A** ***(Learning Objective 1: Linking accrual accounting and cash flows)*** Labear Corporation earned revenues of $41 million during 20X7 and ended the year with net income of $5 million. During 20X7, Labear collected $23 million from customers and paid cash for all of its expenses plus an additional $5 million for amounts payable at December 31, 20X6. Answer these questions about Labear's operating results, financial position, and cash flows during 20X7:

## Requirements

1. How much were Labear's total expenses? Show your work.
2. Identify all the items that Labear will report on its 20X7 income statement. Show each amount.
3. Labear began 20X7 with receivables of $4 million. All sales are on account. What was the company's receivables balance at the end of 20X7? Identify the appropriate financial statement, and show how Labear will report ending receivables in its 20X7 annual report.
4. Labear began 20X7 owing accounts payable of $8 million. All expenses are incurred on account. During 20X7 Labear paid $41 million on account. How much in accounts payable did the company owe at the end of 20X7? Identify the appropriate financial statement and show how Labear will report accounts payable in its 20X7 annual report.

**P3-62A** ***(Learning Objective 1: Comparing cash basis and accrual basis)*** Elders Consulting had the following selected transactions in August:

| | | |
|---|---|---|
| Aug | 1 | Prepaid insurance for August through December, $500. |
| | 4 | Purchased software for cash, $800. |
| | 5 | Performed services and received cash, $700. |
| | 8 | Paid advertising expense, $500. |
| | 11 | Performed service on account, $3,500. |
| | 19 | Purchased computer on account, $1,700. |
| | 24 | Collected for August 11 service. |
| | 26 | Paid account payable from August 19. |
| | 29 | Paid salary expense, $800. |
| | 31 | Adjusted for August insurance expense (see Aug 1). |
| | 31 | Earned revenue of $600 that was collected in advance back in July. |

## Requirements

1. Show how each transaction would be handled using the cash basis and the accrual basis.
2. Compute August income (loss) before tax under each accounting method.
3. Indicate which measure of net income or net loss is preferable. Use the transactions on August 11 and August 24 to explain.

**P3-63A** ***(Learning Objective 3: Making accounting adjustments)*** Journalize the adjusting entry needed on December 31, end of the current accounting period, for each of the following independent cases affecting Rowling Corp. Include an explanation for each entry.

■ **writing assignment**

**a.** Details of Prepaid Insurance are shown in the account:

| Prepaid Insurance | | | | |
|---|---|---|---|---|
| Jan | 1 | Bal | 900 | |
| Mar 31 | | | 3,600 | |

Rowling prepays insurance on March 31 each year. At December 31, $1,300 is still prepaid.

**b.** Rowling pays employees each Friday. The amount of the weekly payroll is $6,100 for a five-day work week. The current accounting period ends on Tuesday.

**c.** Rowling has a note receivable. During the current year, Rowling has earned accrued interest revenue of $400 that it will collect next year.

**d.** The beginning balance of supplies was $2,700. During the year, Rowling purchased supplies costing $6,400, and at December 31 supplies on hand total $2,200.

**e.** Rowling is providing services for Orca Investments, and the owner of Orca paid Rowling $12,000 as the annual service fee. Rowling recorded this amount as Unearned Service Revenue. Rowling estimates that it has earned 70% of the total fee during the current year.

**f.** Depreciation for the current year includes Office Furniture, $3,000, and Equipment, $5,400. Make a combined entry.

**P3-64A** ***(Learning Objectives 3, 4: Preparing an adjusted trial balance and the financial statements)*** Consider the unadjusted trial balance of London, Inc., at December 31, 20X6, and the related month-end adjustment data.

**London, Inc.**
**Trial Balance Work Sheet**
December 31, 20X6

| | Trial Balance | | Adjustments | | Adjusted Trial Balance | |
|---|---|---|---|---|---|---|
| **Account** | **Debit** | **Credit** | **Debit** | **Credit** | **Debit** | **Credit** |
| Cash | 8,900 | | | | | |
| Accounts receivable | 1,200 | | | | | |
| Prepaid rent | 2,400 | | | | | |
| Supplies | 2,500 | | | | | |
| Furniture | 72,000 | | | | | |
| Accumulated depreciation | | 3,900 | | | | |
| Accounts payable | | 3,300 | | | | |
| Salary payable | | | | | | |
| Share capital | | 12,000 | | | | |
| Retained earnings | | 63,110 | | | | |
| Dividends | 3,500 | | | | | |
| Service revenue | | 11,000 | | | | |
| Salary expense | 2,300 | | | | | |
| Rent expense | | | | | | |
| Utilities expense | 510 | | | | | |
| Depreciation expense | | | | | | |
| Supplies expense | | | | | | |
| Total | 93,310 | 93,310 | | | | |

Adjustment data December 31, 20X6:

**a.** Accrued service revenue at December 31, $2,100.

**b.** Prepaid rent expired during the month. The unadjusted prepaid balance of $2,400 relates to the period December 1, 20X6 through February, 20X7.

**c.** Supplies used during December, $2,170.

**d.** Depreciation on furniture for the month. The estimated useful life of the furniture is three years.

**e.** Accrued salary expense at December 31 for Monday, Tuesday, and Wednesday. The five-day weekly payroll of $4,800 will be paid on Friday.

## *Requirements*

1. Using Exhibit 3-9 as an example, prepare the adjusted trial balance of London, Inc., at December 31, 20X6. Key each adjusting entry by letter.
2. Prepare the monthly income statement, the statement of changes in equity, and the classified balance sheet. Draw arrows linking the three statements.

**P3-65A** *(Learning Objective 3: Analyzing and recording adjustments)* Peachtree Apartments, Inc.'s unadjusted and adjusted trial balances at April 30, 20X6, follow.

**Peachtree Apartments, Inc.**
**Adjusted Trial Balance**
April 30, 20X6

| | Trial Balance | | Adjusted Trial Balance | |
|---|---|---|---|---|
| **Account** | **Debit** | **Credit** | **Debit** | **Credit** |
| Cash | $ 8,900 | | $ 8,900 | |
| Accounts receivable | 5,900 | | 6,810 | |
| Interest receivable | | | 200 | |
| Note receivable | 4,400 | | 4,400 | |
| Supplies | 1,800 | | 600 | |
| Prepaid insurance | 2,300 | | 600 | |
| Building | 70,000 | | 70,000 | |
| Accumulated depreciation | | $ 7,400 | | $ 8,800 |
| Accounts payable | | 6,700 | | 6,700 |
| Wages payable | | | | 1,000 |
| Unearned rental revenue | | 2,100 | | 1,600 |
| Share capital | | 17,000 | | 17,000 |
| Retained earnings | | 40,000 | | 40,000 |
| Dividends | 3,300 | | 3,300 | |
| Rental revenue | | 25,100 | | 26,510 |
| Interest revenue | | 400 | | 600 |
| Depreciation expense | | | 1,400 | |
| Supplies expense | | | 1,200 | |
| Utilities expense | 400 | | 400 | |
| Wage expense | 1,300 | | 2,300 | |
| Property tax expense | 400 | | 400 | |
| Insurance expense | | | 1,700 | |
| Total | $98,700 | $98,700 | $102,210 | $102,210 |

## *Requirements*

1. Make the adjusting entries that account for the differences between the two trial balances.
2. Compute Peachtree's total assets, total liabilities, total equity, and net income.

■ **spreadsheet**

**P3-66A** ***(Learning Objectives 4: Preparing the financial statements)*** The adjusted trial balance of Schneider Corporation at July 31, 20X6, follows.

**Schneider Corporation**
**Adjusted Trial Balance**
July 31, 20X6

| Account | Debit | Credit |
|---|---|---|
| Cash | $ 2,000 | |
| Accounts receivable | 9,400 | |
| Supplies | 2,400 | |
| Prepaid rent | 1,200 | |
| Equipment | 36,600 | |
| Accumulated depreciation | | $ 4,200 |
| Accounts payable | | 3,400 |
| Interest payable | | 200 |
| Unearned service revenue | | 700 |
| Income tax payable | | 2,000 |
| Note payable | | 18,900 |
| Share capital | | 4,000 |
| Retained earnings | | 5,000 |
| Dividends | 21,000 | |
| Service revenue | | 102,100 |
| Depreciation expense | 1,700 | |
| Salary expense | 39,800 | |
| Rent expense | 10,300 | |
| Interest expense | 3,300 | |
| Insurance expense | 3,500 | |
| Supplies expense | 2,800 | |
| Income tax expense | 6,500 | |
| Total | $140,500 | $140,500 |

## *Requirements*

1. Prepare Schneider Corporation's 20X6 income statement, statement of changes in equity, and balance sheet. List expenses (except for income tax) in decreasing order on the income statement and show total liabilities on the balance sheet. Draw arrows linking the three financial statements.

**P3-67A** ***(Learning Objective 5: Closing the books; evaluating retained earnings)*** The accounts of Spa View Service, Inc., at March 31, 20X6, are listed in alphabetical order.

| | | | |
|---|---|---|---|
| Accounts payable | $14,400 | Interest expense | $ 900 |
| Accounts receivable | 16,100 | Note payable, long term | 6,100 |
| Accumulated depreciation—equipment | 6,900 | Other assets | 14,400 |
| Advertising expense | 10,900 | Prepaid expenses | 6,000 |
| Cash | 7,900 | Retained earnings, March 31, 20X5 | 22,000 |
| Share capital | 5,600 | Salary expense | 17,800 |
| Current portion of note payable | 1,000 | Salary payable | 2,900 |
| Depreciation expense | 1,700 | Service revenue | 95,000 |
| Dividends | 31,200 | Supplies | 3,600 |
| Equipment | 41,700 | Supplies expense | 4,400 |
| | | Unearned service revenue | 2,700 |

**Requirements**

1. All adjustments have been journalized and posted, but the closing entries have not yet been made. Journalize Spa View's closing entries at March 31, 20X6.
2. Set up a T-account for Retained Earnings and post to that account. Then compute Spa View's net income for the year ended March 31, 20X6. What is the ending balance of Retained Earnings?
3. Did Retained Earnings increase or decrease during the year? What caused the increase or the decrease?

## (Group B)

**P3-68B** ***(Learning Objective 1: Linking accrual accounting and cash flows)*** Gauge Corporation earned revenues of €33 million during 20X6 and ended the year with net income of €6 million. During 20X6, Gauge collected cash of €24 million from customers and paid cash for all of its expenses plus an additional €1 million on account for amounts payable at December 31, 20X5. Answer these questions about Gauge's operating results, financial position, and cash flows during 20X6:

**Requirements**

1. How much were Gauge's total expenses? Show your work.
2. Identify all the items that Gauge will report on its 20X6 income statement. Show each amount.
3. Gauge began 20X6 with receivables of €9 million. All sales are on account. What was Gauge's receivables balance at the end of 20X6? Identify the appropriate financial statement and show how Gauge will report its ending receivables balance in its 20X6 annual report.
4. Gauge began 20X6 owing accounts payable of €11 million. All expenses are incurred on account. During 20X6, Gauge paid €28 million on account. How much in accounts payable did Gauge owe at the end of 20X6? Identify the appropriate financial statement and show how Gauge will report accounts payable in its 20X6 annual report.

**P3-69B** ***(Learning Objective 1: Comparing cash basis and accrual basis)*** Kings Consulting had the following selected transactions in May:

| | | |
|---|---|---|
| May | 1 | Prepaid insurance for May through September, €500. |
| | 4 | Purchased software for cash, €600. |
| | 5 | Performed services and received cash, €1,000. |
| | 8 | Paid advertising expense, €400. |
| | 11 | Performed service on account, €3,100. |
| | 19 | Purchased computer on account, €2,000. |
| | 24 | Collected for May 11 service. |
| | 26 | Paid account payable from May 19. |
| | 29 | Paid salary expense, €1,500. |
| | 31 | Adjusted for May insurance expense (see May 1). |
| | 31 | Earned revenue of €500 that was collected in advance back in April. |

**Requirements**

1. Show how each transaction would be handled using the cash basis and the accrual basis.
2. Compute May income (loss) before tax under each accounting method.
3. Indicate which measure of net income or net loss is preferable. Use the transactions on May 11 and May 24 to explain.

**P3-70B** ***(Learning Objective 3: Making accounting adjustments)*** Journalize the adjusting entry needed on December 31, the end of the current accounting period, for each of the following independent cases affecting Irons Corp. Include an explanation for each entry.

■ writing assignment

**a.** Details of Prepaid Insurance are shown in the account:

| Prepaid Insurance | | | | |
|---|---|---|---|---|
| Jan 1 | Bal | 500 | | |
| Mar 31 | | 3,800 | | |

Irons prepays insurance on March 31 each year. At December 31, €900 is still prepaid.

**b.** Irons pays employees each Friday. The amount of the weekly payroll is €5,800 for a five-day work week. The current accounting period ends on Wednesday.

**c.** Irons has a note receivable. During the current year, Irons has earned accrued interest revenue of €700 that it will collect next year.

**d.** The beginning balance of supplies was €2,700. During the year, Irons purchased supplies costing €6,100, and at December 31 supplies on hand total €2,200.

**e.** Irons is providing services for Orca Investments, and the owner of Orca paid Irons €12,100 as the annual service fee. Irons recorded this amount as Unearned Service Revenue. Irons estimates that it has earned 60% of the total fee during the current year.

**f.** Depreciation for the current year includes Office Furniture, €3,500, and Equipment, €5,400. Make a combined entry.

**P3-71B** ***(Learning Objectives 3, 4: Preparing an adjusted trial balance and the financial statements)*** Consider the unadjusted trial balance of Kings, Inc., at August 31, 20X6, and the related month-end adjustment data.

**Kings, Inc.**
**Trial Balance Work Sheet**
August 31, 20X6

| | Trial Balance | | Adjustments | | Adjusted Trial Balance | |
|---|---|---|---|---|---|---|
| Account | Debit | Credit | Debit | Credit | Debit | Credit |
| Cash | 9,200 | | | | | |
| Accounts receivable | 1,500 | | | | | |
| Prepaid rent | 2,400 | | | | | |
| Supplies | 2,200 | | | | | |
| Furniture | 81,000 | | | | | |
| Accumulated depreciation | | 3,900 | | | | |
| Accounts payable | | 3,500 | | | | |
| Salary payable | | | | | | |
| Share capital | | 15,000 | | | | |
| Retained earnings | | 71,020 | | | | |
| Dividends | 3,600 | | | | | |
| Service revenue | | 10,000 | | | | |
| Salary expense | 3,000 | | | | | |
| Rent expense | | | | | | |
| Utilities expense | 520 | | | | | |
| Depreciation expense | | | | | | |
| Supplies expense | | | | | | |
| Total | 103,420 | 103,420 | | | | |

Adjustment data at August 31, 20X6 include the following:

- **a.** Accrued advertising revenue at August 31, €2,000
- **b.** Prepaid rent expired during the month. The unadjusted prepaid balance of €2,400 relates to the period August 20X6 through October 20X6.
- **c.** Supplies used during August, €1,820
- **d.** Depreciation on furniture for the month. The furniture's expected useful life is five years.
- **e.** Accrued salary expense at August 31 for Monday, Tuesday, and Wednesday. The five-day weekly payroll is €5,200 and will be paid on Friday.

### *Requirements*

1. Using Exhibit 3-9 as an example, prepare the adjusted trial balance of Kings, Inc., at August 31, 20X6. Key each adjusting entry by letter.
2. Prepare the monthly income statement, the statement of changes in equity, and the classified balance sheet. Draw arrows linking the three statements.

**P3-72B** ***(Learning Objective 3: Analyzing and recording adjustments)*** Fairview Apartments, Inc.'s unadjusted and adjusted trial balances at April 30, 20X6, follow:

**Fairview Apartments, Inc.**
**Adjusted Trial Balance**
April 30, 20X6

| | Trial Balance | | Adjusted Trial Balance | |
|---|---|---|---|---|
| **Account** | **Debit** | **Credit** | **Debit** | **Credit** |
| Cash | € 7,900 | | € 7,900 | |
| Accounts receivable | 6,000 | | 6,880 | |
| Interest receivable | | | 500 | |
| Note receivable | 5,000 | | 5,000 | |
| Supplies | 1,500 | | 600 | |
| Prepaid insurance | 2,500 | | 800 | |
| Building | 67,000 | | 67,000 | |
| Accumulated depreciation | | € 8,800 | | €10,300 |
| Accounts payable | | 6,500 | | 6,500 |
| Wages payable | | | | 800 |
| Unearned rental revenue | | 1,500 | | 1,200 |
| Share capital | | 17,000 | | 17,000 |
| Retained earnings | | 43,300 | | 43,300 |
| Dividends | 3,200 | | 3,200 | |
| Rental revenue | | 18,300 | | 19,480 |
| Interest revenue | | 200 | | 700 |
| Depreciation expense | | | 1,500 | |
| Supplies expense | | | 900 | |
| Utilities expense | 300 | | 300 | |
| Wage expense | 1,900 | | 2,700 | |
| Property tax expense | 300 | | 300 | |
| Insurance expense | | | 1,700 | |
| Total | €95,600 | €95,600 | €99,280 | €99,280 |

### *Requirements*

1. Make the adjusting entries that account for the differences between the two trial balances.
2. Compute Fairview's total assets, total liabilities, total equity, and net income.

■ spreadsheet

**P3-73B** *(Learning Objectives 4: Preparing the financial statements)* The adjusted trial balance of Sneed Corporation at October 31, 20X6, follows:

**Sneed Corporation**
**Adjusted Trial Balance**
October 31, 20X6

| Account | Debit | Credit |
|---|---|---|
| Cash | € 1,600 | |
| Accounts receivable | 8,800 | |
| Supplies | 2,100 | |
| Prepaid rent | 1,000 | |
| Equipment | 36,700 | |
| Accumulated depreciation | | € 4,400 |
| Accounts payable | | 3,800 |
| Interest payable | | 400 |
| Unearned service revenue | | 900 |
| Income tax payable | | 2,500 |
| Note payable | | 18,600 |
| Share capital | | 8,000 |
| Retained earnings | | 4,000 |
| Dividends | 25,000 | |
| Service revenue | | 101,700 |
| Depreciation expense | 1,200 | |
| Salary expense | 40,500 | |
| Rent expense | 10,200 | |
| Interest expense | 3,200 | |
| Insurance expense | 3,600 | |
| Supplies expense | 2,900 | |
| Income tax expense | 7,500 | |
| Total | €144,300 | €144,300 |

## *Requirements*

1. Prepare Sneed's 20X6 income statement, statement of changes in equity, and balance sheet. List expenses (except for income tax) in decreasing order on the income statement and show total liabilities on the balance sheet.

**P3-74B** *(Learning Objective 5: Making closing entries; evaluating retained earnings)* The accounts of Sunny Stream Service, Inc., at March 31, 20X6, are listed in alphabetical order.

| | | | |
|---|---|---|---|
| Accounts payable | €14,300 | Interest expense | € 800 |
| Accounts receivable | 16,400 | Note payable, long term | 5,900 |
| Accumulated depreciation—equipment | 7,300 | Other assets | 14,500 |
| Advertising expense | 11,100 | Prepaid expenses | 5,700 |
| Cash | 7,300 | Retained earnings, March 31, 20X5 | 22,000 |
| Share capital | 6,700 | Salary expense | 18,100 |
| Current portion of note payable | 500 | Salary payable | 2,600 |
| Depreciation expense | 2,000 | Service revenue | 94,100 |
| Dividends | 30,000 | Supplies | 3,300 |
| Equipment | 42,500 | Supplies expense | 4,300 |
| | | Unearned service revenue | 2,600 |

**Requirements**

1. All adjustments have been journalized and posted, but the closing entries have not yet been made. Journalize Sunny Stream's closing entries at March 31, 20X6.
2. Set up a T-account for Retained Earnings and post to that account. Then compute Sunny Stream's net income for 20X6. What is the ending balance of Retained Earnings?
3. Did Retained Earnings increase or decrease during the year? What caused the increase or decrease?

# APPLY YOUR KNOWLEDGE

## Decision Cases

**Case 1.** *(Learning Objectives 3: Adjusting and correcting the accounts)* The unadjusted trial balance of Good Times, Inc., at January 31, 20X6, does not balance. In addition, the trial balance needs to be adjusted before the financial statements at January 31, 20X6 can be prepared.

| | |
|---|---|
| Cash | $ 8,000 |
| Accounts receivable | 4,200 |
| Supplies | 800 |
| Prepaid rent | 1,200 |
| Land | 43,000 |
| Accounts payable | 12,000 |
| Salary payable | 0 |
| Unearned service revenue | 700 |
| Note payable, due in three years | 23,400 |
| Share capital | 5,000 |
| Retained earnings | 9,300 |
| Service revenue | 9,100 |
| Salary expense | 3,400 |
| Rent expense | 0 |
| Advertising expense | 900 |
| Supplies expense | 0 |

**Requirements**

1. How much *out of balance* is the trial balance? Notes Payable (the only error) is understated.
2. Good Times needs to make the following adjustments at January 31:
   **a.** Supplies of $400 were used during January.
   **b.** The balance of Prepaid Rent was paid on January 1 and covers the whole year 2010. No adjustment was made on January 31.
   **c.** At January 31, Good Times owes employees $1,000.
   **d.** Unearned service revenue of $500 was earned during January.
   Prepare a corrected, adjusted trial balance. Give Notes Payable its correct balance.

**Case 2.** ***(Learning Objectives 4: Preparing financial statements; deciding to continue or shut down the business)*** On October 1, Lou Marks opened Eagle Restaurant, Inc. Marks is now at a crossroads. The October financial statements paint a glowing picture of the business, and Marks has asked you whether he should expand the business. To expand the business, Marks wants to be earning net income of $10,000 per month and have total assets of $50,000. Marks believes he is meeting both goals.

To start the business, Marks invested $25,000, not the $15,000 amount reported as "Share capital" on the balance sheet. The business issued $25,000 of shares to Marks. The bookkeeper plugged the $15,000 "Share capital" amount into the balance sheet to make it balance. The bookkeeper made some other errors too. Marks shows you the following financial statements that the bookkeeper prepared:

**Eagle Restaurant, Inc.**
**Income Statement**
Month Ended October 31, 20X7

| | | |
|---|---|---|
| **Revenues:** | | |
| Investments by owner | $25,000 | |
| Unearned banquet sales revenue | 3,000 | |
| | | $28,000 |
| **Expenses:** | | |
| Wages expense | $ 5,000 | |
| Rent expense | 4,000 | |
| Dividends | 3,000 | |
| Depreciation expense—fixtures | 1,000 | |
| | | 13,000 |
| **Net income** | | $15,000 |

**Eagle Restaurant, Inc.**
**Balance Sheet**
October 31, 20X7

| | | | |
|---|---|---|---|
| **Assets:** | | **Liabilities:** | |
| Cash | $ 8,000 | Accounts payable | $ 7,000 |
| Prepaid insurance | 1,000 | Sales revenue | 32,000 |
| Insurance expense | 1,000 | Accumulated depreciation— | |
| Food inventory | 5,000 | fixtures | 1,000 |
| Cost of goods sold (expense) | 12,000 | | 40,000 |
| Fixtures (tables, chairs, etc.) | 24,000 | **Owners' equity:** | |
| Dishes and silverware | 4,000 | Share capital | 15,000 |
| | $55,000 | | $55,000 |

### *Requirement*

1. Prepare corrected financial statements for Eagle Restaurant, Inc.: Income Statement, Statement of Changes in Equity, and Balance Sheet. Then, based on Marks' goals and your corrected statements, recommend to Marks whether he should expand the restaurant.

**Case 3.** ***(Learning Objectives 3, 4: Valuing a business on the basis of its net income)*** Stanley Williams has owned and operated SW Advertising, Inc., since its beginning 10 years ago. Recently, Williams mentioned that he would consider selling the company for the right price.

Assume that you are interested in buying this business. You obtain its most recent monthly trial balance, which follows. Revenues and expenses vary little from month to month, and June is a typical month. Your investigation reveals that the trial balance does not include the effects of monthly revenues of $4,000 and expenses totaling $1,100. If you were to buy SW Advertising, you would hire a manager so you could devote your time to other duties. Assume that your manager would require a monthly salary of $5,000.

**SW Advertising, Inc.**
**Trial Balance**
June 30, 20X6

| | | |
|---|---|---|
| Cash | $ 12,000 | |
| Accounts receivable | 6,900 | |
| Prepaid expenses | 3,200 | |
| Property, plant and equipment | 125,000 | |
| Accumulated depreciation | | $ 81,500 |
| Land | 158,000 | |
| Accounts payable | | 13,800 |
| Salary payable | | |
| Unearned advertising revenue | | 58,700 |
| Share capital | | 50,000 |
| Retained earnings | | 93,000 |
| Dividends | 9,000 | |
| Advertising revenue | | 22,000 |
| Rent expense | | |
| Salary expense | 4,000 | |
| Utilities expense | 900 | |
| Depreciation expense | | |
| Supplies expense | | |
| Total | $319,000 | $319,000 |

***Requirements***

1. Assume that the most you would pay for the business is 16 times the amount of monthly net income *you could expect to earn* from it. Compute this possible price.
2. Williams states that the least he will take for the business is two times its shareholders' equity on June 30. Compute this amount.
3. Under these conditions, how much should you offer Williams? Give your reason. (Challenge)

## Ethical Issues

**Issue 1.** Cross Timbers Energy Co. is in its third year of operations, and the company has grown to be the major producer of compressed natural gas (CNG) in the region. To expand the business, Cross Timbers borrowed $15 million from Bank of Fort Worth. As a condition for making this loan, the bank required that Cross Timbers maintain a net profit of at least $5 million per year.

Business recently has been worse than expected. Lower revenue and higher expenses have brought net profit down to $4.5 million as at December 27. Lane Collins, the general manager, is considering what would happen when the bank receives reports of its lower than required profit. Collins is considering the $3 million deferred income that's sitting on his balance sheet. It represents cash collected ahead of delivery of CNG next month. He told himself, "This money is as good as earned, I have the money in the bank account, I can deliver the goods anytime, so why did the accountant insist that they must be shown as a liability? I think I will just say I have earned $1 million by the end of the year and everyone will be happy."

***Requirements***

1. Journalize the revenue transaction, and indicate how recording this revenue in December would affect the company's net profit.
2. Analyze this transaction according to the decision framework for making ethical judgments (in Chapter 1):

a. What is the issue?
b. Who are the stakeholders and what are the alternatives? Weigh them from the standpoint of economic, legal, and ethical implications.
c. What decision would you make?

3. Propose for Cross Timbers a course of action that is ethical.

**Issue 2.** The net income of Solas Photography Company decreased sharply during 20X6. Lisa Almond, owner of the company, anticipates the need for a bank loan in 20X7. Late in 20X6, Almond instructed Brad Lail, the accountant and a personal friend of yours, to record a $10,000 sale of portraits to the Almond family, even though the photos will not be shot until January 20X7. Almond also told Lail *not* to make the following December 31, 20X6, adjusting entries:

Salaries owed to employees . . . . . . . . .$10,000
Prepaid insurance that has expired . . . . .1,000

### *Requirements*

1. Compute the overall effect of these transactions on the company's reported income for 20X6. Is reported net income overstated or understated?
2. Why did Almond take these actions? Are they ethical? Give your reason, identifying the parties helped and the parties harmed by Almond's action. Consult the Decision Framework for Making Ethical Judgments in Chapter 1. Which factor (economic, legal, or ethical) seems to be taking precedence? Identify the stakeholders and the potential consequences to each.
3. As a personal friend of Brad's, what advice would you give him?

## Focus on Financials: ■ Vodafone Corporation

This case spans all 12 chapters and is based on the consolidated financial statements of **Vodafone Corporation**. As you work with Vodafone throughout this course, you will develop the confidence and ability to use the financial statements of other companies as well. Refer to Vodafone's financial statements in Appendix A. Alternatively, you may choose to obtain the full annual report from Vodafone's website at www.vodafone.com.

Vodafone—like all other businesses—adjusts accounts prior to year-end to get correct amounts for the financial statements. Examine Vodafone's balance sheets in Appendix A, and pay particular attention to Note 24 on provisions.

### *Requirements*

1. Open a T-account for "provisions." Insert Vodafone's balance of £994 million at March 31, 2010. What two items does this total consist of? (Hint: for further details refer to the notes to the financial statements.)
2. For simplicity's sake, assume that there is only one provisions account, provisions for warranties, with an opening balance of £994 million at March 31, 2010. Journalize the following transactions for the year ended March 31, 2011. Key entries by letter, and show amounts in millions.
   a. Made warranty payments of £201 million to consumers.
   b. Charged £241 million to the income statement as its best estimate of future warranty needs.
   c. Misc. adjustments to the provisions account to the tune of a £7 million credit due to exchange movements (debit an expense).
3. Post these entries to "provisions" and show that the ending balance of the account agrees with the corresponding amount reported in Vodafone's March 31, 2011 Balance Sheets.
4. Examine Note 11—Property, plant and equipment. Notice that accumulated depreciation and impairment stood at £27,780 million at March 31, 2010 and at £28,588 million at March 31, 2011. Assume depreciation and impairment expense for 2011 was £3,769 million in total. Explain what must have happened to account for the remainder of the change in the accumulated depreciation and impairment account during 2011.

## Group Project

Mark Davis formed a lawn service company as a summer job. To start the business on May 1, he deposited $2,000 in a new bank account in the name of the corporation. The $2,000 consisted of a $1,600 loan from his father and $400 of his own money. The corporation issued 200 shares of share capital to Davis.

Davis rented lawn equipment, purchased supplies, and hired high school students to mow and trim his customers' lawns. At the end of each month, Davis mailed bills to his customers. On August 31, Davis was ready to dissolve the business and return to Rutgers University for the fall semester. Because he had been so busy, he had kept few records other than his chequebook and a list of amounts owed by customers.

At August 31, Davis' chequebook shows a balance of $2,040, and his customers still owe him $600. During the summer, he collected $5,600 from customers. His chequebook lists payments for supplies totaling $400, and he still has gasoline, weedeater cord, and other supplies that cost a total of $50. He paid his employees wages of $1,900, and he still owes them $200 for the final week of the summer.

Davis rented some equipment from Ludwig Tool Company. On May 1, he signed a six-month lease on mowers and paid $600 for the full lease period. Ludwig will refund the unused portion of the prepayment if the equipment is in good shape. To get the refund, Davis has kept the mowers in excellent condition. In fact, he had to pay $300 to repair a mower that ran over a hidden tree stump.

To transport employees and equipment to jobs, Davis used a trailer that he bought for $300. He figures that the summer's work used up one-third of the trailer's service potential. The business chequebook lists an expenditure of $460 for dividends paid to Davis during the summer. Also, Davis paid his father back during the summer.

### *Requirements*

1. Prepare the income statement of Davis Lawn Service, Inc., for the four months May through August. The business is not subject to income tax.
2. Prepare the classified balance sheet of Davis Lawn Service, Inc., at August 31.

## Quick Check Answers

1. *d*
2. *c*
3. *d*
4. *a*
5. *b*
6. *b*
7. *c*
8. *d*
9. *d*
10. *c*
11. *c*
12. *a*
13. *d*

# Demo Doc

## Preparation of Adjusting Entries, Closing Entries, and Financial Statements

*To make sure you understand this material, work through the following demonstration "Demo Doc" with detailed comments to help you see the concept within the framework of a worked-through problem.*

*Learning Objectives 2–5*

Cloud Break Consulting, Inc., has the following information at June 30, 20X6:

**Cloud Break Consulting, Inc.**
**Unadjusted Trial Balance**
June 30, 20X6

| | Balance | |
|---|---|---|
| **Account Title** | **Debit** | **Credit** |
| Cash | $131,000 | |
| Accounts receivable | 104,000 | |
| Supplies | 4,000 | |
| Prepaid rent | 27,000 | |
| Land | 45,000 | |
| Building | 300,000 | |
| Accumulated depreciation—building | | $155,000 |
| Accounts payable | | 159,000 |
| Unearned service revenue | | 40,000 |
| Share capital | | 50,000 |
| Retained earnings | | 52,000 |
| Dividends | 7,000 | |
| Service revenue | | 450,000 |
| Salary expense | 255,000 | |
| Rent expense | 25,000 | |
| Miscellaneous expense | 8,000 | |
| Total | $906,000 | $906,000 |

June 30 is Cloud Break's fiscal year-end; accordingly, it must make adjusting entries for the following items:

a. **Supplies on hand at year-end, $1,000.**

b. **Nine months of rent totaling $27,000 were paid in advance on April 1, 20X6. Cloud Break has recorded no rent expense yet.**

c. **Depreciation expense has not been recorded on the building for the 20X6 fiscal year. The building has a useful life of 25 years.**

d. **Employees work Monday through Friday. The weekly payroll is $5,000 and is paid every Friday. June 30, 20X6, falls on a Thursday.**

e. **Service revenue of $15,000 must be accrued.**

f. **Cloud Break received $40,000 in advance for consulting services to be provided evenly from January 1, 20X6 through August 31, 20X6. Cloud Break has recorded none of this revenue.**

## Requirements

1. Open the T-accounts with their unadjusted balances.
2. Journalize Cloud Break's adjusting entries at June 30, 20X6, and post the entries to the T-accounts.
3. Total each T-account in the ledger.
4. Journalize and post Cloud Break's closing entries.
5. Prepare Cloud Break's income statement and statement of changes in equity for the year ended June 30, 20X6, and the balance sheet at June 30, 20X6. Draw arrows linking the three financial statements.

# Demo Doc Solutions

## Requirement 1

Open the T-accounts with their unadjusted balances.

| Part 1 | Part 2 | Part 3 | Part 4 | Part 5 | Demo Doc Complete |
|---|---|---|---|---|---|

Remember from Chapter 2 that opening a T-account means drawing a blank account that looks like a capital "T" and putting the account title across the top. To help find the accounts later, they are grouped into assets, liabilities, shareholders' equity, revenues, and expenses (in that order). If the account has a starting balance, it ***must*** appear on the correct side.

Remember that debits are always on the left side of the T-account and credits are always on the right side. This is true for *every* account.

The correct side to enter each account's starting balance is the side of *increase* in the account. This is because we expect all accounts to have a *positive* balance (that is, more increases than decreases).

For assets, an increase is a debit, so we would expect all assets (except contra assets such as Accumulated Depreciation) to have a debit balance. For liabilities and shareholders' equity, an increase is a credit, so we would expect all liabilities and equities (except Dividends) to have a credit balance. By the same reasoning, we expect revenues to have credit balances and expenses and dividends to have debit balances.

The unadjusted balances appearing in the T-accounts are simply the amounts from the starting trial balance.

**Assets** = **Liabilities** + **Shareholders' Equity**

**Assets**

| Cash | |
|---|---|
| Bal 131,000 | |

| Accounts Receivable | |
|---|---|
| Bal 104,000 | |

| Supplies | |
|---|---|
| Bal 4,000 | |

| Prepaid Rent | |
|---|---|
| Bal 27,000 | |

| Land | |
|---|---|
| Bal 45,000 | |

| Building | |
|---|---|
| Bal 300,000 | |

| Accumulated Depreciation—Building | |
|---|---|
| | Bal 155,000 |

**Liabilities**

| Accounts Payable | |
|---|---|
| | Bal 159,000 |

| Unearned Service Revenue | |
|---|---|
| | Bal 40,000 |

**Shareholders' Equity**

| Share Capital | |
|---|---|
| | Bal 50,000 |

| Retained Earnings | |
|---|---|
| | Bal 52,000 |

| Dividends | |
|---|---|
| Bal 7,000 | |

Revenue

| Service Revenue | |
|---|---|
| | Bal 450,000 |

Expenses

| Salary Expense | |
|---|---|
| Bal 255,000 | |

| Rent Expense | |
|---|---|
| Bal 25,000 | |

| Miscellaneous Expense | |
|---|---|
| Bal 8,000 | |

## Requirement 2

Journalize Cloud Break's adjusting entries at June 30, 20X6, and post the entries to the T-accounts.

| Part 1 | Part 2 | Part 3 | Part 4 | Part 5 | Demo Doc Complete |
|---|---|---|---|---|---|

**a. Supplies on hand at year-end, $1,000.**

On June 30, 20X6, the unadjusted balance in the Supplies account was $4,000. However, a count shows that only $1,000 of supplies actually remains on hand. The supplies that are no longer there have been used. When assets/benefits are used, an expense is created.

Cloud Break will need to make an adjusting journal entry in order to report the correct amount of supplies on the balance sheet.

Looking at the Supplies T-account:

| Supplies | | | |
|---|---|---|---|
| | 4,000 | Used up | X |
| Bal | 1,000 | | |

The supplies have decreased because they have been used up. The amount of the decrease is **X**. **X** = $4,000 − $1,000 = $3,000.

$3,000 of supplies expense must be recorded to show the value of supplies that have been used.

| | | | | |
|---|---|---|---|---|
| a. | Jun 30 | Supplies Expense ($4,000 – $1,000) (Expense ↑; debit) | 3,000 | |
| | | Supplies (Asset ↓; credit) | | 3,000 |
| | | *To record supplies expense.* | | |

After posting, Supplies and Supplies Expense hold their correct ending balances:

**ASSETS**

| Supplies | | | |
|---|---|---|---|
| | 4,000 | a. | 3,000 |
| Bal | 1,000 | | |

**EXPENSES**

| Supplies Expense | | |
|---|---|---|
| a. | 3,000 | |
| Bal | 3,000 | |

**b. Nine months of rent (totaling $27,000) were paid in advance on April 1, 20X6. Cloud Break has recorded no rent expense yet.**

A prepayment for something, such as for rent or insurance, creates a *future* benefit (an asset) because the business is now entitled to receive the prepaid goods or services. Once those goods or services are received (in this case, once Cloud Break has occupied the building being rented), the benefit expires, and the prepaid cost becomes an expense.

Cloud Break prepaid $27,000 for nine months of rent on April 1. This means that Cloud Break pays $27,000/9 = $3,000 a month for rent. At June 30, Prepaid Rent is adjusted for the amount of the asset that has been used up. Because Cloud Break has occupied the building being rented for three months (April, May, and June), three months of the prepayment have been used. The amount of rent used is 3 × $3,000 = $9,000. Because that portion of the past benefit (asset) has expired, it becomes an expense (in this case, the adjustment transfers $9,000 from Prepaid Rent to Rent Expense).

This means that Rent Expense must be increased (a debit) and Prepaid Rent (an asset) must be decreased (a credit), with the following journal entry:

| | | | | |
|---|---|---|---|---|
| b. | Jun 30 | Rent Expense (Expense ↑; debit) | 9,000 | |
| | | Prepaid Rent (Asset ↓; credit) | | 9,000 |
| | | *To record rent expense.* | | |

Posting places $9,000 in each account, as follows:

**ASSETS**

**Prepaid Rent**

| | | | |
|---|---|---|---|
| | 27,000 | b. | 9,000 |
| Bal | 18,000 | | |

**EXPENSES**

**Rent Expense**

| | | | |
|---|---|---|---|
| | 25,000 | | |
| b. | 9,000 | | |
| Bal | 34,000 | | |

**c. Depreciation expense has not been recorded on the building for the 20X6 fiscal year. The building has a useful life of 25 years.**

Depreciation expense per year is calculated as:

$$\text{Depreciation expense per year} = \frac{\text{Original cost of asset}}{\text{Useful life of asset (in years)}}$$

The cost principle compels us to keep the original cost of a PPE in that asset account. Because there is $300,000 in the Building account, we know that this is the original cost of the building. We are told in the question that the building's useful life is 25 years.

Depreciation expense per year = $300,000/25 years = $12,000 per year

We will record depreciation of $12,000 in an adjusting journal entry. The journal entry for depreciation expense is *always* the same. Only the dollar amount changes. There is always an increase to Depreciation Expense (a debit) and an increase to the contra asset account of Accumulated Depreciation (a credit).

| | | | | |
|---|---|---|---|---|
| c. | Jun 30 | Depreciation Expense—Building (Expense ↑; debit) | 12,000 | |
| | | Accumulated Depreciation—Building | | |
| | | (Contra Asset ↑; credit) | | 12,000 |
| | | *To record depreciation on building.* | | |

| ASSETS | | | EXPENSES |
|---|---|---|---|
| | | | |

**ASSET**

**Building**

| | |
|---|---|
| 300,000 | |
| Bal 300,000 | |

**CONTRA ASSET**

**Accumulated Depreciation—Building**

| | |
|---|---|
| | 155,000 |
| | c. 12,000 |
| | Bal 167,000 |

**Depreciation Expense—Building**

| | |
|---|---|
| c. 12,000 | |
| Bal 12,000 | |

The carrying amount of the building is its original cost (the amount in the Building T-account) minus the accumulated depreciation on the building.

| Carrying amount of PPE: | |
|---|---|
| Building | $300,000 |
| Less: Accumulated depreciation | (167,000) |
| Carrying amount of the building | $133,000 |

**d. Employees work Monday through Friday. The weekly payroll is $5,000 and is paid every Friday. June 30, 20X6, falls on a Thursday.**

Salary is an accrued expense. That is, it's a liability that comes from an *expense* that hasn't been paid yet. Most employers pay their employees *after* the work has been done, so the work is a past benefit to the employer. This expense (Salary Expense, in this case) grows until payday.

Cloud Break's employees are paid $5,000 for five days of work. That means they earn $5,000/5 = $1,000 per day. By the end of the day on Thursday, June 30, they have earned $1,000/day × 4 days = $4,000 of salary.

If the salaries have not been paid, then they are pay*able* (or in other words, they are *owed*) and must be recorded as some kind of payable account. You might be tempted to use Accounts Payable, but this account is usually reserved for *bills* received. But employees don't bill employers for their paycheques. The appropriate payable account for salaries is Salary Payable.

The accrual of salary expense creates an increase to Salary Expense (a debit) and an increase to the liability Salary Payable (a credit) of $4,000.

| | | | | |
|---|---|---|---|---|
| d. | Jun 30 | Salary Expense (Expense ↑; debit) | 4,000 | |
| | | Salary Payable (Liability ↑; credit) | | 4,000 |
| | | *To accrue salary expense.* | | |

**EXPENSES**

**Salary Expense**

| | |
|---|---|
| 255,000 | |
| d. 4,000 | |
| Bal 259,000 | |

**LIABILITIES**

**Salary Payable**

| | |
|---|---|
| | d. 4,000 |
| | Bal 4,000 |

**e. Service revenue of $15,000 must be accrued.**

*Accrued* revenue is another way of saying "accounts receivable" (or receipt in the future). When *accrued* revenue is recorded, it means that accounts receivable are also recorded (that is, the business gave goods or services to customers, but the business has not yet received the cash). The business is entitled to these receivables because the revenue has been earned.

Service Revenue must be increased by $15,000 (a credit) and the Accounts Receivable asset must be increased by $15,000 (a debit).

| | | | | |
|---|---|---|---|---|
| e. | Jun 30 | Accounts Receivable (Asset ↑; debit) | 15,000 | |
| | | Service Revenue (Revenue ↑; credit) | | 15,000 |
| | | *To accrue service revenue.* | | |

| ASSETS | | REVENUES | |
|---|---|---|---|
| **Accounts Receivable** | | **Service Revenue** | |
| 104,000 | | | 450,000 |
| e. 15,000 | | | e. 15,000 |
| Bal 119,000 | | | Bal 465,000 |

**f. Cloud Break received $40,000 in advance for consulting services to be provided evenly from January 1, 20X6, through August 31, 20X6. Cloud Break has recorded none of this revenue.**

Cloud Break received cash in advance for work to be performed in the future. By accepting the cash, Cloud Break also accepted the obligation to perform that work (or provide a refund). In accounting, an obligation is a liability. We call this liability "unearned revenue" because it *will* be revenue (after the work is performed) but it is not revenue *yet*.

The $40,000 collected in advance is still in the Unearned Service Revenue account. However, some of the revenue has been earned as of June 30. Six months of the earnings period have passed (January through June), so Cloud Break has earned six months of the revenue.

The entire revenue-earning period is eight months (January through August), so the revenue earned per month is $40,000/8 = $5,000. The six months of revenue that Cloud Break has earned through the end of June totals $30,000 (6 × $5,000).

So Unearned Service Revenue, a liability, must be decreased by $30,000 (a debit). Because that portion of the revenue is now earned, Service Revenue is increased by $30,000 (a credit).

| | | | | |
|---|---|---|---|---|
| f. | Jun 30 | Unearned Service Revenue (Liability ↓; debit) | 30,000 | |
| | | Service Revenue (Revenue ↑; credit) | | 30,000 |
| | | *To record the earning of service revenue that was* | | |
| | | *collected in advance.* | | |

Essentially, the $30,000 has been shifted from “unearned revenue” to “earned” revenue.

| LIABILITIES | | | | | REVENUES | | | |
|---|---|---|---|---|---|---|---|---|
| Unearned Service Revenue | | | | | Service Revenue | | | |
| f. | 30,000 | | 40,000 | | | | | 450,000 |
| | | | | | | | e. | 15,000 |
| | | | | | | | f. | 30,000 |
| | | Bal | 10,000 | | | | Bal | 495,000 |

Now we can summarize all of the adjusting journal entries:

| Ref. | Date | Accounts and Explanation | Debit | Credit |
|---|---|---|---|---|
| | 20X6 | | | |
| a. | Jun 30 | Supplies Expense ($4,000 – $1,000) | 3,000 | |
| | | Supplies | | 3,000 |
| | | *To record supplies expense.* | | |
| | | | | |
| b. | 30 | Rent Expense | 9,000 | |
| | | Prepaid Rent | | 9,000 |
| | | *To record rent expense.* | | |
| | | | | |
| c. | 30 | Depreciation Expense—Building | 12,000 | |
| | | Accumulated Depreciation—Building | | 12,000 |
| | | *To record depreciation on building.* | | |
| | | | | |
| d. | 30 | Salary Expense | 4,000 | |
| | | Salary Payable | | 4,000 |
| | | *To accrue salary expense.* | | |
| | | | | |
| e. | 30 | Accounts Receivable | 15,000 | |
| | | Service Revenue | | 15,000 |
| | | *To accrue service revenue.* | | |
| | | | | |
| f. | 30 | Unearned Service Revenue | 30,000 | |
| | | Service Revenue | | 30,000 |
| | | *To record the earning of service revenue that was collected in advance.* | | |

## Requirement 3

Total each T-account in the ledger.

| Part 1 | Part 2 | **Part 3** | Part 4 | Part 5 | Demo Doc Complete |
|---|---|---|---|---|---|

After posting all of these entries and totaling all of the T-accounts, we have:

**Assets** = **Liabilities** + **Shareholders' Equity**

**Assets**

Cash

| | |
|---|---|
| Bal 131,000 | |

Accounts Receivable

| | |
|---|---|
| 104,000 | |
| e. 15,000 | |
| Bal 119,000 | |

Supplies

| | |
|---|---|
| 4,000 | a. 3,000 |
| Bal 1,000 | |

Prepaid Rent

| | |
|---|---|
| 27,000 | b. 9,000 |
| Bal 18,000 | |

Land

| | |
|---|---|
| Bal 45,000 | |

Building

| | |
|---|---|
| Bal 300,000 | |

Accumulated Depreciation—Building

| | |
|---|---|
| | 155,000 |
| | c. 12,000 |
| | Bal 167,000 |

**Liabilities**

Accounts Payable

| | |
|---|---|
| | Bal 159,000 |

Salary Payable

| | |
|---|---|
| | d. 4,000 |
| | Bal 4,000 |

Unearned Service Revenue

| | |
|---|---|
| | 40,000 |
| f. 30,000 | |
| | Bal 10,000 |

**Shareholders' Equity**

Share Capital

| | |
|---|---|
| | Bal 50,000 |

Retained Earnings

| | |
|---|---|
| | Bal 52,000 |

Dividends

| | |
|---|---|
| Bal 7,000 | |

**Revenue**

Service Revenue

| | |
|---|---|
| | 450,000 |
| | e. 15,000 |
| | f. 30,000 |
| | Bal 495,000 |

**Expenses**

Salary Expense

| | |
|---|---|
| 255,000 | |
| d. 4,000 | |
| Bal 259,000 | |

Supplies Expense

| | |
|---|---|
| a. 3,000 | |
| Bal 3,000 | |

Rent Expense

| | |
|---|---|
| 25,000 | |
| b. 9,000 | |
| Bal 34,000 | |

Depreciation Expense—Building

| | |
|---|---|
| c. 12,000 | |
| Bal 12,000 | |

Miscellaneous Expense

| | |
|---|---|
| Bal 8,000 | |

## Requirement 4

Journalize and post Cloud Break's closing entries.

Part 1 | Part 2 | Part 3 | **Part 4** | Part 5 | Demo Doc Complete

We prepare closing entries to (1) clear out or "reset" the revenue, expense, and dividends accounts to a zero balance in order to get them ready for the next period. They must begin the next period empty so that we can evaluate each period's income separately from all other periods. We also need to (2) update the Retained Earnings account by transferring all revenues, expenses, and dividends into it.

The Retained Earnings balance is calculated each year using the following formula:

Beginning retained earnings
+ Net income (or – Net loss)
– Dividends paid
= Ending retained earnings

You can see this in the Retained Earnings T-account as well:

| Retained Earnings | |
|---|---|
| Dividends | Beginning retained earnings |
| | Net income |
| | Ending retained earnings |

This formula is the key to preparing the closing entries. We will use this formula, but we will do it *inside* the Retained Earnings T-account.

From the trial balance given in the problem, we know that beginning Retained Earnings is $52,000. The first component of the formula is already in the T-account.

The next component is net income, which is *not* yet in the Retained Earnings account. We can place all the components of net income into the Retained Earnings account and come out with the net income number at the bottom. Remember:

Revenues − Expenses = Net income

This means that we need to get all of the revenues and expenses into the Retained Earnings account.

### a. We start with our revenue T-account (service revenue as shown)

| Service Revenue | |
|---|---|
| | Bal 495,000 |

**In order to clear out or reset all the income statement accounts so that they are empty to begin the next year, the first step is to *debit* each revenue account for the amount of its *credit* balance.** Service Revenue has a *credit* balance of $495,000, so to bring that to zero, we need to *debit* Service Revenue for $495,000.

This means that we have part of our first closing entry:

| | | | | |
|---|---|---|---|---|
| 1. | | Service Revenue | 495,000 | |
| | | ??? | | 495,000 |

What is the credit side of this entry? The reason we started with Service Revenue was to help calculate net income in the Retained Earnings account. So the other side of the entry must go to Retained Earnings:

| | | | | |
|---|---|---|---|---|
| 1. | | Service Revenue | 495,000 | |
| | | Retained Earnings | | 495,000 |

**b. The second step is to *credit* each expense account for the amount of its *debit* balance to bring each expense account to zero.**

In this case, we have five different expenses:

**Salary Expense**

| Debit | | Credit |
|---|---|---|
| Bal | 259,000 | |

**Supplies Expense**

| Debit | | Credit |
|---|---|---|
| Bal | 3,000 | |

**Rent Expense**

| Debit | | Credit |
|---|---|---|
| Bal | 34,000 | |

**Depreciation Expense—Building**

| Debit | | Credit |
|---|---|---|
| Bal | 12,000 | |

**Miscellaneous Expense**

| Debit | | Credit |
|---|---|---|
| Bal | 8,000 | |

The sum of all the expenses will go to the debit side of the Retained Earnings account:

| | | | | |
|---|---|---|---|---|
| 2. | | Retained Earnings | 316,000 | |
| | | Salary Expense | | 259,000 |
| | | Supplies Expense | | 3,000 |
| | | Rent Expense | | 34,000 |
| | | Depreciation Expense—Building | | 12,000 |
| | | Miscellaneous Expense | | 8,000 |

The last component of the Retained Earnings formula is dividends. There is a Dividends account:

**Dividends**

| Debit | | Credit |
|---|---|---|
| Bal | 7,000 | |

**c. The final step in the closing process is to transfer Dividends to the debit site of the Retained Earnings account.**

The Dividends account has a *debit* balance of $7,000, so to bring that to zero, we need to *credit* Dividends by $7,000. The balancing debit will go to Retained Earnings:

| | | | | |
|---|---|---|---|---|
| 3. | | Retained Earnings | 7,000 | |
| | | Dividends | | 7,000 |

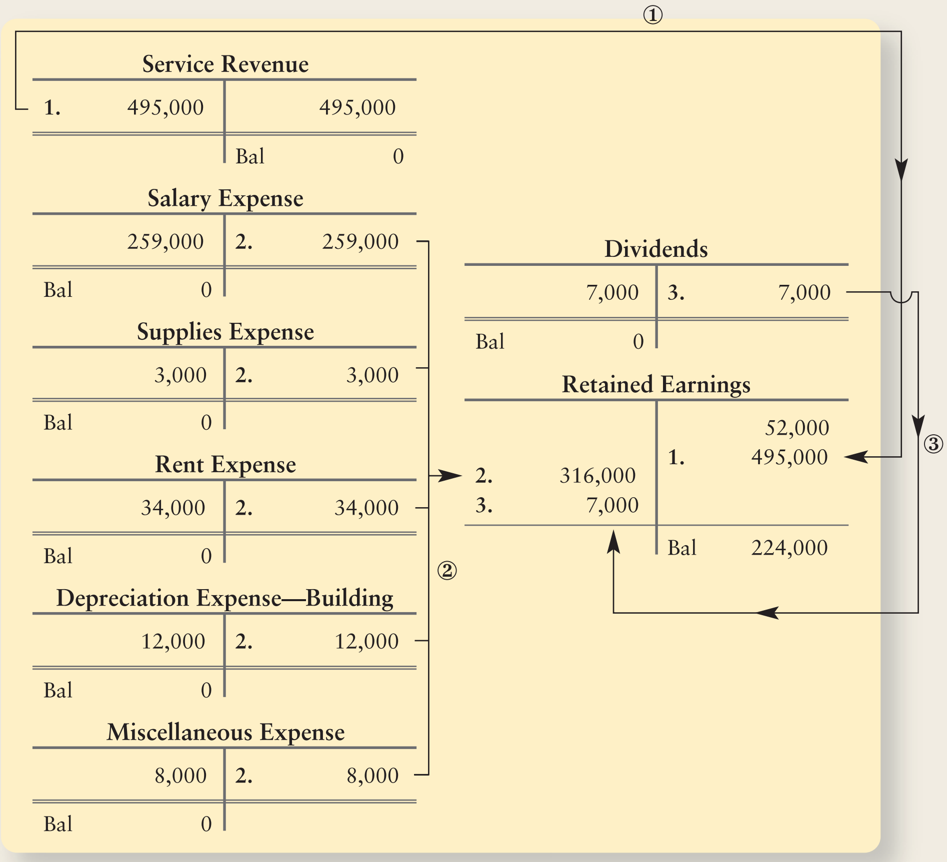
This entry subtracts Dividends from Retained Earnings. Retained Earnings now holds the following data:

**Retained Earnings**

| | | Debit | | Credit | |
|---|---|---|---|---|---|
| Expenses | 2. | 316,000 | | 52,000 | Beginning retained earnings |
| Dividends | 3. | 7,000 | 1. | 495,000 | Revenue Net income |
| | | | Bal | 224,000 | Ending retained earnings |

The formula to update Retained Earnings has now been re-created inside the Retained Earnings T-account.

The following accounts are included in the closing process:




Notice that each temporary account (the Revenues, the Expenses, and Dividends), now has a zero balance.

## Requirement 5

Prepare Cloud Break's income statement and the statement of changes in equity for the year ended June 30, 20X6, and the balance sheet at June 30, 20X6. Draw arrows linking the three financial statements.



**Cloud Break Consulting, Inc.**
**Income Statement**
Year Ended June 30, 20X6

| | | |
|---|---|---|
| Revenue: | | |
| Service revenue | | $495,000 |
| Expenses: | | |
| Salary expense | $259,000 | |
| Rent expense | 34,000 | |
| Depreciation expense—building | 12,000 | |
| Supplies expense | 3,000 | |
| Miscellaneous expense | 8,000 | |
| Total expenses | | 316,000 |
| Net income | | $179,000 |

**Cloud Break Consulting, Inc.**
**Statement of Changes in Equity**
Year Ended June 30, 20X6

| | |
|---|---|
| Total equity, June 30, 20X5 | $102,000 |
| Add: Net income | 179,000 |
| | 281,000 |
| Less: Dividends | (7,000) |
| Retained earnings, June 30, 20X6 | $274,000 |

**Cloud Break Consulting, Inc.**
**Balance Sheet**
**June 30, 20X6**

| Assets | | | Liabilities | |
|---|---|---|---|---|
| Cash | | $131,000 | Accounts payable | $159,000 |
| Accounts receivable | | 119,000 | Salary payable | 4,000 |
| Supplies | | 1,000 | Unearned service revenue | 10,000 |
| Prepaid rent | | 18,000 | Total liabilities | 173,000 |
| Land | | 45,000 | | |
| Building | $300,000 | | **Shareholders' Equity** | |
| Less: Accumulated | | | Share capital | 50,000 |
| depreciation | (167,000) | 133,000 | Retained earnings | 224,000 |
| | | | Total Shareholders' equity | 274,000 |
| | | | Total liabilities and | |
| Total assets | | $447,000 | Shareholders' equity | $447,000 |

## RELATIONSHIPS AMONG THE FINANCIAL STATEMENTS

The arrows in these statements show how the financial statements relate to each other. Follow the arrow that takes the ending balance of total equity to the balance sheet.

1. Net income from the income statements is reported as an increase to retained earnings (equity) on the statement of changes in equity. A net loss would be reported as a decrease to retained earnings (equity). Any dividends paid will also reduce retained earnings (equity).
2. The new total equity (and Ending Retained Earnings) from the statement of changes in equity is transferred to the balance sheet.

| Part 1 | Part 2 | Part 3 | Part 4 | Part 5 | Demo Doc Complete |
|---|---|---|---|---|---|

# 4 Presentation of Financial Statements




**SPOTLIGHT: BASF** **www.basf.com**

BASF is the world's leading chemical company, with more than 111,000 employees and about 400 production sites worldwide, including six *verbund* (a German word meaning integrated or linked) production sites. Its portfolio ranges from chemicals, plastics, and performance products to crop protection products, as well as oil and gas. Through science and innovation BASF enables its customers in almost all industries to meet the current and future needs of society. Its products and system solutions contribute to conserving resources, ensuring healthy food and nutrition and helping to improve the quality of life. BASF has summed up this contribution in its corporate purpose: "We create chemistry for a sustainable future."

The Report Watch (www.reportwatch.net) runs an annual competition to select the best annual reports. Its 2011 competition saw over 1,500 entries, and they were judged and rated from "D (uncompetitive)" to "A+ (first rate)." Five companies were rated A+ in 2011: BASF (Germany), **SAS** (Sweden), **Electrolux** (Sweden), **Fortum** (Finland), and **Akzonobel** (Netherlands). What makes the BASF annual report first rate? It scored well on a number of criteria, from packaging, highlights, strategy, and communication, to financials and accounting.

BASF's annual reports, together with other disclosures on its investors' relations website, communicate important financial information and management review of the business to BASF's over 400,000 shareholders around the world. In the first three chapters, you have seen extracts of the financial statements contained in the annual reports of Samsung, De Beers, and Richemont.

This chapter will give you an appreciation of how financial statements are presented and communicated to users of financial statements. You will be introduced to the major sections of an annual report. Annual reports vary from company to company, year to year, but their overall structure remains largely the same. We will also cover some of the key principles related to presentation of financial statements (with the exception of Statement of Cash Flows, which is covered in Chapter 11).

## LEARNING OBJECTIVES

1. **Appreciate** the role of annual reports as a communication tool
2. **Know** the general features of financial statements
3. **Understand** presentation requirements for Statement of Financial Position
4. **Understand** presentation requirements for Statement of Comprehensive Income
5. **Understand** presentation requirements for Statement of Changes in Equity

# Annual Reports as a Communication Tool

**OBJECTIVE**

**1** **Appreciate** the role of annual reports as a communication tool

A search on Google for "annual report" yields over a billion entries. In the world of electronic information and communication, **annual reports** are the top source of information for shareholders, lenders, potential investors, and many other stakeholders. Annual reports are used to project and share a vision, and with the ease of distribution via the Internet, they serve as an important element of any entity's communication with all its stakeholders. Annual reports provide readers with information on a company, ranging from company visions, goals and strategies, to its financial statements and other required or compulsory disclosures (depending on jurisdictions). If you read a series of the same company's annual reports you can often construct a story about how a particular business venture is doing, how the company has grown or declined, or how its management team and strategy have changed throughout the years.

## A CLOSER LOOK

Annual reports are not limited to commercial entities. Many not-for-profit organizations, charities, and other welfare organizations also publish some form of annual publications to connect with their various stakeholders. As these entities do not have shareholders or investors that you would normally associate with commercial entities, their annual reports may differ slightly from corporate annual reports. For example, Médecins Sans Frontières (www.doctorswithoutborders.org), CARE (www.care.org), and Oxfam (www.oxfam.org) all publish annual reports with financial statements. In many countries, even governments, including their ministries and regulatory authorities, publish annual reports!

Sometimes companies will highlight a particular creative theme for one financial year and thus structure their report to fit this theme. For example, **Podvraka**, a food and beverage company headquartered in Croatia, included a cookbood within its 2006 annual report that has to be baked (at 150°C for 25 minutes!) to make the thermo-reactive ink permanently readable. **Austria Solar**, an association for the promotion of thermal solar energy in Austria, created a big buzz online for its 2011 annual report that must be read in sunlight! **Vox Telecom**, a telecommunication company operating in South Africa, is known for its rather unusual series of annual reports that mimics the "look and feel" of popular magazines. Can you identify the original magazines from Vox Telecom's annual report covers shown in Exhibit 4-1?

**EXHIBIT 4-1 | Annual Reports**


*Source*: Courtesy of Vox Telecom. Editor: Clayton Timcke

## Substance Over Style

You should not judge a company by the artistic value of its annual report, and it clearly should not be the basis for deciding whether or not you would invest in a particular company. This would be like saying you will invest in companies that have impressive websites. No matter how slick and impressive an annual report may look, you must remember that it is the substance that matters. The audited financial statements are the substance of annual reports. This should be your basis of decision making, not attractive pictures or glossy prints.

For an example of the minimalist approach, look no further than **Berkshire Hathaway**, Warren Buffett's investment holding company. Its corporate annual report is the basic Form 10K (see the A Closer Look box opposite), which you can download from its even more minimalist website at www.berkshirehathaway.com. No pictures, no fancy animation or videos, just straightforward company information.

## Obtaining Annual Reports

Traditionally, annual reports are hard copy reports that are only sent to shareholders (and those who request them directly from the company). With advances in information technology and connectivity of the Internet, virtually everyone now can obtain an electronic copy of annual reports of any public companies online. With search engines such as Google, Bing or Yahoo, it is usually easy to find the websites of the companies you are interested in. Note that some businesses separate their "corporate website" from their "consumer website." The corporate website is where you will find company and financial information pertinent to you, the investor or potential investor, whereas the consumer website is where the company showcases its product and services offerings to the consumer. With many websites now making use of location-based data, sometimes you may be redirected to your local, country, or region specific consumer website by default. You will have to specifically navigate to the company's corporate website in order to obtain financial statements. For example, for **Sony Corporation**, if you go to www.sony.com, you will arrive at the consumer side (either a global or local site, depending on your physical location), whereas www.sony.net will bring you to Sony's corporate website.

Many companies are now dedicating more resources to connect with their shareholders through a specific section of their websites, typically labeled "Investors" or "Investor Relations" (see Exhibit 4-2). For example, BASF's "investor relations" page offers investors company information, financial news and reports, a calendar of events, and other share-related information. You can read its financial reports online, even build your own charts, and download financial statements in spreadsheet formats. We will refer to various parts of BASF's 2011 annual report in this chapter, so it may be worth your while to download a copy of the report as you read this chapter.

**EXHIBIT 4-2 | BASF's Investor Relations Landing Page**


© BASF

In countries where the securities authority has a reporting repository, you can go to one common place to obtain all information about all companies trading in the country. The biggest such repository is that of the United States' Securities and Exchange Commission (SEC) at www.sec.gov/edgar.shtml. You can even download financial statements in XBRL or spreadsheet formats!

## A CLOSER LOOK

For SEC registrants, financial filings are referred to by their form numbers. For example, "Form 10-K" and "Form 10-Q" refer to annual and quarter filings, respectively. There are many others, such as:

- Form 1 for the offering of securities, typically for initial public offerings or additional securities issuances
- Form 4 for material changes in the holding of company securities by "insiders" (major shareholders, company executives)
- Form 8-K for important material events or corporate changes of high importance such as major asset acquisition or disposal, appointment or resignation of directors, etc.
- Form S-4 for important events related to mergers and acquisitions.

Whilst these forms contain significant financial information, they are highly structured and largely dictated by SEC's regulatory requirements. They are quite different from the typical annual reports that you will see in many other parts of the world. Many US companies produce annual reports in addition to their regulatory filings.

As filing requirements may differ from one country to another, your instructor may direct you to specific issues related to corporate reporting in your jurisdiction.

## Typical Structure of an Annual Report

For some companies, the primary purpose of an annual report is simply to meet legal requirements. Consequently, they only focus on compliance and do not really invest much in corporate reporting. Small private companies' annual reports, for example, primarily consist solely of financial statements and their accompanying notes. The larger the company, and the more investors (or in some cases, creditors) it has, the more likely you will see more content in the annual report.

Regardless of their creative themes, annual reports must meet requirements as dictated by the regulatory authority, and in the case of listed companies, the stock exchange's **listing requirements**. You can visit your local stock exchange and check out its listing requirements or listing manual. It would most probably contain many disclosure items beyond the scope of this text, but it should give you an idea of the importance of communicating financial information and events to investors and potential investors.

Typically, an annual report has the following structure:

- corporate information
- analysis and commentaries
- other statements or disclosures
- financial statements.

The BASF 2011 annual report has the following top level headings in its table of contents: To our shareholders, Management Analysis, Corporate Governance, and Financial Statements, which is largely in line with the typical structure of an annual report we outlined earlier.

## Corporate Information

Companies provide various kinds of corporate information to their shareholders. For example, they could include information such as a short history of the company, members of the board of directors and key management personnel, organizational structure of key subsidiaries or affiliates (more on this in Chapter 8), key markets and products, major events during the financial period (such as mergers and acquisitions, or disposal of business units), awards and accolades received, operating statistics, financial highlights, and any other general information about the company that may be useful to readers in understanding the company. You would not find all the examples above in one single section, and different companies would present somewhat different items. For example, BASF provides an introduction to its various business segments, as illustrated in Exhibit 4-3.

**EXHIBIT 4-3 | BASF's 2011 Segment Information**

| | |
|---|---|
|  | In the Chemicals segment, we supply products to customers in the chemical, electronics, construction, textile, automotive, pharmaceutical and agricultural industries as well as many others. We also ensure that other BASF segments are supplied with chemicals for producing downstream products. Our portfolio ranges from basic chemicals, glues and electronic chemicals for the semiconductor and solar cell industries, to solvents and plasticizers, as well as starting materials for detergents, plastics, textile fibers, paints and coatings, and pharmaceuticals. |
|  | The Plastics segment includes a broad range of products, system solutions and services. We offer a number of engineering plastics for the automotive and electrical industries as well as for use in household appliances and sports and leisure products. Our styrenic foams are used as insulating materials in the construction industry and in packaging. Our polyurethanes are extremely versatile: As soft foams, for example, they improve car seats and mattresses, and as rigid foams they increase the energy efficiency of refrigerators. |
|  | Performance Products lend stability and color to countless everyday items and help to improve their application profile. Our product portfolio includes vitamins and food additives as well as ingredients for pharmaceuticals and for hygiene, home and personal care items. Other Performance Products improve processes in the paper industry, oil and gas production, mining and water treatment. They can also enhance the efficiency of fuels and lubricants, the effectiveness of adhesives and coatings, and the stability of plastics. |
|  | In the Functional Solutions segment, we bundle system solutions and innovative products for specific sectors and customers, in particular for the automotive, chemical and construction industries. Our portfolio comprises automotive and industrial catalysts, automotive and industrial coatings and concrete admixtures as well as construction systems such as tile adhesives and architectural coatings. |
|  | Our crop protection products guard against fungal diseases, insects and weeds and they increase quality and secure crop yields. Our research in plant biotechnology concentrates on plants for greater efficiency in agriculture, healthier nutrition and for use as renewable raw materials. Research and development expenses, sales, earnings and all other data pertaining to BASF Plant Science are not included in the Agricultural Solutions segment; they are reported in Other. |
|  | As the largest German producer of oil and gas, we focus our exploration and production on oil- and gas-rich regions in Europe, North Africa, South America, Russia and the Caspian Sea region. Together with our Russian partner Gazprom, we are active in the transport, storage and trading of natural gas in Europe. |

## Analysis and Commentaries

Like many other annual reports, BASF's 2011 annual report's first major item is the "Letter from the Chairman of the Board of Executive Directors." Depending on the organizational structure (and local practice), you may see the title President used rather than **Chairman**. You can read Dr Kurt Bock's (BASF's Chairman of the board of directors) letter to shareholders on pages 6–7 of the 2011 BASF annual report. It talks about achievements in the financial year, returns to shareholders, and key focus or goals for the future.

The next set of commentaries is from the company's management. Before we go further, perhaps it is useful to explain how corporations, especially public or listed companies, structure themselves organizationally. The ultimate control of the company rests with shareholders, who appoint a **board of directors** to provide oversight of the company. The board, in turn, hires a management team to run the company. Of course, in many instances, an individual may be a shareholder, a member of the board of directors, and a CEO of the company. We discuss corporate structure later in more detail (in Chapter 10, for example, see Exhibit 10-2). For now, let's just take it that a board of directors means shareholders' representatives overseeing a management team that runs the company.

The objective of such commentaries is to provide users with an understanding of the company via an analysis of the company's businesses as seen through the eyes of the directors and management. These commentaries serve to facilitate assessment of the company's business and business objectives, its principal drivers of performance, the dynamics of the business, and the financial performance and condition of the company.

Thus, the management analysis and commentaries are basically management's explanations to shareholders of how the company has performed during the year. In some parts of the world, this set of commentaries may be known as "MD&A" (Management Discussions and Analysis) or "OFR" (Operating and Financial Review), or something similar. Typically, management would explain the performance of various products or segments of the company, the status of the company's strategic initiatives or projects, and plans or goals for the upcoming financial year.

BASF's management analysis is extremely comprehensive (see pages 16 to 118 of its 2011 annual report). It describes its view of the trends in the global economy and the industries it operates in, the performance of its business segments (chemicals, plastics, performance products, functional solutions, agricultural solutions, and oil and gas) and geographical regions. It also describes BASF's corporate social responsibility to its employees, community, safety and the environment. It even provides management forecasts for the coming years.

### EXCERPTS (ADAPTED) FROM BASF'S 2011 ANNUAL REPORT

#### Management's Analysis

As part of developing our strategy, we have defined goals that we aim to meet by 2020. We forecast that worldwide chemical production will grow faster than gross domestic product (GDP) through 2020 . . . From a baseline 2010, chemical production is estimated to grow 4% per year. We continue to aim to grow two percentage points faster than global chemical production and thus increase sales by an average of 6% per year until 2020. We have set ourselves the ambitious goal of earning a premium on our cost of capital of at least €2.5 billion on average each year.

Based on conditions listed above, we aim to increase sales to approximately €85 billion by 2015 and to approximately €115 billion by 2020. We expect all regions to contribute to this sales growth: Europe with €53 billion in sales by 2020, Asia Pacific with €29 billion, North America with €22 billion and South America, Africa, Middle East with €11 billion.

We also want to increase profitability, as well, aiming for an EBITDA [earnings before interest, taxation, depreciation and amortization] of about €15 billion by 2015 and around €23 billion by 2020. Our updated strategy also includes, for the first time, a goal for earnings per share: Our target is to increase earnings to approximately €7.50 per share by 2015 (€6.74 per share in 2011).



## Other Statements and Disclosures

This varies from one jurisdiction to another, but you will always find disclosures related to corporate governance. **Corporate governance** refers broadly to a set of principles adopted or practiced by organisations in order to ensure a clear corporate direction, responsibility, and accountability of those managing the organization. Typically, it prescribes matters such as the composition, duties, and responsibilities of the board of directors, oversight of management and its dealings with the shareholders.

### EXCERPTS FROM BASF'S 2011 ANNUAL REPORT

#### Corporate Governance of the BASF Group

Corporate governance refers to the entire system for managing and supervising a company, including its organization, its values, business policies and guidelines, as well as all internal and external regulatory and monitoring mechanisms. Effective and transparent corporate governance guarantees that BASF is managed and monitored in a responsible manner focused on value creation. This fosters the confidence of our domestic and international investors, the financial markets and our customers and other business partners, employees and the public in the company.



A key part of any corporate governance framework is internal control. We will provide an introduction to internal control in Chapter 5.

Other statements and disclosures may include a compensation report for directors and the senior management team, economic-value added or EVA statements (more on this in Chapter 12), and sustainability and/or environmental reporting (often referred to as corporate social responsibility).

**EXCERPTS (ADAPTED) FROM BASF'S 2011 ANNUAL REPORT**

| Environment and Safety | | 2011 | 2010 |
|---|---|---|---|
| Emissions of greenhouse gases ($CO_2$ equivalents) | million metric tons/year | 25.8 | 25.7 |
| Emissions to air (air pollutants) | thousand metric tons/year | 33.8 | 33.9 |
| Emissions of organic substances to water | thousand metric tons/year | 24.3 | 26.1 |
| Energy efficiency in production processes | metric tons of sales product/MWh | 0.63 | 0.61 |
| Transportation accidents | per 10,000 shipments | 0.18 | 0.28 |
| Number of environmental and safety audits | | 97 | 97 |
| Operating costs for environmental protection facilities | million € | 850 | 729 |
| Investments in environmental protection | million € | 190 | 122 |

| Employee and Society | | 2011 | 2010 |
|---|---|---|---|
| Employees as at December 31 | | 111,141 | 109,140 |
| Apprentices/trainees as at December 31 | | 2,565 | 2,442 |
| Personnel expenses | million € | 8,576 | 8,228 |
| Donations and sponsorships | million € | 48.7 | 49.8 |
| Annual bonus | % of Group companies | 93.7 | 92.9 |
| Lost time injury rate | per million working hours | 1.9 | 2.0 |



## Financial Statements

Typically the financial statement section starts with an acknowledgement by directors and management that they are responsible for the financial statements, followed by an **auditor's report** and the full set of financial statements.

**EXCERPTS FROM BASF'S 2011 ANNUAL REPORT**

### Statement by the Board of Executive Directors and assurance pursuant to Section 297(2), Section 315(1) German Commercial Code

The Board of Executive Directors of BASF SE is responsible for preparing the Consolidated Financial Statements and Management's Analysis of the BASF Group.

The Consolidated Financial Statements for 2011 were prepared according to the International Financial Reporting Standards (IFRS), which are published by the International Accounting Standards Board (IASB), London, and have been endorsed by the European Union.

In order to ensure the adherence of the Consolidated Financial Statements of the BASF Group and Management's Analysis to the applicable accounting rules, and the accuracy of reporting, we have established effective internal control systems.

The adherence to uniform, Group-wide accounting and reporting standards, and the reliability and effectiveness of our control systems are continually audited throughout the Group by our internal audit department. The risk management system we have set up is designed to identify material risks in a timely manner, thus enabling the Board of Executive Directors to take appropriate defensive measures as required.

To the best of our knowledge, and in accordance with the applicable reporting principles, the Consolidated Financial Statements of the BASF Group give a true and fair view of the assets, liabilities, financial position and profit situation of the Group, and the Management's Analysis includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal opportunities and risks associated with the expected development of the Group.

A statement of responsibility, such as the one preceding, is also an important element of corporate governance. It clearly spells out that preparation of financial statements is not just the job of the Chief Financial Officer and the accounting or finance department! As financial statements (and their integrity) are crucial to all stakeholders in the company, it is of upmost importance that everyone in the company, regardless of job functions, lives up to their responsibility.

Another key element of ensuring the integrity of financial statements is the audit requirement imposed on all listed companies. The requirement for an audit of financial statements is legally imposed by the respective jurisdiction's corporation or company law. Companies engage external auditors who are certified public accountants to examine their financial statements (and other aspects of the financial report as required, such as internal controls, director's report, remuneration report, etc.). The independent auditors express an opinion about whether the company's financial statements comply with the applicable accounting standards and regulations. This opinion is contained in an **auditor's report**, which provides an independent professional opinion to the company's shareholders that the company's financial statements were prepared in accordance with stipulated standards and represent a true and fair reflection of the company's performance. An audit report is usually addressed to the board of directors and shareholders of the company. A partner of the auditing firm signs the firm's name to the report.

KPMG, one of the "Big 4" accounting firms, is the auditor for BASF. The other members of the "Big 4" are Deloitte, Ernst & Young, and PricewaterhouseCoopers. Together, they command a large share of the audit market, especially those of larger, listed, multinational companies. KPMG arrives at an opinion after conducting its audit procedures in accordance to required auditing standards. Let's have a look at KPMG's audit report on BASF's financial statements.

## EXCERPTS FROM BASF'S 2011 ANNUAL REPORT

### Auditor's report

We have audited the Consolidated Financial Statements prepared by BASF SE, Ludwigshafen am Rhein, Germany, comprising the statement of income, statement of income and expense recognized in equity, balance sheet, statement of cash flows, statement of equity and the notes to the Consolidated Financial Statements, together with the Management's Analysis for the business year from January 1 to December 31, 2011. The preparation of the Consolidated Financial Statements and the Management's Analysis in accordance with IFRSs as adopted by the European Union, and the additional requirements of German commercial law pursuant to § 315a Abs. [paragraph] 1 HGB [Handelsgesetzbuch "German Commercial Code"] are the responsibility of the parent company's management. Our responsibility is to express an opinion on the Consolidated Financial Statements and on the Management's Analysis based on our audit. In addition, we have been instructed to express an opinion as to whether the Consolidated Financial Statements comply with full IFRS.

We conducted our audit of the Consolidated Financial Statements in accordance with § 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (IDW).

*continued on the following page*

Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the Consolidated Financial Statements in accordance with the applicable financial reporting framework and in the Management's Analysis are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Group and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the Consolidated Financial Statements and the Management's Analysis are examined primarily on a test basis within the framework of the audit. The audit includes assessing the annual financial statements of those entities included in consolidation, the determination of entities to be included in consolidation, the accounting and consolidation principles used and significant estimates made by management, as well as evaluating the overall presentation of the Consolidated Financial Statements and the Management's Analysis. We believe that our audit provides a reasonable basis for our opinion. Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the Consolidated Financial Statements comply with IFRSs as adopted by the E.U., the additional requirements of German commercial law pursuant to § 315a Abs. 1 HGB and full IFRS and give a true and fair view of the net assets, financial position and results of operations of the Group in accordance with these requirements. The Management's Analysis is consistent with the Consolidated Financial Statements and as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks of future development.

Frankfurt am Main, February 22, 2012

KPMG AG
Wirtschaftsprüfungsgesellschaft



The audit report on financial statements typically contains four sections:

- The first section identifies the audited financial statements as well as the company being audited.
- The second section outlines the respective responsibilities of the company's management as well as the auditor's responsibilities.
- The third section describes how the audit was performed in accordance with the generally accepted auditing standards of the jurisdiction. These are the standards used by auditors as the benchmark for evaluating audit quality (in this case, auditing standards as promulgated by the Institute of Public Auditors in Germany).
- The last section expresses the auditor's combined opinion about the entity's financial statements, remuneration report, and director's report. This may be different in different jurisdictions, depending on the local requirements.

As you can see from the above, KPMG's opinion is that the consolidated financial statements provide a "true and fair view of the net assets, financial position and results of the Group." This is what we called an **unqualified opinion**. It is the highest statement of assurance that an independent certified public accountant can express.

An unqualified opinion is one that is made without reservation or qualification. In other words, unqualified means the auditors did not qualify the opinion with matters that would require the readers' attention.

A **qualified opinion**, on the other hand, may be issued if, as a whole, the financial statements are fairly presented, except for disagreement on how to treat a particular transaction. Another situation could be where the auditors were not able to complete their planned audit procedures on a particular item or transaction. If the issue is beyond a single item or single transaction, an auditor may issue an **adverse opinion**. This opinion is the opposite of an unqualified opinion, i.e. the financial statements, as a whole, do not fairly represent the company's financial position. In very rare cases, auditors may not even be able to express an opinion due to their inability to complete the audit procedures as required.

If you are an accounting major student, you will learn more about various aspects of auditing in your audit course. Reliable audits are a crucial element of the stability of the financial market. If no one trusts audited financial statements, there will be chaos because you would never buy from, invest in, or loan money to any businesses.

After the audit report, you will find pages of financial statements and their accompanying notes. We will discuss the principles of presentation of these financial statements in the next few sections.

# General Presentation Requirements

**OBJECTIVE**

**2** **Know** the general features of financial statements

The *Conceptual Framework* (discussed in Chapter 1) states that the objective of financial reporting is to provide financial information, in the form of general purpose financial statements, that is useful to existing and potential investors, lenders, and other creditors making decisions about providing resources to an entity. Thus, how financial statements are presented is of great importance. For example, how should an entity decide what items to show on its statement of comprehensive income? Is it allowed to combine different types of assets into one account on the balance sheet? Can it offset a receivable from and payable to the same counterparty? These general presentation requirements are addressed in *IAS 1—Presentation of Financial Statements*. Let's have a brief look at *IAS 1*.

## Complete Set of Financial Statements

A complete set of financial statements comprises:

- a statement of financial position as at the end of the period;
- a statement of comprehensive income for the period;
- a statement of changes in equity for the period;
- a statement of cash flows for the period;
- notes, comprising a summary of significant accounting policies and other explanatory information.

Entities are allowed to use alternative names for the financial statements. For example, the statement of financial position is usually called a Balance Sheet. The first part of a statement of comprehensive income is usually called an Income Statement or a Profit and Loss Statement. The statement of comprehensive income itself is sometimes called a Statement of Recognized Income and Expenses.

These financial statements must be displayed with equal prominence. In practice, this means the financial statements are presented together, one after another. The standard does not prescribe the exact order of how the financial statements should appear. Most companies usually start with either the statement of financial position or statement of comprehensive income, followed by either the statement of changes in equity or the statement of cash flows, and then the notes to the financial statements.

In addition, the financial statements must be properly labeled. *IAS 1* requires an entity to clearly identify:

- the name of the reporting entity;
- if it is a consolidated or an individual entity's account (see Chapter 8);
- the date of the end of the reporting period or the period covered by the financial statements;
- the presentation currency used; and
- the level of rounding used in presenting the amounts in the financial statements.

## Fair Presentation and Compliance with IFRS

You saw earlier that BASF and its auditor made references to how the financial statements fairly present the net assets, financial position, and results of operations of the company. Fair representation requires the faithful representation of the effects of transactions, other events, and conditions in accordance with the definitions and recognition criteria for assets, liabilities, income, and expenses set out in the *Conceptual Framework*. When an entity applies IFRSs, with additional disclosure when necessary, it is presumed to result in financial statements that achieve a fair presentation. It cannot selectively apply the standards it likes (and not apply the ones it doesn't like) and proclaim compliance with IFRS.

An entity cannot rectify inappropriate accounting policies either by disclosure of the accounting policies used or by notes or explanatory material. For example, it cannot say it applies a policy that is not compliant with accounting standards, and then offer an explanation as to how the alternative treatment is better than the one under accounting standards, or how the alternative result is not materially different from that prepared under proper accounting standards.

## Going Concern

We mentioned the going concern assumption earlier (in Chapter 1). Going concern means the entity intends to, and has the ability to, operate into the foreseeable future. When an entity does not have a going concern, financial statements can no longer assume such an ability to operate into the future. The basis for accounting will be completely different from what we would normally do. For example, you can no longer depreciate an item of Property, Plant and Equipment (PPE) because useful lives are no longer relevant if the entity ceases operations.

## Accrual Basis of Accounting

We discussed earlier (in Chapter 3) how accrual accounting is better because it properly reflects changes in the net assets of an entity, rather than how much cash has gone in and out of an entity. *IAS 1* requires that an entity prepare its financial statements, except for cash flow information, using the accrual basis of accounting.

## Materiality and Aggregation

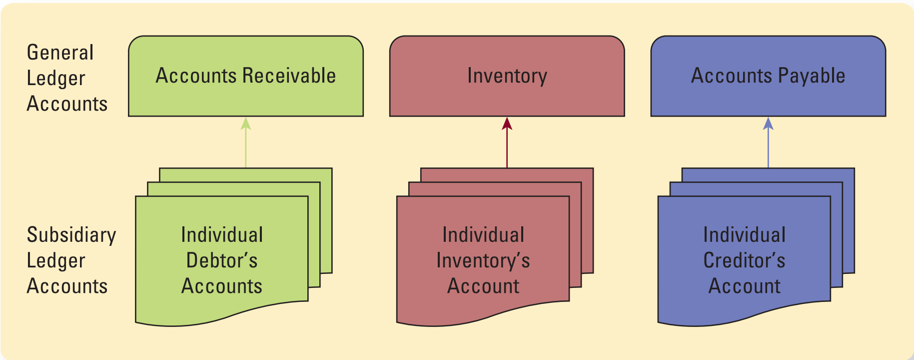
How many accounts do you think a business would utilize in its accounting system? The ShineBrite Car Wash example you have worked on earlier (in Chapters 1 to 3) used about 20 accounts (see Exhibit 3-9). It would be easy just to show all these 20 accounts in ShineBrite's financial statements.

In real life, however, companies uses thousands, millions, and even billions of accounts. For every inventory, receivable, and payable, companies will keep track of individual account balances rather than just the total. If a company has 100,000 customers, it will have 100,000 customer accounts in Accounts Receivable. Add another 20,000 suppliers, another 10,000 items on inventory, and you can see how the number of accounts quickly racks up.

### A CLOSER LOOK

Whilst we have used a single accounts receivable and a single accounts payable in our examples, in real life this is not going to be good enough. Think about it, if you have 100 customers, can you use a single, combined, receivable account to track each customer's credit purchases, returns and subsequent payments? You clearly need an account for each customer! But if each customer has an account, how big will your chart of accounts be? How are you going show them all on the trial balance?

Accounting systems make use of two levels of accounts: the control or summary account in the general ledger and its subsidiary accounts (also called subsidiary ledger, or sub-ledger for short). For example, you can see how the accounts receivable below is the control (or summary) account, and represents the total of all the individual debtors' account balances.




When transactions are processed, the accounting system will record at the individual level. For example, when M&R Ltd, one of your customers, paid the amount it owes to you, the balance is updated at the individual debtor's account (otherwise, you would still be chasing M&R for payments!). The summary account is updated periodically with the totals of all the individual debtors' accounts.

Even beyond these sub-ledger accounts, a company may keep a very detailed record of all its expenses, each account perhaps further sub-categorized by location, line of business, etc. For example, a business may keep track of the following accounts related to motor vehicle expenditures:

- Motor Vehicles—Fuel
- Motor Vehicles—Registration fees
- Motor Vehicles—Insurance
- Motor Vehicles—Repairs and maintenance
- Motor Vehicles—Others.

It may even sub-categorize the accounts further by types of motor vehicle: corporate office vehicles, delivery trucks, etc. When presenting financial statements to external users, companies will most probably aggregate these accounts. They may even be aggregated further with other expenses, such as telecommunication expenses, subscription expenses, and supplies expenses, as "other operating expenses."

A 2011 survey of over 200 companies gives an idea of the number of general ledger accounts used by businesses (Exhibit 4-4).

**EXHIBIT 4-4 | Number of General Ledger Accounts by Revenue Size**

| | Less than $25m | $25–$99m | $100–$499m | $500–$999m | $1bn and over |
|---|---|---|---|---|---|
| 100–500 | 76% | 65% | 42% | 21% | 21% |
| 501–1,000 | 15% | 15% | 39% | 36% | 25% |
| 1,001–3,000 | 9% | 15% | 10% | 16% | 21% |
| 3,001–5,000 | 0% | 5% | 5% | 11% | 21% |
| 5,001–10,000 | 0% | 0% | 2% | 11% | 4% |
| More than 10,000 | 0% | 0% | 2% | 5% | 8% |
| Totals | 100% | 100% | 100% | 100% | 100% |

*Source*: Financial Executives Research Foundation (FERF)

How much should a company aggregate before it loses meaning? What if a company aggregates everything to one total revenue and one total expenses account without additional details? Surely, such a level of aggregation would not help financial statement users make informed decisions about the company's financial performance!

*IAS 1* provides a principle-based guideline: "An entity shall present separately each material class of similar items. An entity shall present separately items of a dissimilar nature or function unless they are immaterial." An item is **material** when its omission or mis-statement could, individually or collectively, influence the economic decisions that users make on the basis of the financial statements. In other words, something is material when it has the potential to change a user's decision. It does not need to actually result in a change in a user's decision. What is material for a large multinational corporation may be different from that for a smaller business. Materiality depends on the size and nature (or combination of both) of the omission or mis-statement, judged in the surrounding circumstances.

## Offsetting

In general, unless required or permitted by an accounting standard, an entity is not allowed to offset assets and liabilities, or income and expenses. For example, if you have a receivable of €100 from BASF and a payable to BASF amounting to €80, you cannot offset the amounts and only show a receivable of €20. Such offsetting practices reduce the financial statement user's ability to understand the two separate business phenomena.

Note that offsetting is not the same as netting. For example, you can net off Accumulated Depreciation from a Property, Plant and Equipment cost to arrive at a carrying amount. Similarly, netting receivables with allowances for uncollectible accounts (see Chapter 5) is perfectly fine and, in fact, done to provide the entity's net position on the balance sheet.

### A CLOSER LOOK

Generally, when you sell something, you would show cost of goods sold as an expense item and the sales proceeds as revenue (more on this in Chapter 6). They are shown separately and not netted off. However, income outside ordinary activities, such as one generated from *incidental transactions* from disposal of a PPE is shown net (the difference between the sales proceeds and the carrying amount of the PPE). This netting reflects the substance of the business phenomenon. We will discuss disposals of PPE again later (in Chapter 7).

## Frequency of Reporting

Entities are required to present a complete set of financial information at least annually. Some entities do not use fixed date year-ends but use a 52-week period instead (see Chapter 1). Larger entities, depending on stock exchange requirements, are often required to report on a half-yearly or even quarterly basis. These are usually referred to as **interim reports**. Interim reports do not have the same amount of detail as annual reports and are not audited.

## Comparative Information

From the extracts of companies' financial statements you have seen thus far in this text, you would have noticed that each financial statement has **comparative information**, i.e. numbers from previous period(s). This allows readers to make better sense of the financial information. *IAS 1* requires entities to disclose, at a minimum, two years of information, i.e. the current financial period and the previous financial period. Under certain situations, entities may be required to provide three years of balance sheet information (as at the end of the current period, as at the end of the previous period, and at the beginning of previous period). Comparatives must also be made in the narrative and descriptive information.

## Consistency of Presentation

Further, entities are expected to maintain the presentation and classification of items in the financial statements from one period to another. For example, if an entity has always included and presented a particular income item under the heading "other income," it should continue to do so, unless presenting it otherwise is required by an accounting standard or results in more relevant and reliable information to the financial statement users. If a new presentation is carried out, then naturally the comparative amounts have to be adjusted accordingly.

For example, suppose that for 20X5 and 20X4, your sales and marketing expenses were $20,000 and $30,000, respectively. Prior to issuing the financial statements, you decided that a particular other operating expense amounting to $2,000 is more appropriately disclosed as a sales and marketing expense. If you only reflect this new classification for 20X5, you will show:

| | 20X5 | 20X4 |
|---|---|---|
| Sales and marketing expenses | $22,000 | $20,000 |
| Other operating expenses | $28,000 | $30,000 |

This gives an impression that you have incurred more sales and marketing expenses and lower other operating expenses in 20X5 compared to 20X4. This obviously would mislead readers as the expenses were exactly the same for 20X5 and 20X4! The change was caused by a reclassification. If this new classification is adopted, you would have to adjust your 20X4 comparative as well, and show:

| | 20X5 | 20X4 |
|---|---|---|
| Sales and marketing expenses | $22,000 | $22,000 |
| Other operating expenses | $28,000 | $28,000 |

Earlier (in Chapter 1), we saw how comparability enhances the quality of financial information. When presented with comparatives, the information must be presented on the same basis ("like things must look alike, different things must look different"). Otherwise, you will be looking at different ways of grouping items that may distort your view of the financial statements.

# MID-CHAPTER SUMMARY PROBLEM

Nora, the owner a small business, come to you for help in reviewing the business' financial statements. She passed you a (rather disorganized) file containing many separate pieces of papers collated by her assistant. The first thing you noticed when you open the file was this document:

| 20X6 Balance Sheet[1] | |
|---|---|
| All other assets less accumulated depreciation.............. | 58,000 |
| Cash.......................................................... | 3,000 |
| Equity........................................................ | 2,500 |
| Loans[2]...................................................... | 80,000 |
| Payables[3]................................................... | 1,170 |
| Prepayments................................................... | 2,470 |
| Receivables[3]................................................ | 15,920 |
| Supplies...................................................... | 4,280 |
| Total balance sheet this year[4].............................. | 167,340 |

Notes to the balance sheet:
1 Prepared on accrual basis unless immaterial
2 Consists of loans from Citibank (due 20X7) and HSBC (due 20X8)
3 Receivables of $50 from Marcus Ltd was netted off with payables of $200 to Marcus
4 Total balance sheet last year $140,010

### *Requirements*

1. Explain to Nora how the above balance sheet does not follow the general presentation requirement of financial statements.
2. What else do you expect to find in the file Nora passed to you?

## Answers

*Requirement 1:* The general presentation requirements of financial statements include the following:

- **Identification**: The balance sheet should be labeled appropriately. For example, the name of the entity, date of the end of the reporting period, the currency used, and any rounding (if any).
- **Fair presentation, compliance to accounting standards, and accrual accounting**: Compliance with accounting standards is presumed to result in fair presentation of the financial statements. Nora has selectively applied the accrual basis of accounting, unless immaterial. This is not allowed under IAS 1.
- **Going concern**: The notes to the account should contain a reference to the appropriateness of the going concern assumption. From the balance sheet alone, it appears the going concern may be an issue as Nora has outstanding loans within the next two years, with very little resources to settle the obligations.
- **Materiality and aggregation**: There is not enough information to determine the level of materiality but it appears that line items of the balance sheet are highly aggregated.
- **Offsetting**: Nora deducted a receivable of $50 from a payable of $200 to Marcus Ltd. This is not allowed under *IAS 1*.
- **Frequency, comparative information and consistency of presentation**: There was no information on the financial statements that they are prepared at least annually. Furthermore, there was no comparative information provided and thus consistency of presentation cannot be assured. The only comparative was a "total" of all numbers at the bottom of the balance sheet, which does not convey any meaning.

*Requirement 2: IAS 1* specifies that a complete set of financial statements consists of the statement of financial position, statement of comprehensive income, statement of changes in equity, statement of cash flows, and notes to the account. The file should contain these items.

## Statement of Financial Position

**OBJECTIVE**

**3** **Understand** presentation requirements for Statement of Financial Position

The statement of financial position shows an entity's assets and claims to these assets. You saw earlier that this could be kept in thousands of accounts and some form of aggregation would be necessary before presenting the assets, liabilities, and equity on the statement of financial position.

*IAS 1* specifies that, as a minimum, these line items should be displayed on the balance sheet, as they are sufficiently different in nature or function to warrant separate presentation in the statement of financial position (Exhibit 4-5). Obviously, if you do not have these items, you do not need to show them with zero balances. Many of these accounts may be foreign to you right now, but we will discuss them throughout this text.

**EXHIBIT 4-5 | Line Items on the Balance Sheet**

**ASSETS**

- Cash and cash equivalents
- Trade and other receivables
- Inventories
- Investment (under equity method)
- Other financial assets
- Current and deferred tax assets
- Property, Plant and Equipment
- Biological assets
- Investment properties
- Intangible assets
- Assets held for sale and discontinued operations

**LIABILITIES**

- Trade and other payable
- Provisions
- Other financial liabilities
- Current and deferred tax liabilities
- Liabilities held for sale and discontinued operations

**EQUITY**

- Issued capital
- Reserves
- Non-controlling interests

In addition, entities shall present additional line items, headings and subtotals in the statement of financial position when such presentation is relevant to an understanding of the entity's financial position. This is an assessment that each reporting entity has to make, taking into consideration the nature and liquidity of the assets, the functions of the assets within the entity and the amount, timing, and nature of liabilities.

Information on the liquidity of an entity's financial resources and obligations is important to the investors. **Liquidity** basically means how quickly an item can be readily converted to cash. This is typically done by grouping its assets into **current assets** and non-current assets, and liabilities into **current liabilities** and non-current liabilities. The basic principle in determining whether an asset (or liability) is current or non-current is whether or not the amount is expected to be recovered (or settled) within 12 months.

## A CLOSER LOOK

*IAS 1* specifies that assets are current if the following applies.

**(a)** the asset is cash or a cash equivalent;
**(b)** the entity expects to realize the asset within 12 months after the reporting period;
**(c)** it holds the asset primarily for the purpose of trading; or
**(d)** it expects to realize the asset, or intends to sell or consume it, in its normal operating cycle.

All other assets would be considered non-current.

The operating cycle of an entity is the time between the acquisition of assets for processing and their realization in cash or cash equivalents. When the entity's normal operating cycle is not clearly identifiable, it is assumed to be 12 months.

Conversely, liabilities are considered current if the following applies:

**(a)** the entity expects to settle the liability in its normal operating cycle;
**(b)** it holds the liability primarily for the purpose of trading;
**(c)** the liability is due to be settled within 12 months after the reporting period; or
**(d)** it does not have an unconditional right to defer settlement of the liability for at least 12 months after the reporting period.

All other liabilities would be considered non-current.

*IAS 1* does not prescribe a fixed format for balance sheets. For smaller companies, you may find that the Balance Sheet is presented as in an **account format**. The account format lists the assets on the left and the liabilities and shareholders' equity on the right in the same way that a T-account appears, with assets (debits) on the left and liabilities and equity (credits) on the right. Exhibit 3-12 shows an account-format balance sheet for ShineBrite Car Wash.

Most of the time, you will not see balance sheets presented this way in an annual report. It is more likely that they will be shown in a **report format**, which typically lists assets first, followed by liabilities, and then shareholders' equity. A global survey of 170 IFRS companies around the world shows a wide variety of practices on how items are ordered in balance sheets (see Exhibit 4-6).

**EXHIBIT 4-6 | Order of Presentation in Balance Sheets**

| | No of companies | % |
|---|---|---|
| **Classified into current and non-current:** | | |
| Current assets, non-current assets, current liabilities, non-current liabilities, equity | 51 | 30 |
| Non-current assets, current assets, equity, non-current liabilities, current liabilities | 67 | 39 |
| Non-current assets, current assets, current liabilities, non-current liabilities, equity | 30 | 18 |
| Non-current assets, current assets, non-current liabilities, current liabilities, equity | 5 | 3 |
| **Classified by other order of liquidity:** | | |
| Most current to least current | 14 | 8 |
| Least current to most current | 3 | 2 |
| Total companies surveyed | 170 | 100 |

*Source*: Exhibit created from source data found in IFRS Financial Statements-Best Practices in Presentation and Disclosure 2012/13, AICPA

BASF's consolidated statement of financial position (shown in Exhibit 4-7) illustrates the report format. The emphasis is on proving that the accounting equation balances, i.e. total assets equal total liabilities plus total equity. BASF reports its non-current assets first, followed by current assets, equity, non-current liabilities, and finally, current liabilities. Other companies may present their balance sheet sections differently.

**EXHIBIT 4-7 | BASF's 2011 Statement of Financial Position**

**BASF Group**
**Consolidated Statement of Financial Position (Adapted)**
As at 31 December 2011

| (In millions €, Euros) | | Explained in note | 2011 | 2010 |
|---|---|---|---|---|
| **Assets** | | | | |
| 1 | Intangible assets | [12] | 11,919 | 12,245 |
| 2 | Property, plant and equipment | [13] | 17,966 | 17,241 |
| 3 | Investments accounting for using the equity method | [14] | 1,852 | 1,328 |
| 4 | Other financial assets | [14] | 848 | 1,953 |
| 5 | Deferred tax assets | [9] | 941 | 1,112 |
| 6 | Other receivables and long-term assets | [16] | 561 | 633 |
| 7 | Total long-term assets | | 34,087 | 64,532 |
| 8 | Inventories | [15] | 10,059 | 8,688 |
| 9 | Accounts receivables, trade | [16] | 10,886 | 10,167 |
| 10 | Other receivables and short-term assets | [16] | 3,781 | 3,883 |
| 11 | Marketable securities | | 19 | 16 |
| 12 | Cash and cash equivalents | | 2,048 | 1,493 |
| 13 | Assets of disposal groups | [2] | 295 | 614 |
| 14 | Total short-term assets | | 27,088 | 24,861 |
| 15 | **Total assets** | | 61,175 | 59,393 |
| **Equity and liabilities** | | | | |
| 16 | Subscribed capital | [17] | 1,176 | 1,176 |
| 17 | Capital surplus | [17] | 3,203 | 3,216 |
| 18 | Retained earnings | [18] | 19,446 | 15,817 |
| 19 | Other comprehensive income | [18] | 314 | 1,195 |
| 20 | Equity of shareholders of BASF SE | | 24,139 | 21,404 |
| 21 | Minority interests | [19] | 1,246 | 1,253 |
| 22 | Total Equity | | 25,385 | 22,657 |
| 23 | Provisions for pensions and similar obligations | [20] | 3,189 | 2,778 |
| 24 | Other obligations | [21] | 3,335 | 3,352 |
| 25 | Deferred tax liabilities | [9] | 2,628 | 2,467 |
| 26 | Financial indebtedness | [22] | 9,019 | 11,670 |
| 27 | Other liabilities | [22] | 1,142 | 901 |
| 28 | Total long-term liabilities | | 19,313 | 21,168 |
| 29 | Accounts payable, trade | | 5,121 | 4,738 |
| 30 | Provisions | [21] | 3,210 | 3,324 |
| 31 | Tax liabilities | [9] | 1,038 | 1,140 |
| 32 | Financial indebtedness | [22] | 3,985 | 3,369 |
| 33 | Other liabilities | [22] | 3,036 | 2,802 |
| 34 | Liabilities of disposal groups | [2] | 87 | 195 |
| 35 | Total short-term liabilities | | 16,477 | 15,568 |
| 36 | **Total equity and liabilities** | | 61,175 | 59,393 |

The balance sheet also shows cross-references to notes to the accounts, which provide additional breakdown and information on the numbers on the financial statement. We will discuss notes to the accounts later in this chapter, and you will continue to see many examples of companies' notes to the accounts throughout this book.

## Statement of Comprehensive Income

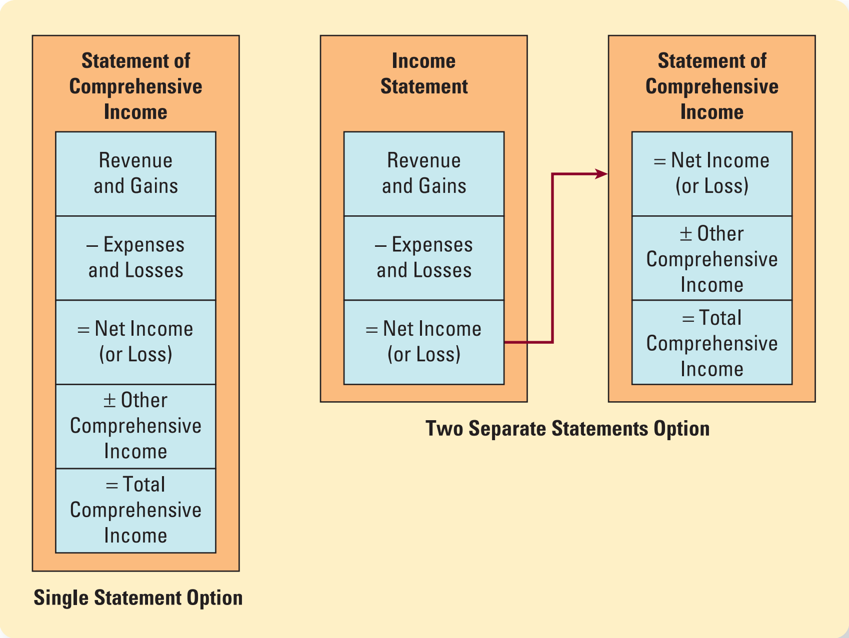
**OBJECTIVE**

**4** **Understand** presentation requirements for Statement of Comprehensive Income

*IAS 1* requires an entity to present all items of income and expense recognized in a period:

- in either a single statement of comprehensive income; or
- in two statements: (1) an income statement and (2) a statement of comprehensive income that starts with the profit or loss from the income statement and continues with other comprehensive income to arrive at total comprehensive income (see Exhibit 4.8).

**EXHIBIT 4-8 | Statement of Comprehensive Income Formats**



## A CLOSER LOOK

Other comprehensive income includes items that we would normally not cover in an introductory financial accounting course. They include:

- changes in revaluation surplus for PPE and intangible assets;
- some actuarial gains and losses on defined benefit plans;
- gains and losses arising from translating the financial statements of a foreign operation;
- gains and losses from investments in equity instruments measured at fair value through other comprehensive income;
- the effective portion of gains and losses on hedging instruments in a cash flow hedge; and
- for some liabilities designated as at fair value through profit or loss, the changes in fair value attributable to changes in credit risks.

If you are pursuing an accounting major, these items will be covered in your advanced accounting courses. For our current coverage, you can assume that other comprehensive income equals zero. This means the income statement shows all the revenue and expenses recognized in a financial period and is equivalent to a statement of comprehensive income (when other comprehensive income is zero).

In Exhibit 4-5 earlier we showed the items to be displayed on the face of a balance sheet as required by *IAS 1*. For the income statement, *IAS 1* simply states, in addition to items required by other accounting standards, that the income statement should present the following amounts for the period:

- revenue
- finance costs
- share of profits of associates (under equity method)
- tax expense.

## A CLOSER LOOK

*IAS 1* had two additional items related to financial assets, which have been left out from the list above as they are beyond the scope of this text. *IAS 1* also provide a list of other disclosure related to other comprehensive income, non-controlling interests, earning per share, reclassification adjustments, and so forth. If your course requires it, your instructor would point you to the relevant section of *IAS 1* for you to read.

However, an entity is expected to present additional line items, headings and subtotals in its statement of comprehensive income when such presentation is relevant to an understanding of the entity's financial performance. This is also an assessment that each reporting entity has to make, taking into consideration issues such as materiality, and the nature and function of the items of income and expense. When items of income or expense are material, an entity shall disclose their nature and amount separately.

*IAS 1* also requires that an entity shall present an analysis of its expenses using a classification based on either their nature or their function within the entity, whichever provides information that is reliable and more relevant.

Categorizing **expenses by nature** means the reporting entity aggregates expenses according to their nature (for example, depreciation, purchases of materials, transport costs, employee compensation, and advertising costs), and does not reallocate them among functions within the entity. This method may be simple to apply because no allocations of expenses to functional classifications are necessary.

On the other hand, **expenses by function** means the reporting entity classifies expenses into functional categories such as cost of sales, cost of distribution, cost of administration, and so forth. At a minimum, an entity must disclose its cost of sales under this method separately from other expenses. This method can provide more relevant information to users than the classification of expenses by nature, but allocating costs to functions may require arbitrary allocations and involve some judgement.

Let's have a look at BASF's consolidate statement of income, shown in Exhibit 4-9.

**EXHIBIT 4-9 | BASF's Consolidated Statement of Income**

**BASF Group**
**Consolidated Statement of Income (Adapted)**
For the financial year ended 31 December 2011

| (In millions €, Euros) | Explained in note | 2011 | 2010 |
|---|---|---|---|
| Sales | [4] | 73,497 | 63,873 |
| Cost of sales | | (53,986) | (45,310) |
| Gross profit on sales | | 19,511 | 18,563 |
| Selling expenses | | (7,323) | (6,700) |
| General and administrative expenses | | (1,315) | (1,138) |
| Research and development expenses | | (1,605) | (1,492) |
| Other operating income | [6] | 2,008 | 1,140 |
| Other operating expenses | [7] | (2,690) | (2,612) |
| Income from operations | [4] | 8,586 | 7,761 |
| Income from companies accounting using equity method | | 48 | 201 |
| Other income from participations | | 966 | 137 |
| Other expenses from participations | | (30) | (39) |
| Interest income | | 189 | 150 |
| Interest expense | | (763) | (773) |
| Other financial income | | 909 | 866 |
| Other financial expense | | (935) | (930) |
| Financial results | [8] | 384 | (388) |
| Income before taxes and minority interests | | 8,970 | 7,373 |
| Income taxes | [9] | (2,367) | (2,299) |
| Income before minority interests | | 6,603 | 5,074 |
| Minority interests | [10] | (415) | (517) |
| Net income | | 6,188 | 4,557 |



Note that whilst BASF has used negative figures (in brackets) to denote expenses, not all companies present their expenses as negative figures. Some may simply use the word "less" followed by a list of expenses, or present expenses in a coloured or shaded box to signify reductions.

Here's another example of a different company using expenses by nature (Exhibit 4-10). As you can see, AirAsia (the biggest low-cost airline in Asia) does not group or categorize its expenses into functional categories but reports them based on the different nature of the expense items.

**EXHIBIT 4-10 | AirAsia's Consolidated Income Statements**

**AirAsia Berhad**
**Consolidated Income Statement (Adapted)**
For the financial year ended 31 December 2011

| | (In thousands RM, Malaysian Ringgit) | 2011 | 2010 |
|---|---|---|---|
| 1 | Revenue | 4,495,141 | 3,948,095 |
| 2 | Operating expenses: | | |
| 3 | Staff costs | (484,177) | (360,785) |
| 4 | Depreciation of property, plant and equipment | (570,909) | (519,984) |
| 5 | Aircraft fuel expenses | (1,759,868) | (1,210,108) |
| 6 | Maintenance and overhaul | (86,698) | (92,646) |
| 7 | User charges and other related expenses | (386,868) | (383,431) |
| 8 | Aircraft operating lease expenses | (80,655) | (65,692) |
| 9 | Travel and tour operating expenses | (36,555) | (69,634) |
| 10 | Other operating expenses | (163,747) | (192,381) |
| 11 | Other losses—net | (55,501) | (22,416) |
| 12 | Other income | 292,357 | 35,943 |
| 13 | Operating profit | 1,162,520 | 1,066,961 |
| 14 | Finance income | 66,078 | 66,699 |
| 15 | Finance expense | (377,894) | (384,340) |
| 16 | Net operating profit | 850,704 | 749,320 |
| 17 | Foreign exchange gains/losses | (80,015) | 349,536 |
| 18 | Share of results of jointly controlled entities | 11,980 | – |
| 19 | Share of results of associates | (5,652) | – |
| 20 | Profit before taxation | 777,017 | 1,098,856 |
| 21 | Taxation | (221,693) | (37,445) |
| 22 | Net profit for the financial year | 555,324 | 1,061,411 |



## A CLOSER LOOK

Which analysis of expense do you think is more informative? Is an analysis of expenses by function better than an analysis of expense by nature?

*IAS 1* states that both methods are acceptable and provides information on expenses that may vary, directly or indirectly, with the level of sales or production of the entity. The choice between the two depends on the historical context, industry, and the nature of the entity. Management has to select the presentation that it believes will result in information that is more reliable and relevant.

A 2011 global survey of 170 IFRS companies showed that 92 (55%) use analysis of expense by function and the remaining 78 (or 45%) use analysis of expense by nature.

*IAS 1* specifically prohibits the use of the label "extraordinary" to describe items of income and expenses. This term was historically used to describe income or expenses that arise from events or transactions that are clearly distinct from the ordinary activities of the enterprise and therefore are not expected to recur frequently or regularly. They were also reported separately after net profit after tax. The prohibition stems from the idea that these "extraordinary" items are actually not so special after all, and that they result from normal business risks and should not be used to send signals to readers to ignore these items.

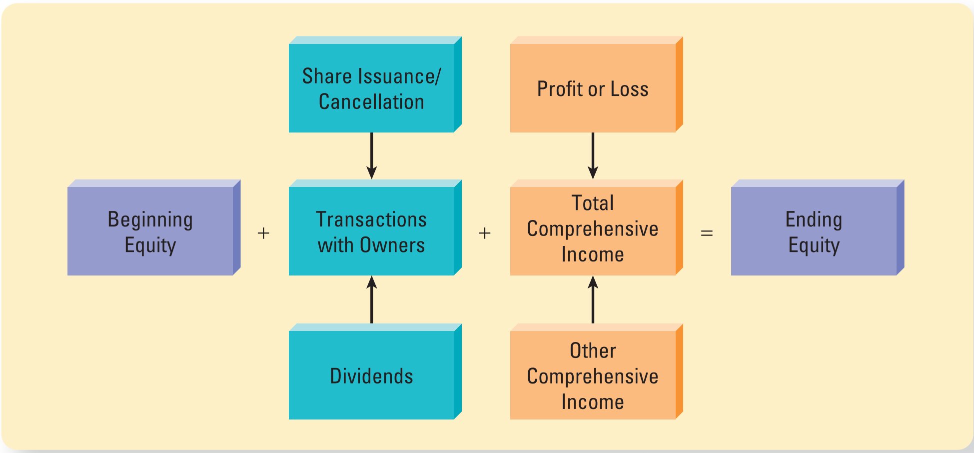
## Statement of Changes in Equity

**OBJECTIVE**

**5** **Understand** presentation requirements for Statement of Changes in Equity

The statement of changes in equity reconciles the movement in total equity, from the beginning to the end of its financial period. What may cause a change in total equity from one period to another? Exhibit 4-11 summarizes the key reconciling items for the statement of changes in equity.

**EXHIBIT 4-11 | Key Reconciling Items for Statement of Changes in Equity**




The changes may come from transactions with owners (in their capacity as shareholders) such as additional capital contribution, capital withdrawals (or share buyback and cancellation), and dividend payments. We will discuss equity-related transactions in more detail later (in Chapter 10). Another reason why equity would change from one period to another is, of course, the resulting total comprehensive income (or loss) for the period.

*IAS 1* requires such reconciliation be done for each component of equity. This is why you often see a statement of changes in equity with many columns. Many companies also resorted to showing the statement on a landscape format to fit the various components of equity it maintains. A simplified version of BASF's statement of changes in equity is shown in Exhibit 4-12.

**EXHIBIT 4-12 | BASF's Statement of Equity**

**BASF Group**
**Consolidated Statement of Equity (Adapted)**
For the financial year ended 31 December 2011

| | (In millions €, Euros) | Capital | Additional Paid-in Capital | Retained Earnings | Other comprehensive income | Minority Interests | Total equity |
|---|---|---|---|---|---|---|---|
| 1 | Balance as at January 1, 2011 | 1,176 | 3,216 | 15,817 | 1,195 | 1,253 | 22,657 |
| 2 | Dividends paid | | | (2,021) | | (457) | (2,478) |
| 3 | Net income | | | 6,188 | | 415 | 6,603 |
| 4 | Other changes | | (13) | (538) | (881) | 35 | (1,397) |
| 5 | Balance as at December 31, 2011 | 1,176 | 3,203 | 19,446 | 314 | 1,246 | 25,385 |
| 6 | Balance as at January 1, 2010 | 1,176 | 3,229 | 12,916 | 156 | 1,132 | 18,609 |
| 7 | Dividends paid | | | (1,561) | | (370) | (1,931) |
| 8 | Net income | | | 4,557 | | 517 | 5,074 |
| 9 | Other changes | | (13) | (95) | 1,039 | (26) | 905 |
| 10 | Balance as at December 31, 2010 | 1,176 | 3,216 | 15,817 | 1,195 | 1,253 | 22,657 |



*IAS 1* also requires entities to report on information on share capital, such as number of shares, par value, and so forth. This is typically done in the notes to the accounts. We will explain the concept of share and capital structure further later in the text (see Chapter 10).

Occasionally, you may see equity adjusted directed by an accounting policy change. The primary source of authority for accounting changes is *IAS8—Accounting Policies, Changes in Accounting Estimates and Errors*. **Accounting policies** are defined as the specific principles, bases, conventions, rules, and practices applied by an entity in preparing and presenting financial statements. There are three types of accounting changes relevant to us:

1. **Changes due to new accounting standards or pronouncements.** Accounting standards do evolve and, from time to time, an entity would need to apply new or updated accounting standards. Such changes should be done in accordance with the specific transitional provisions in the new IFRS.
2. **Changes in accounting estimates.** We use estimates in much of our accounting work. You saw earlier (in Chapter 3) that the process of allocating the costs of PPE involves estimates such as useful life of the asset. For these types of changes, companies report amounts for the current and future periods on the new basis, i.e. *prospectively*. There is no looking back to the past, but a disclosure of the impact of the change is required (we will discuss this further in Chapter 7).
3. **Changes in accounting policies.** Entities sometimes change from one accounting policy to another. For example, an entity may have accounted for a particular asset under one policy and then decided that it is more reliable and relevant to account and present the asset using another policy. Such accounting changes make it difficult to compare one period with preceding periods. Without detailed information, investors can be misled into thinking that the current year is better or worse than the preceding year, when in fact the only difference is a change

in accounting method. Thus, for these changes, the entity would report figures for all periods presented in the income statement—past as well as current—on the new basis. The company *retrospectively* applies (looks back and reapplies) all prior-period amounts that are presented for comparative purposes with the current year, as though the new accounting method had been in effect all along. This lets investors compare all periods that are presented on the same accounting basis. If an accounting policy change impacts periods prior to the earliest one presented in the current income statement, an adjustment to equity (via retained earnings) must be made. *IAS 8* contains additional provisions when the retrospective application is "impractical". For our purpose, prior period adjustments can be made to beginning retained earnings.

You would expect that financial statements to contain no factual errors. However, sometimes errors are only discovered after the financial statements have been issued. How do deal with these errors? *IAS 8* refers to these as **prior-period errors**, which may be caused by omissions from, and mis-statements in, the entity's financial statements for one or more prior-periods arising from a failure to use, or misuse of, reliable information. These errors include the effects of arithmetic mistakes, mistakes in applying accounting policies, oversights or misinterpretations of facts, and fraud.

All material prior-period errors require retrospective restatement, either by restating the opening balances of assets, liabilities, and equity for the earliest prior-period presented in a set of financial statements, or, if impractical, through a "prior-period adjustment" to the beginning retained earnings in the statement of changes in equity.

Let's use an example. Assume that MWS Corporation incorrectly recorded an expense as $30,000, but the correct amount was $40,000. This error understated expenses by $10,000 and overstated net income by $10,000. Let's assume we will correct this accounting error using a prior-period adjustment. Prior-period adjustments are not reported on the income statement because they relate to an earlier accounting period. This prior-period adjustment would appear on the statement of changes in equity earnings, as shown in Exhibit 4-13, with all amounts assumed:

**EXHIBIT 4-13 | Reporting a Prior Period Adjustment**

**MWS Corporation**
**Statement of Changes in Equity**
Year Ended December 31, 20X6

| | | |
|---|---|---|
| Total shareholder equity, December 31, 20X5 | | $490,000 |
| Share capital | $100,000 | |
| Retained earnings balance, December 31, 20X5, as reported | 390,000 | |
| Prior-period adjustment—to correct error in recording expense | (10,000) | |
| Retained earnings balance, December 31, 20X5, as adjusted | 380,000 | |
| Net income for 20X6 | 110,000 | |
| Dividends for 20X6 | (40,000) | |
| Retained earnings balance, December 31, 20X6 | 450,000 | |
| Total shareholder equity, December 31, 20X6 | | $550,000 |

## Notes to the Accounts

Recall that a complete set of financial statements include notes to the accounts. Notes to the accounts are an integral part of financial statements and contain additional information beyond the items presented on the face of financial statements. The notes are presented in a systematic manner, with appropriate cross-references from each item on the financial statements. Whilst there is no specific order of items disclosed in the notes to the accounts, typically you will find it starts with a summary of significant accounting policies, estimates, and assumptions used in the preparation of financial statements, followed by additional supporting information for items on the financial statements, and lastly other disclosure requirements that are not based on items shown on the financial statements.

You have seen various examples of accounting policy disclosures on revenue recognition earlier (in Chapter 3). You will see other examples as we discuss various topics throughout this text. Here's an example from BASF's notes to the financial statements on its revenue recognition policies.

**EXCERPTS (ADAPTED) FROM BASF'S 2011 NOTES TO THE FINANCIAL STATEMENTS**

**Accounting Policies: Revenue Recognition**

Revenues from the sale of goods or the rendering of services are recognized upon the transfer of ownership and risk to the buyer. They are valued at the fair value of the consideration received. Sales are reported without sales tax. Expected rebates and other trade discounts are either accrued or deducted. . . . In certain cases, customer acceptance is required on delivery. In these cases revenue is recognized after customer acceptance occurs.



In preparing financial statements, you have also seen that many accounting policies require the use of estimates and reliance on some assumptions. This is a critical understanding that anyone who studies accounting should realise. The numbers are meaningless until you know the accounting policies, estimates and assumptions used to determine how transactions are recorded, measured, and eventually reported on the financial statements. For example, BASF provided this disclosure in its notes:

**EXCERPTS (ADAPTED) FROM BASF'S 2011 NOTES TO THE FINANCIAL STATEMENTS**

**Use of estimates in the preparation of consolidated financial statements**

The carrying amount of assets, liabilities and . . . other financial obligations depends on the use of estimates and assumptions. Specific estimates or assumptions used in individual accounting or valuation methods are disclosed in their respective sections. They are based on the circumstances and estimates on the balance sheet date and affect the reported amounts of income and expenses during the reporting periods. These assumptions affect the determination of useful lives of property, plant and equipment and intangible assets, the measurement of provisions, the carrying amounts of investments, and other similar valuations of assets and obligations. Although uncertainty is appropriately incorporated in the valuation factors, actual results can differ from these estimates.



Many other notes simply provide an additional breakdown of the numbers on the financial statements. For example, you can reconcile the Inventories balance of €10,059 million (line 8 on Exhibit 4.8) with Note 15.

**EXCERPTS FROM BASF'S 2011 NOTES TO THE FINANCIAL STATEMENTS**

| Note 15—Inventories | **2011** (€ millions) | **2010** (€ millions) |
|---|---|---|
| Raw materials and factory supplies | 2,922 | 2,427 |
| Work-in-process, finished goods and merchandise | 7,034 | 6,171 |
| Advance payments and services-in-process | 103 | 90 |
| | 10,059 | 8,688 |



As the actual numbering practices may differ from one company to another, you should not judge the level of disclosure simply by counting the number of notes to the financial statements. BASF's 2011 annual report, for example, offers 32 notes to the accounts across 55 pages.

# END-OF-CHAPTER SUMMARY PROBLEM

Refer to the BASF's financial statements presented in Exhibits 4-7 and 4-9.

### *Requirements*

1. Examine BASF's statement of financial position in Exhibit 4-7. What are its current and non-current assets, and current and non-current liabilities? Does it appear to meet the presentation requirements of a statement of financial position?
2. Examine BASF's consolidated statement of income in Exhibit 4-9. Does it appear to meet the presentation requirements of an income statement? Do you find sufficient details on the face of the income statement to make a judgment about BASF's financial performance in 2011?

## Answers

### *Requirement 1*

BASF uses a short-term versus long-term classification to denote current and non-current assets/liabilities, respectively. Total currents assets are €27,088 million, total non-current assets are €34,087 million, total current liabilities are €16,477 million, and total non-current liabilities are €19,313 million. BASF's statement of financial position appears to meet the requirements in *IAS 1*, for example:

**(a)** The financial statement title, date of end of reporting period, presentation currency, and rounding, as well as comparative information, are all clearly displayed.

**(b)** The balance sheet appears to display the minimum line items shown in Exhibit 4.6 (BASF is unlikely to have assets such as biological assets). If BASF has any investment properties, this should be presented separately on the balance sheet. BASF uses an older term for non-controlling interest (labeled "minority interests").

### *Requirement 2*

BASF's income statement appears to meet the requirements in *IAS 1*, for example:

**(a)** The financial statement title, date of end of reporting period, presentation currency, and rounding, as well as comparative information, are all clearly displayed.

**(b)** The income statement contains all the required information. It shows total sales revenue of €73,497 million (with additional information in Notes 4, not shown), finance costs of €763 million, share of profits of associates of €48 million, and tax expenses of €2,367 million.

BASF also offered sufficient details on the income statement for readers to evaluate its financial performance. For example:

**(a)** The income statement shows additional headings and subtotals that BASF felt would make the information more relevant to readers. For example, it displays subtotals such as gross profit (€19,511 million), income from operations (€8,586), financial results (€384 million), and income before taxes.

**(b)** BASF provides additional explanation for a number of items on the income statement. There is, however, a practical limit of how much you can expect a company to disclose. For example, cost of sales is a total number without specific information on the actual cost of every product that BASF sells. Notes 6 and 7, explaining breakdown of other operating income and other operating expenses (not shown), provide additional details of disclosure as well.

# REVIEW PRESENTATION OF FINANCIAL STATEMENTS

## Quick Check (answers are given at the end of the chapter)

1. Which statement is true?
   **a.** Financial statements are part of corporate annual reports
   **b.** Corporate annual reports are part of financial statements
   **c.** Chairman's letters are part of financial statements
   **d.** Management discussions and analysis are part of notes to the accounts
2. Corporate annual reports typically appear in this order:
   **a.** Financial statements, analysis and commentaries, other statement and disclosures, and corporate information
   **b.** Corporate information, analysis and commentaries, other statements and disclosures, and financial statements
   **c.** Corporate information, other statements and disclosures, analysis and commentaries, and financial statements
   **d.** Financial statements, other statement and disclosures, analysis and commentaries, and corporate information
3. The first item in the analysis and commentaries section of an annual report is typically:
   **a.** Segment performance
   **b.** Management analysis and discussions
   **c.** Chairman's message/letter to shareholders
   **d.** Auditor's report on company's financial position and performance
4. Who is responsible for the preparation of financial statements?
   **a.** Chief Financial Officer (CFO) and their accounting staff
   **b.** Management
   **c.** Chairman of the Board
   **d.** Auditor
5. Materiality means:
   **a.** The amount in question is greater than 10% of total assets.
   **b.** The amount in question is greater than 10% of revenue.
   **c.** The amount in question would have resulted in a different decision had it been known to the financial statement users.
   **d.** The amount in question had the potential to result in a different decision had it been known to financial statement users.
6. *IAS 1* does not require the following item to be displayed on the statement of financial position:
   **a.** Cash and cash equivalents
   **b.** Provisions
   **c.** Intangible assets
   **d.** Accumulated depreciation
7. Which of the following is correct?
   **a.** A statement of financial position contains information about how components of equity changes during a period
   **b.** Other comprehensive income items may turn a "loss" in the income statement to a "profit" in the statement of comprehensive income
   **c.** Entities must present their statement of comprehensive income, followed by statement of financial position, statement of changes in equity and, lastly, statement of cash flows
   **d.** An entity is not allowed to aggregate its revenue into one single line on the income statement
8. An entity has the following balances: Cash $10,000, Inventory $20,000, Receivable $30,000, PPE $40,000, and Intangible assets $50,000. Its total current asset is:
   **a.** $30,000
   **b.** $60,000
   **c.** $100,000
   **d.** $150,000

9. All of the following may explain changes in equity from one period to another, except for:
   a. Additional share issuance during the period
   b. Payment of dividend during the period
   c. Total comprehensive income
   d. Increase in the entity's share price during the year
10. Which of the following statements best describes notes to the financial statements?
   a. They provide a breakdown of all the numbers that appear on financial statements
   b. They are used to explain how the company has performed during the financial year
   c. They are part of a complete set of financial statements
   d. The more important numbers are shown on the financial statements and the less important ones are shown in the notes to the financial statements

## Accounting Vocabulary

**Account format** (p. 239) A balance-sheet format that lists assets on the left and liabilities and shareholders' equity on the right.

**Accounting policies** (p. 246) Specific principles, bases, conventions, rules and practices applied by an entity in preparing and presenting financial statements.

**Adverse opinion** (p. 231) An auditor's opinion that the financial statements, as a whole, do not fairly represent the financial position and performance of the audited entity.

**Annual reports** (p. 220) Reports prepared by entities for their shareholders, potential investors and stakeholders.

**Auditor's report** (p. 228) A report from the external auditor expressing an opinion on the financial statement, after conducting an audit in accordance with applicable auditing standards.

**Board of directors** (p. 226) Shareholder representatives elected to oversee the company and its management team.

**Chairman** (p. 226) Head of a board of directors.

**Comparative information** (p. 235) Corresponding figures from previous financial period(s) that must be displayed on the same presentation basis as the current year's financial period.

**Corporate governance** (p. 227) The broad guidelines regulating how a company should be governed and managed, to ensure accountability to shareholders.

**Current asset** (p. 238) An asset that is expected to be converted to cash, sold, or consumed during the next 12 months.

**Current liability** (p. 238) A financial obligation that is due to be paid within 12 months.

**Expenses by function** (p. 243) One alternative in presenting expenses of a company, where expenses are categorized into major functions, such as cost of sales, selling and administration expenses, and so forth.

**Expenses by nature** (p. 243) One alternative in presenting expenses of a company, where expenses are reported as they are (e.g. depreciation, purchases of materials, staff costs, etc.) without allocation to functional areas.

**Interim reports** (p. 235) Quarterly or half-yearly financial reports that are usually not audited and less detailed than an annual report.

**Liquidity** (p. 238) A measure of an entity's ability to convert an asset to cash (if it is not already cash) or settle an obligation. Typically grouped into current and non-current assets and liabilities.

**Listing requirements** (p. 224) The rules stipulated by a stock exchange or bourse for all listed companies.

**Material** (p. 234) An item is material when its omission or misstatement could, individually or collectively, influence the economic decisions that users make on the basis of the financial statements.

**Prior-period errors** (p. 247) Errors arising from arithmetic mistakes, mistakes in applying accounting policies, oversights or misinterpretations of facts, and fraud, that are discovered in subsequent accounting period.

**Qualified opinion** (p. 231) An auditor's opinion that the financial statements, as a whole, fairly represent the financial position and performance of the audited entity, with exception in one or two areas.

**Report format** (p. 239) A balance-sheet format that lists assets at the top, followed by liabilities and shareholders' equity below.

**Unqualified opinion** (p. 230) An auditor's opinion that the financial statements fairly represent the financial position and performance of the audited entity.

# ASSESS YOUR PROGRESS

## Short Exercises

**S4-1** ***(Learning Objective 1: Understanding annual reports as a communication tool)*** Arthur Young is one of the many investors in your company. He demands to see your accounting records because he wants to have a "complete picture of the company's operations." Write a short email in response to Arthur's request.

**■ writing assignments**

**S4-2** ***(Learning Objective 1: Understanding annual reports as a communication tool)*** You were discussing corporate annual reports with your friends. One of them said "Annual reports are no different from a marketing brochure." How would you react to this statement?

**■ writing assignments**

**S4-3** ***(Learning Objective 2, 4: Understanding reporting requirements for income statements)*** You were reading a posting in a local small business discussion forum online. Someone with the nickname "Nightmare" has just posted a message that says: "I am applying for a bank loan for my flower shop and the bank has asked for an audited set of financial statements. I don't understand why they need to do so. My credit history is impeccable!"

Write a short reply to the discussion forum on why the bank would require financial statements to be audited.

**S4-4** ***(Learning Objective 2: Understanding general reporting requirements)*** Write a short paragraph explaining how corporate governance is important for the integrity of financial reporting.

**■ writing assignments**

**S4-5** ***(Learning Objective 2: Using accounts to keep track of information)*** What is the difference between keeping track of customer accounts using subsidiary ledger accounts versus using general ledger accounts?

**S4-6** ***(Learning Objective 2: Identifying financial statement)*** What are the *IAS 1* requirements in terms of the ordering of financial statements in an annual report? What additional labels must each financial statement display?

**S4-7** ***(Learning Objective 2, 3: Aggregating information for presentation on the balance sheet)*** Expedia has the following account balances:

| RECEIVABLES | |
|---|---|
| • Amsterdam Supplies | $1,000 |
| • Bangkok Groceries | $1,500 |
| • Doha Markets | $2,300 |
| • Frankfurt Museum | $3,800 |
| • Geneva Tours | $4,200 |

| PAYABLES | |
|---|---|
| • Doha Markets | $1,100 |
| • Jakarta Leisure Group | $1,900 |
| • London Bridge Souvenirs | $2,000 |
| • Penang Kitchen | $3,100 |

What amount of total receivables and total payables should Expedia report on its balance sheet? Is it allowed to net off the balances to and from Doha Markets?

**S4-8** ***(Learning Objective 3: Distinguishing current assets from non-current assets)*** Stark Enterprises have the following assets: Cash and cash equivalents $32,500, Inventory $12,800, Receivables $39,200, Prepayments $10,000, Long-term interest-free loan to employees $20,000, Equipment $40,000, Accumulated depreciation—equipment $3,600, Motor vehicle $75,000, Accumulated depreciation—motor vehicle $22,500, Intangible assets $20,000.

What are Stark's total current assets and total non-current assets?

**S4-9** ***(Learning Objective 3: Distinguishing current assets from non-current assets)*** Stark Enterprises have the following liabilities: Accounts payable \$20,000, Accrued staff wages \$3,600, Accrued interest \$2,100, Commission payable \$2,500, Tax payable \$8,000, Loan \$100,000 (half of which is due in the coming financial period).

What are Stark's total current liabilities and total non-current liabilities?

**S4-10** ***(Leaning Objective 4: Knowing components of other comprehensive income)*** List the items that could appear as other comprehensive items.

**■ writing assignments**

**S4-11** ***(Learning Objective 4: Assessing net income versus comprehensive income)*** Company Nought reported a net profit of \$2 million on its income statement and a \$2 million loss in other comprehensive income. Company Zilch reported a net loss of \$2 million on its income statement and a \$2 million other comprehensive income. Both Nought and Zilch thus report zero total comprehensive income.

If you have to pick one company, which company would you pick? Why?

**S4-12** ***(Learning Objective 5: Understanding major items that changes equity)*** Dynamo Corp reported total equity of £138,851 at the end of its 20X5 financial year. At the end of its 20X6 financial year, total equity grew to £349,284. List the major items that caused this change.

## Exercises

MyAccountingLab

All of the A and B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

### (Group A)

**E4-13A** ***(Learning Objective 1: Identifying key elements of an annual report)*** For each of the following items, identify which section they would typically appear in on an annual report? Use (1) for corporate information, (2) analysis and commentaries, (3) other statements and disclosures, and (4) financial statements.

**a.** Chairman's letter to shareholder ______
**b.** Listing of company's subsidiaries and associated entities ______
**c.** Review of segment performance ______
**d.** Revenue recognition policy ______
**e.** Company history ______
**f.** New upcoming product launches ______
**g.** Breakdown of trade and other payables ______

**E4-14A** ***(Learning Objective 2: Identifying financial statements)*** Gant Corp is a large multinational company with many subsidiaries and associated companies. It is headquartered in Manchester, United Kingdom, and is listed on both the London Stock Exchange and the Hong Kong Stock Exchange. Its income statement heading is shown below. Identify any deficiencies in relation to requirements of *IAS 1*.

| Gant Corporation | | |
|---|---|---|
| | 20X5 | 20X4 |

**E4-15A** ***(Learning Objective 2: Understanding materiality)*** Infinia is a company with total assets of $500,000, total revenue of $800,000, gross profit of $300,000, and net profit of $100,000 in its last financial year, 20X5. Which of the following items are likely to be material for Infinia?

**a.** There was an error in the calculation of commission payable to employees amounting to $2,000 in 20X4. The additional payments were made in 20X5 but the 20X4 comparatives on the financial statement were not adjusted for this error.

**b.** Infinia has erroneously recognized revenue for items that have not yet been shipped to customers at the end of 20X5, amounting to $25,000.

**c.** Infinia suffered a major flood in one of its largest warehouses in September 20X5. Infinia did not recognize or disclose the losses it suffered because it was in the process of making claims to its insurance company. In early 20X6, before the issuance of the annual report, the insurance company paid the claims in full.

**d.** Infinia sold an old factory to another company. The buyer was going to demolish the factory and build a hostel on the site. However, the buyer failed to secure permission to build the hostel because the grounds showed higher levels of toxicity than allowed. The buyer claimed this is due to Infinia's failure to meet environmental regulations on disposal of industrial waste in the past. The buyer is now suing Infinia for damages, expected to be in the millions. Infinia believes this lawsuit is baseless and would vigorously defend the case in court. It did not mention this lawsuit in its annual report.

**E4-16A** ***(Learning Objective 2 and 3: Aggregating assets on the balance sheet)*** Travis Ltd has the following assets. Assuming that each account is not material, what is the highest level of aggregation allowed under *IAS 1*?

| | | |
|---|---|---|
| Cash on hands | Short-term share investments | Equipment |
| Deposits at banks | Investment under equity method | Furniture and fixtures |
| Prepayments and deposits | Goodwill | Motor vehicles |
| Trade receivables | Inventory—raw materials | Building |
| Other receivables | Inventory—work-in-progress | Plantation |
| Notes receivables | Inventory—finished goods | Intellectual property rights |

**E4-17A** ***(Learning Objective 3: Classifying assets based on liquidity)*** A thorough review of GP Broadcasting assets at the end of December 31, 20X5 resulted in the following information:

- Cash on hand and cash at bank totaled $483,000
- Fixed term deposits with banks totaled $140,000 (matures July 1, 20X7)
- Inventories totaling $304,000
- Trade receivables totaling $249,000
- Loans to employees of $100,000, 30% of which is due by end of 20X6
- PPE with a historical cost of $149,000 and accumulated depreciation of $12,000
- Investment in associate companies using equity method at $45,000
- Short-term investment in publicly traded shares of listed companies at $12,000

What are GP Broadcasting's current and non-current assets?

**E4-18A** ***(Learning Objective 3: Classifying liabilities based on liquidity)*** The same review in E4-17A above resulted in the following information on GP Broadcasting's liabilities at the end of December 31, 20X5:

- Trade payable of $307,000
- Note payable of $240,000 due July 1, 20X7
- Interest accrued for note payable $8,000 (payable every quarter, the next payment being on April 1, 20X6)
- Provisions for unbilled expenses of $30,000
- Provision for employee benefit of $242,000 (first employee retirement expected in 20X9)
- Interest-free loan from a shareholder, totaling $400,000, payable in eight equal quarterly installments, first payment due on March 1, 20X6.

What are GP Broadcasting's current and non-current liabilities?

**E4-19A** ***(Learning Objective 4: Preparing statement of comprehensive income)*** Fury Enterprise reported the following balances.

**Fury Enterprises**
**Partial account listing and balances**
as at December 31, 20X5 and 20X4

| | 20X5 | 20X4 |
|---|---|---|
| Sales revenue | $38,700 | $29,200 |
| Other income | 5,200 | 4,600 |
| Cost of goods sold | 12,200 | 9,400 |
| Distribution expenses | 2,100 | 2,400 |
| Marketing expenses | 3,600 | 3,100 |
| Administrative expenses | 2,900 | 2,500 |
| Finance expense | 700 | 500 |
| Tax expense | 1,400 | 1,200 |
| Other comprehensive income | 4,100 | 3,500 |

Prepare Fury's statement of comprehensive income in a single statement format and a two separate statements format.

**E4-20A** ***(Learning Objective 4: Reporting by expenses by function and nature)*** Potomac's accountant has just prepared an analysis of its expenses for the year, by nature and by functions. The company earned service revenue totaling $450,000 during the year.

| Expense by Nature and Function | Cost of Sales | Sales and Marketing | Distribution and logistics | Administrative expenses | Unallocated |
|---|---|---|---|---|---|
| Wages and Salaries | 43,000 | 32,000 | 39,000 | 25,000 | |
| Depreciation | 5,000 | 4,000 | 8,000 | 2,000 | |
| Advertising expense | | 30,000 | | | |
| Motor vehicle expense | | 12,000 | 30,000 | 28,000 | |
| Utilities expense | 8,000 | 3,000 | 12,000 | 5,900 | |
| Interest expense | | | | | 7,300 |
| Tax expense | | | | | 3,400 |

1. Prepare Potomac's income statement using analysis of expenses by nature.
2. Prepare Potomac's income statement using analysis of expenses by function.
3. Looking at your answers to part 1 and 2 above, which one do you prefer as a user of financial statements?

## (Group B)

**E4-21B** ***(Learning Objective 1: Identifying key elements of an annual report)*** For each of the following items, identify which section they would typically appear in on an annual report? Use (1) for corporate information, (2) analysis and commentaries, (3) other statements and disclosures, and (4) financial statements.

- **a.** CEO's letter to shareholder ______
- **b.** Information on the company's latest business acquisitions ______
- **c.** Report on environmental impact ______
- **d.** Estimates used in depreciation allocation ______
- **e.** Awards and accolades received ______
- **f.** Auditor's opinion ______
- **g.** Members of the board of directors ______

**E4-22B** ***(Learning Objective 2: Identifying financial statements)*** Hoffman Enterprises Ltd is a large multinational company with many subsidiaries and associated companies. It is headquartered in Luxembourg and is listed on both the Frankfurt Stock Exchange and the Taiwan Stock Exchange. Its balance sheet heading is shown below. Identify any deficiencies in relation to requirements of *IAS 1*.

| Hoffman Enterprises Ltd | | |
|---|---|---|
| | **20X5** | **20X4** |

**E4-23B** ***(Learning Objective 2: Understanding materiality)*** Industria is a company with total assets of €500,000, total revenue of €800,000, gross profit of €300,000 and net profit of €100,000 in its last financial year, 20X5. Which of the following items are likely to be material for Industria?

**a.** There was an error in the calculation of commission payable to employees amounting to €2,000 in 20X4. The additional payments were made in 20X5 but the 20X4 comparatives on the financial statement were not adjusted for this error.

**b.** Industria has erroneously recognized revenue for items that have not yet been shipped to customers at the end of 20X5, amounting to €25,000.

**c.** Industria suffered a major flood in one of its largest warehouses in September 20X5. Industria did not recognize or disclose the losses it suffered because it was in the process of making claims to its insurance company. In early 20X6, before the issuance of the annual report, the insurance company paid the claims in full.

**d.** Industria sold an old factory to another company. The buyer was going to demolish the factory and build a hostel on the site. However, the buyer failed to secure permission to build the hostel because the grounds showed higher level toxicity than allowed. The buyer claimed this was due to Industria's failure to meet environmental regulations on disposal of industrial waste in the past. The buyer is now suing Industria for damages, expected to be in the millions. Industria believes this lawsuit is baseless and would vigorously defend the case in court. It did not mention this lawsuit in its annual report.

**E4-24B** ***(Learning Objective 2 and 3: Aggregating assets on the balance sheet)*** Marvis Ltd has the following assets. Assuming that each account is not material, what is the highest level of aggregation allowed under *IAS 1*?

| | | |
|---|---|---|
| Cash | Short-term share investments | Machinery and equipment |
| Term deposits | Investment under equity method | Furniture and fittings |
| Prepayments and deposits | Goodwill | Trucks |
| Accounts receivables | Inventory—raw materials | Factory |
| Other receivables | Inventory—work-in-progress | Plantation |
| Notes receivables | Inventory—finished goods | Intellectual property rights |

**E4-25B** ***(Learning Objective 3: Classifying assets based on liquidity)*** A thorough review of PS Broadcasting assets at the end of December 31, 20X5 resulted in the following information.

- Cash on hand and cash at bank totaled €238,000
- Fixed term deposits with banks totaled €160,000 (matures July 1, 20X7)
- Inventories totaling €124,000
- Trade receivables totaling €185,000
- Loans to employees of €36,000, 30% of which is due by end of 20X6
- PPE with a historical cost of €182,000 and accumulated depreciation of €58,000
- Investment in associate companies using equity method at €65,000
- Short-term investment in publicly traded shares of listed companies at €22,000

What are PS Broadcasting's current and non-current assets?

**E4-26B** ***(Learning Objective 3: Classifying liabilities based on liquidity)*** The same review in E4-25B above resulted in the following information on PS Broadcasting's liabilities at the end of December 31, 20X5.

- Trade payable of €127,000
- Note payable of €190,000 due July 1, 20X7
- Interest accrued for note payable €4,800 (payable every quarter, the next payment being on April 1, 20X6)
- Provisions for unbilled expenses of €24,200
- Provision for employee benefit of €191,500 (first employee retirement expected in 20X9)
- Interest-free loan from a shareholder, totaling €200,000, repayable in eight equal quarterly installments, first payment due on March 1, 20X6.

What are PS Broadcasting's current and non-current liabilities?

**E4-27B** ***(Learning Objective 4: Preparing statement of comprehensive income)*** Nick Limited reported the following balances.

**Nick Limited**
**Partial account listing and balances**
as at December 31, 20X5 and 20X4

| | **20X5** | **20X4** |
|---|---|---|
| Sales revenue | €29,200 | €38,700 |
| Other income | 4,600 | 5,200 |
| Cost of goods sold | 9,400 | 12,200 |
| Distribution expenses | 2,400 | 2,100 |
| Marketing expenses | 3,100 | 3,600 |
| Administrative expenses | 2,500 | 2,900 |
| Finance expense | 500 | 700 |
| Tax expense | 1,200 | 1,400 |
| Other comprehensive income | 3,500 | 4,100 |

Prepare Nick's statement of comprehensive income in a single statement format and a two separate statement format.

**E4-28B** ***(Learning Objective 4: Reporting by expenses by function and nature)*** Maryland's accountant has just prepared an analysis of its expenses for the year, by nature and by functions. The company earned service revenue totaling €450,000 during the year.

| Expense by Nature and Function | Cost of Sales | Sales and Marketing | Distribution and Logistics | Administrative Expenses | Unallocated |
|---|---|---|---|---|---|
| Wages and salaries | 29,000 | 39,000 | 23,000 | 19,000 | |
| Depreciation | 8,300 | 4,800 | 7,100 | 3,200 | |
| Advertising expense | | 27,500 | | | |
| Motor vehicle expense | | 16,900 | 38,000 | 24,000 | |
| Utilities expense | 12,600 | 5,200 | 11,100 | 3,800 | |
| Interest expense | | | | | 8,500 |
| Tax expense | | | | | 4,900 |

1. Prepare Maryland's income statement using analysis of expenses by nature.
2. Prepare Maryland's income statement using analysis of expense by function.
3. Looking at your answers to part 1 and 2 above, which one do you prefer as a user of financial statements?

## Quiz

*Test your understanding of presentation of financial statements by answering the following questions. Answer each question by selecting the best choice from among the answers given.*

**Q4-29** An entity shall present:
**a.** The statement of financial position more prominently than the other statements.
**b.** The statement of comprehensive income first and the statement of changes in equity last.
**c.** The statement of changes in equity must always follow the statement of financial position.
**d.** If presented in two-statement format, the income statement must be immediately followed by the statement of comprehensive income.

**Q4-30** In accordance with *IAS 1*, which of the following statement is correct?
**a.** Assets and liabilities can be offset if they arise from the same transaction or event.
**b.** Assets and liabilities must be presented in the order of decreasing liquidity.
**c.** For the purpose of classifying assets and liabilities into current and non-current components, the entity's operating cycle can be more than 12 months.
**d.** Intangible assets must be presented separately in the statement of financial position.

**Q4-31** Which of the following entities appears not to be a going concern?
**a.** Company K's management intends to liquidate the entity.
**b.** Company L's management is being forced to cease the entity's operations due to a major change in government policies.
**c.** Company M's management is unable to extend its long-term loan and, given its losses in recent years, it is unlikely that it will be able to raise funds through other means to pay for the loan.
**d.** None of the three companies is likely to be a going concern.

**Q4-32** When the classification of items in its financial statements is changed, the entity:
**a.** Must not reclassify the comparative amounts unless absolutely necessary.
**b.** Has an unrestricted choice whether to reclassify the comparative amount or not.
**c.** Must preserve consistency in reporting and no new reclassification should be allowed.
**d.** Must reclassify comparative amounts, unless it is impractical to do so.

**Q4-33** The information which must be provided so as to properly identify each component of a set of financial statements does not include:
**a.** The presentation currency and level of rounding used.
**b.** The name of the reporting entity.
**c.** The date of the end of the reporting period or the period covered by the financial statements.
**d.** The country in which the entity operates.

**Q4-34** Items of dissimilar nature or function:
**a.** Must always be presented separately in financial statements.
**b.** Must be aggregated until they are material.
**c.** Must be presented separately if they are material.
**d.** May be aggregated if accompanied by a note to the account explaining the breakdown.

**Q4-35** Materiality depends on:
**a.** The nature of the omission or mis-statement.
**b.** The size of the omission or mis-statement.
**c.** The higher of 10% of total assets and 10% of total revenue.
**d.** Both the nature and size of the omission or mis-statement.

**Q4-36** An entity must disclose comparative information for:
**a.** The previous comparable period for all amounts reported in the financial statements.
**b.** The previous comparable period for all amounts reported in the financial statements, as well as any narrative and descriptive information.
**c.** Only the immediate past financial period.
**d.** Only for material items on the financial statements.

**Q4-37** An entity's equity may decrease during a financial period because:
**a.** There was a new share issuance.
**b.** Total comprehensive income was higher than net profit.
**c.** Prior-period errors resulted from overstatement of the previous year's profits.
**d.** Other comprehensive income was lower than net profit.

**Q4-38** The notes to the accounts can be used for the following, except for:
**a.** Explaining the accounting policies used.
**b.** Providing additional breakdown of line items on the face of financial statements.
**c.** Providing disclosures of items not shown on the face of financial statements.
**d.** Explaining why a certain accounting standard was not followed.

## Problems

MyAccountingLab

All of the Group A and Group B problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

**P4-39A** ***(Learning Objective 1: Expressing an audit opinion)*** You have just completed the audit of four companies: Ahakir, Bhakir, Chakir and Dhakir. The conclusions of the audits are summarized below for each company.

- Ahakir: Its financial statements fairly represent the company's financial position and performance, but the audit team disagreed with management's use of a particular estimate.
- Bhakir: Its financial statements are wrought with errors, as the accountant has completely messed up the translation of various foreign currencies in numerous accounts. As a result, the balance sheet, whilst still balanced, is not a faithful representation of the economic phenomenon during the financial period.
- Chakir: The accountant was not able to explain numerous discrepancies. One of the major problems was that the receivable, inventory, and payable control accounts do not tally with their respective sub-ledger, making it impossible to audit.
- Dhakir: The audit highlighted a number of immaterial differences in the calculation of depreciation for the year.

### *Requirements*

Propose the most appropriate type of audit opinion for Ahakir, Bhakir, Chakir, and Dhakir based on the audit notes above.

**P4-40A** ***(Learning Objective 3: Preparing a classified balance sheet)*** The accounts of Spa View Services Ltd as at March 31, 20X5 are listed below in alphabetical order.

| | | | |
|---|---|---|---|
| Accounts payable | $14,400 | Interest expense | $900 |
| Accounts receivable | 16,100 | Note payable, long term | 6,100 |
| Accumulated depreciation—equipment | 6,900 | Other assets | 14,400 |
| Advertising expense | 10,900 | Prepaid expenses | 6,000 |
| Cash | 7,900 | Retained earnings, March 31, 2009 | 22,000 |
| Share capital | 5,600 | Salary expense | 17,800 |
| Current portion of note payable | 1,000 | Salary payable | 2,900 |
| Depreciation expense | 1,700 | Service revenue | 95,000 |
| Dividends | 31,200 | Supplies | 3,600 |
| Equipment | 41,700 | Supplies expense | 4,400 |
| | | Unearned service revenue | 2,700 |

### Requirements

Prepare the Spa View Services' classified balance sheet at March 31, 20X5. Show necessary captions. Note that for this question, you do not need to show comparative amounts.

**P4-41A** ***(Learning Objective 2, 4: Aggregating information for presentation on the income statement)*** Ryan's Home Repair Services had the following balances at the end of 20X4 and 20X5.

**Ryan's Home Repair Services**
**Partial account listing and balances**
as at December 31, 20X5 and 20X4

| | **20X5** | **20X4** |
|---|---|---|
| Sales revenue | $40,900 | $32,400 |
| Service revenue | 21,200 | 17,900 |
| Interest income | 3,900 | 2,300 |
| Cost of goods sold | 17,500 | 13,700 |
| Wages and salaries | 12,200 | 10,500 |
| Depreciation | 2,900 | 2,900 |
| Supplies expense | 8,700 | 7,500 |
| Interest expense | 400 | 500 |
| Motor vehicle expense | 4,100 | 3,500 |
| Fuel expense | 2,400 | 1,700 |
| Utilities expense | 1,700 | 2,100 |
| Advertising expense | 3,100 | 3,700 |
| Tax expense | 2,600 | 1,300 |

### Requirements

1. Assuming that Ryan would like to disclose no more than what is required by accounting standards, with the maximum level of aggregation possible, prepare an income statement to such effect.
2. Why would it not be possible for Ryan to simply show a three-line income statement, one that simply lists total revenue, total expenses and net profit?
3. How should Ryan decide which line items are important enough to be shown separately on the income statement and which ones to aggregate?

**P4-42A** ***(Learning Objective 2, 4: Reporting comparative amounts on income statement)*** Refer to Ryan's Home Repair Services account balances for 20X4 and 20X5 in P4-40A above. Suppose Ryan decided to show all the accounts on its income statement. In addition, Ryan discovered that:

- Supplies expense in 20X4 and 20X5 contained an item amounting to $500 in each year that is more appropriately classified as advertising expense.
- Other expenses in 20X4 and 20X5 contained an item amounting to $400 in each year that is more appropriately classified as motor vehicle expense.

### Requirements

Prepare Ryan's income statement for 20X5 with the appropriate 20X4 comparative amounts.

**P4-43A** ***(Learning Objective 3, 5: Preparing a note to the financial statement)*** Musashi Ltd commenced operations on January 1, 20X6. On that day, it bought:

**writing assignment**

- Equipment costing ¥3 million, with a useful life of 3 years.
- Furniture and fittings costing ¥2 million, with a useful life of 4 years.
- Motor vehicle costing ¥4 million, with a useful life of 10 years.

No other PPE was purchased or disposed of during the year.

### Requirements

What would Musashi report as PPE on its balance sheet? Prepare the notes to the accounts related to PPE. Note you may need to look at how BASF provided a similar note on its PPE.

**P4-44A** ***(Learning Objective 2, 5: Understanding materiality, correction of prior period profits)*** In December 20X8, just before the financial statements were finalised, Justin & Justin discovered that a programming error in the calculation of depreciation of specialized, expensive machinery has caused the annual depreciation charge to be erroneously calculated. The error started from the date the machinery was purchased on January 1, 20X2. The error resulted in a lower depreciation of $100,000 per year. Due to a large dividend payment in the previous year, J&J's total equity balance stands at $1,000,000 at the end of 20X8.

### Requirements

In your opinion, is this error material or not material? Why? How should this be rectified in the 20X8 financial statements, if needed?

■ **writing assignment**

**P4-45A** ***(Learning Objective 2, 5: Understanding annual reports and financial statements reporting requirement)*** Melvin Young, the new accountant of Raffles Place Ltd, was preparing the company's financial statements ending 20X6. During the year, the company:

- Changed the useful life estimates of some assets from 3 to 5 years.
- Had to account for its investment differently due to the publication of a new IFRS.
- Changed its accounting policy on revenue recognition.
- Discovered an error in the 20X5 financial statement.

Melvin is somewhat unsure of what to do next. He has emailed you, his former accounting professor, for advice.

### Requirement

Write a reply to Melvin and offer your guidance on the appropriate treatment of the items.

## (Group B)

**P4-46B** ***(Learning Objective 1: Expressing an audit opinion)*** You have just completed the audit of four companies: Alpha, Bravo, Charlie, and Delta. The conclusions of the audits are summarized below for each company.

- Alpha: Its financial statements are wrought with errors, as the accountant has completely messed up the translation of the process of consolidating Alpha's subsidiaries. As a result, none of the financial statements faithfully represent the economic phenomenon during the financial period.
- Bravo: The audit highlighted a number of immaterial differences in the calculation of commission expenses for the year.
- Charlie: The accountant was not able to explain numerous discrepancies. One of the major problems was that many customer orders and invoices were missing, making it impossible to audit.
- Delta: Its financial statements fairly represent the company's financial position and performance, but the audit team disagreed with management's use of a particular accounting policy.

### Requirements

Propose the most appropriate type of audit opinion for Alpha, Bravo, Charlie, and Delta based on the audit notes above.

**P4-47B** ***(Learning Objective 3: Preparing a classified balance sheet)*** The accounts of Sunny Laundry Services Ltd as at March 31, 20X5 are listed below in alphabetical order.

| | | | |
|---|---|---|---|
| Accounts payable | €14,300 | Interest expense | €800 |
| Accounts receivable | 16,400 | Note payable, long term | 5,900 |
| Accumulated depreciation—equipment | 7,300 | Other assets | 14,500 |
| Advertising expense | 11,100 | Prepaid expenses | 5,700 |
| Cash | 7,300 | Retained earnings, March 31, 2009 | 22,000 |
| Share capital | 6,700 | Salary expense | 18,100 |
| Current portion of note payable | 500 | Salary payable | 2,600 |
| Depreciation expense | 2,000 | Service revenue | 94,100 |
| Dividends | 30,000 | Supplies | 3,300 |
| Equipment | 42,500 | Supplies expense | 4,300 |
| | | Unearned service revenue | 2,600 |

## *Requirements*

Prepare the Sunny Laundry Services' classified balance sheet at March 31, 20X5. Show necessary captions. Note that for this question, you do not need to show comparative amounts.

**P4-48B** ***(Learning Objective 2, 4: Aggregating information for presentation on the income statement)*** Renee's Home Repair Services had the following balances at the end of 20X4 and 20X5.

**Renee's Home Repair Services**
**Partial account listing and balances**
as at December 31, 20X5 and 20X4

| | **20X5** | **20X4** |
|---|---|---|
| Sales revenue | €32,400 | €40,900 |
| Service revenue | 17,900 | 21,200 |
| Interest income | 2,300 | 3,900 |
| Cost of goods sold | 13,700 | 17,500 |
| Wages and salaries | 10,500 | 12,200 |
| Depreciation | 2,900 | 2,900 |
| Supplies expense | 7,500 | 8,700 |
| Interest expense | 500 | 400 |
| Motor vehicle expense | 3,500 | 4,100 |
| Fuel expense | 1,700 | 2,400 |
| Utilities expense | 2,100 | 1,700 |
| Advertising expense | 3,700 | 3,100 |
| Tax expense | 1,300 | 2,600 |

## *Requirements*

1. Assuming that Renee would like to disclose no more than what is required by accounting standards, with the maximum level of aggregation possible, prepare an income statement to such effect.
2. Why would it not be possible for Renee to simply show a three-line income statement, one that simply lists total revenue, total expenses and net profit?
3. How should Renee decide which line items are important enough to be shown separately on the income statement and which ones to aggregate?

**P4-49B** ***(Learning Objective 2, 4: Reporting comparative amounts on income statement)*** Refer to Renee's Home Repair Services account balances for 20X4 and 20X5 in P4-48B above. Suppose Renee decided to show all the accounts on its income statement. In addition, Renee discovered that:

- Supplies expense in 20X4 and 20X5 contained an item amounting to €800 in each year that is more appropriately classified as advertising expense.
- Other expenses in 20X4 and 20X5 contained an item amounting to €300 in each year that is more appropriately classified as motor vehicle expense.

### *Requirements*

Prepare Renee's income statement for 20X5 with the appropriate 20X4 comparative amounts.

■ **writing assignment**

**P4-50B** ***(Learning Objective 3, 5: Preparing a note to the financial statement)*** Knight Ltd commenced operations on January 1, 20X6. On that day, it bought:

- Equipment costing €400,000 million, with a useful life of 5 years.
- Furniture and fittings costing €120,000, with a useful life of 4 years.
- Motor vehicle costing €200,000, with a useful life of 10 years.

Knight depreciates all PPE on a straight-line basis with no residual value. No other PPE was purchased or disposed of during the year.

### *Requirements*

What would Knight report as PPE on its balance sheet? Prepare the notes to the accounts related to PPE. Note you may need to look at how BASF provided a similar note on its PPE.

**P4-51B** ***(Learning Objective 2, 5: Understanding materiality, correction of prior period profits)*** In December 20X8, just before the financial statements were finalized, Kylie & Kyle discovered that a programming error in the calculation of depreciation of specialized, expensive machinery had caused the annual depreciation charge to be erroneously calculated. The error started from the date the machinery was purchased on January 1, 20X2. The error resulted in a lower depreciation of €100,000 per year. Due to a large dividend payment in the previous year, K&K's total equity balance stands at €1,000,000 at the end of 20X8.

### *Requirements*

In your opinion, is this error material or not material? Why? How should this be rectified in the 20X8 financial statements, if needed?

■ **writing assignment**

**P4-52B** ***(Learning Objective 2, 5: Understanding annual reports and financial statements reporting requirement)*** Melvyn Steiner, the new accountant of Stamford Place Ltd, was preparing the company's financial statements ending 20X6. During the year, the company:

- Changed the useful life estimates of some assets from 5 to 3 years.
- Had to account for its investment differently due to the publication of a new IFRS.
- Changed its accounting policy on expense capitalization.
- Discovered an error in the 20X5 financial statement.

Melvyn is somewhat unsure of what to do next. He has emailed you, his former accounting professor, for advice.

### *Requirement*

Write a reply to Melvyn and offer your guidance on the appropriate treatment of the items.

# APPLY YOUR KNOWLEDGE

## Decision Cases

**Case 1.** *(Learning Objective 3, 4, 5: Preparing financial statements)* You are the accountant of Majestic Limited, headquartered in Zurich, Switzerland, and have just completed the accounting cycle for the period ended December 31, 20X5. You have performed all necessary adjustments and closing entries to the accounts. The adjusted trial balance (after allocation to function expense categories) is shown below, along with comparative figures from the last financial year.

| (in Swiss Franc) | Dec 31, 20X5 | | Dec 31, 20X4 | |
|---|---|---|---|---|
| **Account balances** | **Debits** | **Credits** | **Debits** | **Credits** |
| Cash on hand | 68,900 | | 51,200 | |
| Bank account balances | 76,000 | | 55,000 | |
| Prepaid insurance | 25,800 | | 24,300 | |
| Prepaid subscriptions | 3,500 | | 2,300 | |
| Prepaid rent | 10,200 | | 24,300 | |
| Trade receivables | 80,300 | | 47,000 | |
| Advances to employees | 43,600 | | 49,400 | |
| Interest receivable | 26,100 | | 25,300 | |
| Other receivables | 46,000 | | 60,300 | |
| Inventory | 50,300 | | 47,000 | |
| Vehicles and trucks | 60,000 | | 60,000 | |
| Acc Depn—Vehicles and trucks | | 35,000 | | 30,000 |
| Furniture and fixtures | 43,000 | | 43,000 | |
| Acc Depn—Furniture and fixtures | | 13,500 | | 12,000 |
| Office equiment | 47,000 | | 47,000 | |
| Acc Depn—Office equipment | | 16,000 | | 14,000 |
| Store equipment | 36,000 | | 36,000 | |
| Acc Depn—Store equipment | | 15,000 | | 12,000 |
| Trade payables | | 39,900 | | 34,900 |
| Dues to employees | | 27,200 | | 17,700 |
| Unearned revenue | | 22,900 | | 29,100 |
| Deferred income | | 25,000 | | 24,000 |
| Accrued liabilities | | 8,300 | | 13,600 |
| Bank loan (due 20X8) | | 120,000 | | 120,000 |
| Notes payable (due 20X6) | | 40,000 | | 40,000 |
| Share capital | | 169,500 | | 150,000 |
| Retained earnings (beginning) | | 74,800 | | 87,400 |
| Dividends paid | 80,000 | | 45,000 | |
| Sales revenue | | 166,700 | | 151,100 |
| Commission revenue | | 32,900 | | 26,500 |
| Dividend income | | 49,300 | | 53,800 |
| Cost of sales | 41,600 | | 39,800 | |
| Logistics and distribution expenses | 26,900 | | 34,200 | |
| Sales and marketing expenses | 16,300 | | 35,700 | |
| Finance expenses | 21,700 | | 22,200 | |
| Other administrative expenses | 29,100 | | 46,300 | |
| Tax expense | 23,700 | | 20,800 | |
| | 856,000 | 856,000 | 816,100 | 816,100 |

***Requirement***

Prepare the statement of financial position, statement of comprehensive income, and statement of changes in equity in good form, with any relevant accompanying notes to the financial statements. Before aggregating line items, you should consider the key principles outlined in *IAS 1*.

## Ethical Issues

**Issue 1.** James Hardie, the CEO of PAS Software, is having a tough time. The company that he has built over the past 10 years has suffered badly in the global financial crisis. In order to show "acceptable" financial statements to the creditors and investors, James undertook the following:

- Losses from the online advertising division were shown as "extraordinary loss" below net profit and he explained it away by saying the loss is a one-time occurrence and prospects for a strong rebound are good next year.
- He aggregated many large expenses into a category called "Other operating expenses" and did not provide limited information on the breakdown of this expense.
- A large bank loan is due next year, but in order to show increased liquidity, he has insisted on classifying it as a non-current liability because he believed the bank would be willing to extend the term of the loan.
- He doubled the useful life estimates of almost all his property, plant and equipment items, arguing that the original useful lives were not representative of the assets' usage patterns. He did not provide any information on how much reduction in depreciation expense resulted from this action.

***Requirements***

Examine James' actions in relation to the presentation requirements for financial statements. How do you think readers of the financial statements would react if they came to know of James' actions?

## Focus on Financials: Vodafone Corporation

This case spans all 12 chapters and is based on the consolidated financial statements of **Vodafone Corporation**. As you work with Vodafone throughout this course, you will develop the confidence and ability to use the financial statements of other companies as well. Refer to Vodafone's financial statements in Appendix A. Alternatively, you may choose to obtain the full annual report from Vodafone's website at www.vodafone.com.

***Requirements***

1. Do Vodafone's balance sheet and income statement conform to requirements of *IAS 1*?
2. Did Vodafone use a single statement or a two separate statements option for its statement of comprehensive income?
3. Why would trade and receivables appear under both current assets and non-current assets? Similarly, why would trade and other payables, provisions, and taxation liabilities appear on both current and non-current liabilities?
4. *IAS 1* does not require three years of income statement information. Why do you think Vodafone would go beyond the requirements of an accounting standard?

## Group Project

**Project 1.** You are a member of the selection panel for the "best annual report" competition in your country. Outline the selection criteria you would use in deciding on the winner of the competition.

**Project 2.** Select three listed companies, visit their websites and, in particular, their "investor relation" sections. Compare the amount of information and resources provided by the three companies. Which company has done the most to meet the information needs of its share-holders and stakeholders?

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## Quick check answers

| | | | |
|---|---|---|---|
| 1. *a* | 4. *b* | 7. *b* | 9. *d* |
| 2. *b* | 5. *d* | 8. *b* (cash, inventory and receivable) | 10. *c* |
| 3. *c* | 6. *d* | | |

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# 5 Internal Control, Cash, and Receivables


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**SPOTLIGHT: Nestlé** www.nestle.com

What comes to mind when you think of Nestlé? Most people think of coffee and snacks. Nestlé actually has a portfolio of over 80 brands in 14 product categories, from baby food and bottled water, to ice cream, pet care and weight management products. It is the world's leading nutrition, health and wellness company. Let's explore how Nestlé accounts for its cash and receivables.

Given Nestlé's wide product range, you might automatically think that inventories are the company's largest current asset. Actually, as you can see from its balance sheet below, Nestlé's largest current asset is its receivables, totaling about CHF (Swiss Franc) 9.5 billion. Together with cash, receivables form over half of Nestlé's current assets. How does Nestlé protect and account for these important assets?

**Nestlè SA**
**Consolidated Balance Sheet (Partial, Adapted)**
As at December 31, 2011

| (In millions of CHF, Swiss Franc) | | 2011 | 2010 |
|---|---|---|---|
| **Assets** | | | |
| 1 | Cash and cash equivalents | 4,938 | 8,057 |
| 2 | Short-term investments | 3,050 | 8,189 |
| 3 | Inventories | 9,255 | 7,925 |
| 4 | Trade receivables | 13,340 | 12,083 |
| 5 | Prepayments and accrued income | 900 | 748 |
| 6 | Other current assets | 1,841 | 1,995 |
| 7 | Total current assets | 33,324 | 38,997 |
| 8 | Total non-current assets | 80,767 | 72,644 |
| 9 | Total assets | 114,091 | 111,641 |
| **Liabilities** | | | |
| 10 | Total current liabilities | 35,232 | 30,146 |
| 11 | Total non-current liabilities | 20,585 | 18,897 |
| 12 | Total liabilities | 55,817 | 49,043 |
| **Equity** | | | |
| 13 | Total equity | 58,274 | 62,598 |
| 14 | Total liabilities and equity | 114,091 | 111,641 |



This chapter begins with a discussion of fraud, its types, and common characteristics. We then discuss internal controls, which are the primary means by which fraud as well as unintentional financial statement errors are prevented. We also discuss how to account for cash and receivables. As cash is probably the asset that is most susceptible to misappropriation through fraud, we will apply internal control concepts on cash receipt and cash disbursement processes.

## LEARNING OBJECTIVES

1. **Learn** about fraud and internal control
2. **Apply** internal controls to cash receipts and cash payments
3. **Prepare** and use a bank reconciliation
4. **Account** for receivables and uncollectible receivables
5. **Use** two financial ratios to evaluate a business

## Fraud and its Impact

**OBJECTIVE**

1 **Learn** about fraud and internal control

**Fraud** is an intentional misrepresentation of facts, made for the purpose of persuading another party to act in a way that causes injury or damage to that party. You may have also heard of other "famous" frauds in the last decade: **WorldCom**, **Enron**, **Parmalat**, Bernard Madoff, and unfortunately, the list seem to goes on. A more recent financial statement fraud was that of **Satyam Computer Services**. Headquartered in Hyderabad (India), Satyam was one of the biggest players in the information technology consultancy, integration, and outsourcing business in the world with clients across the globe, including **Nestlé**, **General Motors**, and **General Electric**. In fact, about 185 Fortune 500 companies are clients of Satyam, which employs over 53,000 staff. Ramalinga Raju, then Chairman of Satyam Computer, intentionally mis-stated cash, revenue, receivables, and payables in Satyam's financial statements. His actions caused shareholders of Satyam Computer Services to lose billions of dollars. Ramalinga Raju's resignation letter (and admission of wrongdoing) shocked the business world in early 2009 and an excerpt is reproduced below, with references to Indian numerical conventions of *crores* (units of ten millions) and *lakhs* (units of one hundred thousands) converted to millions or billions as appropriate.

January 7, 2009
To the Board of Directors
Satyam Computer Services Ltd.

Dear Board Members,

It is with deep regret, and tremendous burden that I am carrying on my conscience, that I would like to bring the following facts to your notice:

1. The Balance Sheet carries as of September 30, 2008:
   a. Inflated (non-existent) cash and bank balances of 50.40 billion rupees (about USD1.04 billion) as against 53.61 billion reflected in the books.
   b. An accrued interest of 3.76 billion rupees which is non-existent.
   c. An understated liability of 12.30 billion rupees on account of funds arranged by me.
   d. An overstated debtors' position of 4.90 billion rupees (as against 26.51 billion reflected in the books).
2. For the September quarter (Q2) we reported a revenue of 27.00 billion rupees and an operating margin of 6.49 billion rupees (24 percent of revenues) as against the actual revenues of 21.12 billion rupees and an actual operating margin of 610 million rupees (3 percent of revenues). This has resulted in artificial cash and bank balances going up by 5.88 billion rupees in Q2 alone.

The gap in the Balance Sheet has arisen purely on account of inflated profits over a period of last several years (limited only to Satyam standalone, books of subsidiaries reflecting true performance). What started as a marginal gap between actual operating profit and the one reflected in the books of accounts continued to grow over the years. It has attained unmanageable proportions as the size of company operations grew significantly (annualized revenue run rate of 112.76 billion rupees in the September quarter, 2008, and official reserves of

*continued on the following page*

83.92 billion rupees). The differential in the real profits and the one reflected in the books was further accentuated by the fact that the company had to carry additional resources and assets to justify higher level of operations—thereby significantly increasing the costs.

Every attempt made to eliminate the gap failed. As the promoters held a small percentage of equity, the concern was that poor performance would result in a take-over, thereby exposing the gap. It was like riding a tiger, not knowing how to get off without being eaten. Having put these facts before you, I leave it to the wisdom of the board to take the matters forward.

Under the circumstances, I am tendering my resignation as the chairman of Satyam and shall continue in this position only till such time the current board is expanded. My continuance is just to ensure enhancement of the board over the next several days or as early as possible.

I am now prepared to subject myself to the laws of the land and face consequences thereof.

B. Ramalinga Raju
Chairman, Satyam Computer Services Ltd.

*Source*: Satyam Computer Services Ltd

What Ramalinga Raju admitted can be summarized as follows.

**Satyam Computer Services**
**Selected Financial Statement Data (Adapted from various sources)**
Income Statement for Quarter Ended September 30, 2008

| (In crores, ten million Rupees) | Reported | Admitted |
|---|---|---|
| Sales | 2,701 | 2,112 |
| Gross profit | 724 | |
| Operating profit | 649 | 61 |

| Balance Sheet as at 30 Sept 2008 | Reported | Admitted |
|---|---|---|
| Cash | 5,361 | 321 |
| Accounts receivable net | 2,651 | 490 |
| Other receivables | 676 | 300 |
| Total current assets | 9,065 | |
| Property, plant and equipment net | 1,434 | |
| Goodwill | 446 | |
| Total non-current assets | 1,996 | |
| Total assets | 11,062 | |
| Accounts payable | 1,379 | |
| Other current liabilities | 823 | 2,053 |
| Total current liabilities | 2,202 | |
| Long-term debt | 488 | |
| Total non-current liabilities | 488 | |
| Total liabilities | 2,690 | |
| Total equity | 8,372 | |
| Total liabilities and equity | 11,062 | |

* Adapted from various sources by the author

How can a company with such a supposedly sterling reputation commit such a fraud? One billion US dollars in cash unaccounted for, operating profit inflated by over 10 times, receivables overstated by over 500%. Satyam's shares went into freefall immediately following the news, dropping by about 80%, as investors around the world thrashed the company's shares. *Reuters* call it "India's Enron."

Fraud can happen to any business, and businesses spend much time and effort in preventing, detecting, and correcting fraudulent activities. **Ernst & Young**'s global fraud study showed that fraud is a global problem, not confined to just developing countries. Globally, 16% of the respondents reported that they have suffered a significant fraud in the last two years. Another survey of large and medium-sized companies in the United States and Canada revealed the following:

- Over 75% of businesses surveyed had experienced fraud.
- Over 50% of companies had experienced six or more instances of fraud in only one year.
- In 2007, companies lost an average of $2.4 million each to fraud.
- One out of every five workers indicated personal awareness of fraud in the workplace.

Another recent survey taken by the Association for Certified Fraud Examiners (ACFE) reveals that occupational fraud and abuse in America alone results in losses equal to about 6% of total business revenue. When applied to the US gross domestic product, this means that about $600 billion per year is lost due to fraud, an astonishing $4,500 per employee! If you think that fraud occurs only in the for-profit sector, think again. About 13.4% of the ACFE survey cases are not-for-profit organizations, amounting to about $50 billion in fraud through such organizations each year.

What are the most common types of fraud? What causes fraud? What can be done to prevent it? There are many types of fraud. You may be more familiar with consumer fraud, where you hear about insurance fraud, forgery, credit card fraud, and identity theft. The two most common types of fraud that impact businesses' financial statements are:

1. **Misappropriation of assets.** *This type of fraud is committed by employees of an entity who steal money from the company and cover it up* through erroneous entries in the books. Other examples of asset misappropriation include employee theft of inventory, bribery or kickback schemes in the purchasing function, or employee overstatement of expense reimbursement requests.
2. **Fraudulent financial reporting.** *This type of fraud is committed by company managers who make false and misleading entries in the books*, making financial results of the company appear to be better than they actually are. This may be done through aggressive revenue recognition or fictitious sales, using inappropriate accounting treatment and estimates that do not represent the underlying economic phenomenon. The purpose of this type of fraud is to deceive investors and creditors into investing or loaning money to the company that they might not otherwise have invested or loaned.

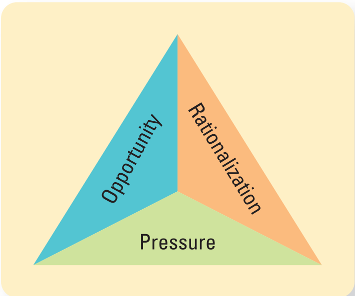
Both of these types of fraud involve making false or misleading entries in the books of the company. We call this "cooking the books." Of these two types, asset misappropriation is the most common, but fraudulent financial reporting is by far the most expensive. The two most notorious financial reporting frauds involved Enron Corporation in 2001 and WorldCom Corporation in 2002. These two scandals alone rocked the US economy and impacted financial markets across the world. Enron (discussed in Chapter 8) committed fraudulent financial reporting by overstating profits through bogus sales of non-existent assets with inflated values. When Enron's banks found out, they stopped loaning the company money to operate, causing it to go out of business almost overnight.

WorldCom (discussed in Chapter 7) reported expenses as assets and overstated both profits and assets. The company's internal auditor blew the whistle on WorldCom, resulting in the company's eventual collapse. Waste Management (also in Chapter 7) manipulated accounting estimates to meet earning projections. Sadly, the same international accounting firm, **Arthur Andersen**, had audited both companies' financial statements. Because of these and other failed audits, the once mighty firm of Arthur Andersen was forced to close its doors in 2002.

Each of these frauds, from WorldCom, Waste Management, Enron to Satyam, involved losses in the billions of dollars and thousands of jobs when the companies went out of business or were bought out by other companies. Widespread media coverage sparked adverse market reaction, loss of confidence in the financial reporting system, and losses through declines in share values that ran in the trillions of dollars! We will discuss some of these cases throughout the text as examples of how accounting principles were deliberately misapplied, through cooking the books, in environments characterized by *weak internal controls*.

Exhibit 5-1 explains in graphic form the elements that make up virtually every fraud. We call it the **fraud triangle**.

**EXHIBIT 5-1 | The Fraud Triangle**




The first element in the fraud triangle is *pressure*. This usually results from either financial or personal pressure. Being saddled with debts, living beyond one's means, being greedy, unreasonable expectation to consistently top last year's results, and so forth create pressure to commit fraud. Sometimes it is a matter of just never having enough (because some people who commit fraud are already rich by most people's standards). Sometimes it is more about psychological satisfaction, proving that one can "beat the system." Other times, the perpetrator of the fraud might have a legitimate financial need, such as a medical emergency, but he or she uses illegitimate means to meet that need. A recent article in the *Wall Street Journal* indicated that theft by employees was on the rise due to economic hard times. In any case, the prevailing attitude on the part of the perpetrator is, "I need it, I want it, so I'm going to do whatever I have to do to get it."

The second element in the fraud triangle is *opportunity*. Opportunities to commit fraud usually arise through weak internal controls. It might be a breakdown in a key element of controls, such as improper *segregation of duties* and/or *improper access to assets or computer systems*. Or it might result from a weak *control environment*, such as a domineering CEO, a weak or conflicted board of directors, or lax ethical practices, allowing top management to override whatever controls the company has placed in operation for other transactions.

The third element in the triangle is *rationalization*. The perpetrator engages in self-justification for his or her actions through distorted thinking, such as: "I deserve this because I have done so much for the company;" "Nobody treats me fairly;" "No one will ever know;" "Just this once, I won't let it happen again;" or "Everyone else is doing it."

All three elements of the fraud triangle must be present and take over your decision making process for fraud to occur. Thieves and robbers have no problems with rationalization or with motives; all they need is opportunity. You, on the other hand, may have the opportunity to steal money or property without people knowing, you may have even have a great need for them, but if your moral and ethical values are strong, you will not rationalize the action and will walk away from the opportunity to steal.

### Ethics in Business and Accounting Decisions

As we pointed out in our decision model for making ethical accounting and business judgments (introduced in Chapter 1), the decision to engage in fraud is an act with economic, legal, and ethical implications. The perpetrators of fraud usually do so for their own short-term *economic gain*, while others incur *economic losses* that may far outstrip the gains of the fraudsters. Moreover, fraud is defined by state, federal, and international law as *illegal*. Those who are caught and found guilty of fraud ultimately face penalties which include imprisonment, fines, and monetary damages. Finally, from an *ethical* standpoint, fraud violates the rights of many for the temporary betterment of a few, and for the ultimate betterment of no one. At the end of the day, everyone loses! **Fraud is the ultimate unethical act in business!**

## Internal Control

The primary way that fraud, as well as unintentional errors, is prevented, detected, or corrected in an organization is through a proper system of internal control. **Internal control** is a plan of organization and a system of procedures implemented by company management and the board of directors, and designed to accomplish the following five objectives:

1. *Safeguard assets.* A company must safeguard its assets against waste, inefficiency, and fraud. If management fails to safeguard assets such as cash or inventory, those assets will slip away. Most retailers would put in some physical control over their merchandise inventory to prevent shoplifting or employee theft.
2. *Encourage employees to follow company policy*. Everyone in an organization—managers and employees—needs to work toward the same goals. A proper system of controls provides clear policies that result in fair treatment of both customers and employees.
3. *Promote operational efficiency*. Companies cannot afford to waste resources. They work hard to make a sale, and they don't want to waste any of the benefits. If the company can buy something for $30, why pay $35? Effective controls minimize waste, which lowers costs and increases profits.
4. *Ensure accurate, reliable accounting records.* Accurate records are essential. Without proper controls, records may be unreliable, making it impossible to tell which

part of the business is profitable and which part needs improvement. A business could be losing money on every product it sells—unless it keeps accurate records for the cost of its products.

5. *Comply with legal requirements.* Companies, like people, are subject to laws, such as those of regulatory agencies like the Securities and Exchange Commission or SEC (in the United States), stock exchanges, tax authorities, and state, local, and international governing bodies. When companies disobey the law, they are subject to fines, or, in extreme cases, their top executives may even go to prison. Effective internal controls help ensure compliance with the law and help avoid legal difficulties.

How critical are internal controls? They're so important that in some jurisdictions, boards of directors and/or auditors are required to examine and assess the effectiveness of internal controls of public listed companies. For example, Nestlé's annual report states the following (emphasis added):

**EXCERPTS FROM NESTLÉ'S NOTES TO THE 2011 FINANCIAL STATEMENTS**

The Board of Directors is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with International Financial Reporting Standards (IFRS) and the requirements of Swiss law. This responsibility includes **designing, implementing and maintaining an internal control system** relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error. The Board of Directors is further responsible for selecting and applying appropriate accounting policies and making accounting estimates that are reasonable in the circumstances.



One of the most well-known examples of this requirement is the Sarbanes-Oxley Act (SOX) in the United States.

## The Sarbanes-Oxley Act (SOX)

As the Enron and WorldCom scandals unfolded, many people asked, "How can these things happen? If such large companies that we have trusted commit such acts, how can we trust any company to be telling the truth in its financial statements? Where were the auditors?" To address public concerns, the US Congress passed the Sarbanes-Oxley Act of 2002 (SOX). SOX revamped corporate governance in the United States and profoundly affected the way that accounting and auditing are done in public companies. Here are some of the SOX provisions:

1. Public companies must issue an internal control report, and the outside auditor must evaluate and report on the soundness of the company's internal controls.
2. A new body, the Public Company Accounting Oversight Board, has been created to oversee the audits of public companies.
3. An accounting firm may not both audit a public client and also provide certain consulting services for the same client.
4. Stiff penalties await violators: 25 years in prison for securities fraud; 20 years for an executive making false sworn statements.

In many other parts of the world, responses to corporate failures, frauds and scandals resulted in similar increased regulatory requirements. In Japan, "J-SOX" (an unofficial term for parts of the Japan's Financial Instruments and Exchange Law) was passed in response to corporate scandals such as **Kanebo**, **Livedoor**, and **Murakami Fund**. In China, the China Securities Regulatory Commission, the National Audit Office, the China Banking Regulatory Commission, and the China Insurance Regulatory Commission jointly announced the Basic Standard for Enterprise Internal Control (also nicknamed "Chinese SOX"). Many other countries have also raised the bar in terms of corporate governance practices. The UK's Financial Reporting Council recently revised its Combined Code on Corporate Governance. In the European Union, there are various Company Law Directives that regulate company audits, disclosure and governance.

You may be wondering what all of these internal controls, governance and risk issues have to do with accounting. Simple, accounting matters! The financial information that an accounting system produces is crucial information to capital market participants. Accountants (and auditors) thus have a clear role to play to ensure that the financial information is prepared in accordance with applicable rules, regulations and ethics!

Exhibit 5-2 shows the shield that internal controls provide for an organization. Protected by this shield, which provides protection from fraud, waste, and inefficiency, companies can do business in a trustworthy manner that ensures public confidence, an extremely important element in maintaining the stability of financial markets around the world.

**EXHIBIT 5-2 | The Shield of Internal Control**


How does a business achieve good internal controls? The next section will discuss common internal control procedures deployed by business entities. To help you understand the discussion better, we will use the story about **EPIC Products**, adapted from a case study on a real company, shown in Exhibit 5-3.

**EXHIBIT 5-3 | Cooking the Books: EPIC Products**

The following is adapted from a true story:

"I've never been so shocked in my life!" exclaimed Lee Riffe, manager of the EPIC Products office in Palo Alto, California. "I never thought this could happen to us. We are such a close-knit organization where everyone trusts everyone else. Why, people at EPIC feel like family! I feel betrayed, violated."

Riffe had just returned from the trial of Melissa Price, who had been convicted of embezzling over $600,000 from EPIC over a six-year period. Price had been one of EPIC's most trusted employees for 10 years. A single mom with two teenage daughters, Price had pulled herself up by her own bootstraps, putting herself through community college where she had obtained an associate's degree in accounting. Riffe had hired her as a part-time bookkeeper at EPIC while Price was in college to help her out. She had done such a good job that, when she completed her degree, Riffe asked her to stay on and assigned her the additional role of cashier, in charge of accumulating the daily cash receipts from customers and taking them to the night depository at the bank each day after work. Through the years, he also awarded her what he considered good raises, compensating her at a rate that was generally higher than other employees with her education and experience levels.

Price rapidly became the company's "go-to" financial employee. She was eager to learn, dependable, responsible. In 10 years she never took a day of vacation, choosing instead to take advantage of the company's policy that allowed employees to draw additional compensation for vacation accrued but not taken at the end of each year. Riffe grew to depend on Price more and more each month, as the business grew to serve over 1,000 customers. Price's increased involvement on the financial side of the business freed Riffe to spend his time working on new business, spending less and less time on financial matters. Riffe had noticed that, in the past few years, Price had begun to wear better clothes and drive a shiny late-model convertible around town. Both of her teenagers also drove late-model automobiles, and the family had recently moved into a new home in an upscale subdivision of the city. Riffe had been pleased that he had contributed to Price's success. But in recent months, Riffe was becoming worried because, in spite of increasing revenues, the cash balances and cash flows from operations at EPIC had been steadily deteriorating, sometimes causing the company difficulty in paying its bills on time.

Price, on the other hand, had felt underappreciated and underpaid for all of her hard work. Having learned the system well, and observing that no one was monitoring her, Price fell into a simple but deadly trap. As cashier, she was in charge of receiving customer payments that came in by mail. Unknown to Riffe, Price had been **lapping** accounts receivable, an embezzlement scheme nicknamed "robbing Peter to pay Paul." Price began by misappropriating (stealing) some of the customers' cheques, endorsing them, and depositing them to her own bank account. To cover up the shortage in a particular customer's account, Price would apply the collections received later from another customer's account. She would do this just before the monthly statements were mailed to the first customer, so that the customer wouldn't notice when he or she received the statement that someone else's payment was being applied to the amount owed to EPIC. Of course, this left the second customer's account short, so Price had to misapply the collection from a third customer to straighten out the discrepancy in the second customer's account. She did this for many customers, over a period of many months, boldly stealing more and more each month. With unlimited access to both cash and customer accounts, and with careful planning and constant diligence, Price became very proficient at juggling entries in the books to keep anyone from discovering her scheme. This embezzlement went on for six years, allowing Price to misappropriate $622,000 from the company. The customer accounts that were misstated due to the fraud eventually had to be written off.

What tipped off Riffe to the embezzlement? Price was involved in an automobile accident and couldn't work for two weeks. The employee covering for Price was swamped with telephone calls from customers wanting to discuss unexplained differences in their billing statements for amounts they could prove had been paid. The ensuing investigation pointed straight to Price, and Riffe turned the case over to the authorities.

Due to Price's scheme, the company had been cheated of $622,000 over several years that it could have used to buy new equipment, expand operations, or pay off debts. EPIC Products has now revamped its internal controls. The company has hired a separate person, with no access to cash, to keep customer accounts receivable records. The company now uses a lock-box system for all cheques received by mail. They are sent to EPIC's bank lock box, where they are gathered by a bank employee and immediately deposited. The remittance advices accompanying the cheques are electronically scanned and forwarded to EPIC's accounts receivable bookkeeper where they are used as the source documents for posting amounts collected from customers. A summary of cash received goes to Riffe, who reviews it for reasonableness and compares it with the daily bank deposit total. Another employee, who has neither cash handling nor customer bookkeeping responsibilities, reconciles EPIC's monthly bank statement, and reconciles the total cash deposited per the daily listings with the total credits to customer accounts receivable. Now Riffe requires every employee to take time off for earned vacation, and rotates other employees through those positions while those employees are away.

# Internal Control Procedures

Whether the business is EPIC Products, Nestlé, De Beers, or a **Carrefour** store, every major class of transactions needs to have the following internal control procedures.

## Smart Hiring Practices and Separation of Duties

In a business with good internal controls, no important duty is overlooked. Each person in the information chain is important. The chain should start with hiring. Background checks should be conducted on job applicants. Proper training and supervision, as well as paying competitive salaries, help ensure that all employees are sufficiently competent for their jobs. Employee responsibilities should be clearly laid out in position descriptions. For example, the **treasurer**'s department should be in charge of cash handling, as well as signing and approving cheques. Warehouse personnel should be in charge of storing and keeping track of inventory. With clearly assigned responsibilities, all important jobs get done.

In processing transactions, smart management *separates three key duties: asset handling, record keeping, and transaction approval*. For example, in the case of EPIC Products, separation of the duties of cash handling from record keeping for customer accounts receivable would have removed Melissa Price's incentive to engage in fraud, because it would have made it impossible for her to have lapped accounts receivable if another employee had been keeping the books. Ideally, someone else should also review customer accounts for collectability and be in charge of writing them off if they become completely uncollectible.

The accounting department should be completely separate from the operating departments, such as production and sales. What would happen if sales personnel, who were compensated based on a percentage of the amount of sales they made, approved the company's sales transactions to customers? Sales figures could be inflated and might not reflect the eventual amount collected from customers.

At all costs, accountants must not handle cash, and cash handlers must not have access to the accounting records. If one employee has both cash-handling and accounting duties, that person can steal cash and conceal the theft. This is what happened at EPIC Products.

For companies that are *too small* to hire separate persons to do all of these functions, the key to good internal control is *getting the owner involved*, usually by approving all large transactions, making bank deposits, or reconciling the monthly bank account.

## Comparisons and Compliance Monitoring

No person or department should be able to completely process a transaction from beginning to end without being cross-checked by another person or department. For example, separate divisions of the treasurer's department should be responsible for depositing daily cash receipts in the bank. The **controller**'s department should be responsible for recording customer collections to individual customer accounts receivable. A third employee (perhaps the person in the controller's department who reconciles the bank statement) should compare the treasurer department's daily records of cash deposited with the total collections posted to individual customer accounts by the accounting department.

One of the most effective tools for monitoring compliance with management's policies is the use of **operating budgets** and **cash budgets**. A **budget** is a quantitative financial plan that helps control day-to-day management activities. Management may prepare these **budgets** on a yearly, quarterly, monthly, or on a more frequent basis. Operating budgets are budgets of future periods' net income. They are prepared by line item of the income statement. Cash budgets, discussed in depth later in this chapter, are budgets of future periods' cash receipts and cash disbursements. Often these budgets are "rolling," being constantly updated by adding a time period a year away while dropping the time period that has just passed. Computer systems are programmed to prepare exception reports for data that are out of line with expectations. This data can include variances for each account from budgeted amounts. Department managers are required to explain the variances, and to take corrective actions in their operating plans to keep the budgets in line with expectations. This is an example of the use of **exception reporting**.

To validate the accounting records and monitor compliance with company policies, most companies have an audit. An **audit** is an examination of the company's financial statements and its accounting system, including its controls.

Audits can be internal or external. *Internal auditors* are employees of the business. They ensure that employees are following company policies and operations are running efficiently. Internal auditors also determine whether the company is following legal requirements.

*External auditors* are completely independent of the business. They are hired to determine whether or not the company's financial statements agree with generally accepted accounting principles. Auditors examine the client's financial statements and the underlying transactions in order to form a professional opinion on the accuracy and reliability of the company's financial statements.

## Adequate Records

*Accounting records* provide the details of business transactions. The general rule is that all major groups of transactions should be supported by either hard copy documents or electronic records. Examples of documents include sales invoices, shipping records, customer remittance advices, purchase orders, vendor invoices, receiving reports, and canceled (i.e. paid) cheques. Documents should be pre-numbered to assure completeness of processing and proper transaction cutoff, and to prevent theft and inefficiency. A gap in the numbered document sequence draws attention to the possibility that transactions might have been omitted from processing.

## Limited Access

To complement segregation of duties, company policy should limit access to assets only to those persons or departments that have custodial responsibilities. For example, access to cash should be limited to persons in the treasurer's department. Cash receipts might be processed through a **lock-box system**. Access to inventory should be limited to persons in the company warehouse where inventories are stored, or to persons in the shipping and receiving functions. Likewise, the company should limit access to records to those persons who have record keeping responsibilities. All manual records of the business should be protected by lock and key and electronic records should be protected by passwords. Only authorized persons should have access to certain records. Individual computers in the business should be protected by user identification and password. Electronic data files should be encrypted (processed through a special code) to prevent their recognition if accessed by a "hacker" or other unauthorized person.

## Proper Approvals

No transaction should be processed without management's general or specific approval. The bigger the transaction, the more specific approval it should have. For individual small transactions, management might delegate approval to a specific department. For example:

- Sales to customers on account should all be approved by a separate *credit department* that reviews all customers for creditworthiness before goods are shipped to customers on credit. This helps assure that the company doesn't make sales to customers who cannot afford to pay their bills.
- Purchases of all items on credit should be approved by a separate *purchasing department* that specializes in that function. Among other things, a purchasing department should only buy from approved vendors, on the basis of competitive bids, to assure that the company gets the highest quality products for the most competitive prices.
- All personnel decisions, including hiring, firing, and pay adjustments, should be handled by a separate *human resources (HR) department* that specializes in personnel-related matters.

Very large (material) transactions should generally be approved by top management, and may even require the board of directors' approval.

## Information Technology

Accounting systems are relying less on manual procedures and more on information technology (IT) than ever before for record keeping, asset handling, approval, and monitoring, as well as physically safeguarding the assets. For example, retailers such as **Marks and Spencer** and **Woolworths** control inventory by attaching an *electronic sensor* to merchandise. The cashier must remove the sensor before the customer can walk out of the store. If a customer tries to leave the store with the sensor attached, an alarm sounds. According to *Checkpoint Systems*, these devices reduce theft by as much as 50%. *Bar codes* speed checkout at retail stores, performing multiple operations in a single step (see Exhibit 5-4). When the sales associate scans the merchandise at the register, the computer records the sale, removes the item from inventory, and computes the amount of cash tendered.

When a company employs sophisticated IT, the basic attributes of internal control do not change, but the procedures by which these attributes are implemented change substantially. For example, segregation of duties is often accomplished by separating mainframe computer departments from other user departments (i.e. controller, sales, purchasing, receiving, credit, HR, treasurer) and restricting access to the IT department only to authorized personnel. Within the computer department, programmers should be separated from computer operators and data librarians. Access to sensitive data files is protected by password and data encryption. Electronic records must be saved routinely, or they might be written over or erased. Comparisons of data (such as cash receipts with total credits to customer accounts) that might otherwise be done by hand are performed by the computer. Computers can help monitor inventory levels by item, generating a purchase order for the inventory when it reaches a certain level.

**EXHIBIT 5-4 | Bar Codes Speed Up the Checkout Process**


*Source*: David R. Frazier/Photolibrary, Inc./Photo Researchers, Inc.

The use of computers has the advantage of speed and accuracy (when programmed correctly). However, a computer that is *not* programmed correctly can corrupt *all* the data, making it unusable. It is therefore important to hire experienced and competent people to run the IT department, to restrict access to sensitive data and the IT department only to authorized personnel, to check data entered into and retrieved from the computer for accuracy and completeness, and to test and retest programs on a regular basis to assure data integrity and accuracy.

## Internal Controls for e-Commerce

As businesses and consumers conduct more transactions over the Internet, e-commerce creates its own risks. Hackers may gain access to confidential information such as account numbers and passwords, resulting in loss of confidence in the business. E-commerce pitfalls include the following:

- stolen credit card numbers
- computer viruses and Trojan horses
- phishing expeditions

**Stolen Credit Card Numbers.** Suppose you buy music from **iTunes**. To make the purchase, your credit card number must travel through cyberspace. Wireless networks (Wi-Fi) are creating new security hazards. Amateur hacker Carlos Salgado, Jr., used his home computer to steal 100,000 credit card numbers with a combined limit exceeding $1 billion. Salgado was caught when he tried to sell the numbers to an undercover FBI agent.

**Computer Viruses and Trojan Horses.** A **computer virus** is a malicious program that (a) enters program code without consent and (b) performs destructive actions in the victim's computer files or programs. A **Trojan horse** is a malicious computer program that hides inside a legitimate program and works like a virus. Viruses can destroy or alter data, make bogus calculations, and infect files. Most firms have found a virus in their system at some point.

**Phishing Expeditions.** Thieves **phish** by creating bogus websites that sound very similar to the original websites to spoof and trick visitors, usually via spam emails, such as ebay-uk.com and BankAmerica.com. The "almost-right" sounding websites attract lots of visitors, and the thieves obtain account numbers and passwords from unsuspecting people. The thieves then use the data for illicit purposes.

### The Limitations of Internal Control—Costs and Benefits

Unfortunately, most internal controls can be overcome. Collusion—two or more people working together—can beat internal controls. Consider EPIC Products, discussed in Exhibit 5-3. Even if Riffe were to hire a new person to keep the books, if that person had a relationship with Price and if they conspired with each other, they could design a scheme to lap accounts receivable, the same as Price did, and split the take. Other ways to circumvent a good system of internal controls include management override, human limitations such as fatigue and negligence, and gradual deterioration over time due to neglect. Because of the cost/benefit principle, discussed in the next paragraph, internal controls are not generally designed to detect these types of breakdowns. The best a company can do in this regard is to exercise care in hiring honest persons who have no conflicts of interest with existing employees, and to exercise constant diligence in monitoring the system to assure it continues to work properly.

The stricter the internal control system, the more it costs. An overly complex system of internal control can strangle the business with red tape. How tight should the controls be? Internal controls must be judged in light of their costs and benefits. The following is an example of a good cost/benefit relationship. A part-time security guard at a **Wal-Mart** store costs about $28,000 a year. If we can show that, on average, each part-time guard prevents about $50,000 of theft then the net saving to Wal-Mart is $22,000. Most people would say the extra guard is well worth the cost!

## Internal Control Over Cash Receipts

**OBJECTIVE**

**2** **Apply** internal controls to cash receipts and cash payments

Cash requires some specific internal controls because cash is relatively easy to steal and it's easy to convert to other forms of wealth. Moreover, all transactions ultimately affect cash. Let's see how to control cash receipts.

All cash receipts should be deposited for safekeeping in the bank—quickly. Companies receive cash over the counter and through the mail. Each source of cash has its own security measures.

### Cash Receipts Over the Counter

Exhibit 5-5 illustrates the purchase of products in a grocery store. The point-of-sale terminal provides control over the cash receipts, while also recording the sale and relieving inventory for the appropriate cost of the goods sold. Consider a **Whole Foods Market** store. For each transaction, the Whole Foods sales associate issues a receipt to the customer as proof of purchase. The cash drawer opens when the sales associate enters a transaction, and the machine electronically transmits a record of the sale to the store's main computer. At the end of each shift, the sales associate delivers his or her cash drawer to the office, where it is combined with cash from all other terminals and delivered by armored car to the bank for deposit, as explained in the next section. Later, a separate employee in the accounting department reconciles the electronic record of the sales per terminal to the record of the cash turned in. These measures, coupled with oversight by a manager, discourage theft.

**EXHIBIT 5-5 | Cash Receipts Over the Counter**

© Catherine Yeulet/iStockphoto

Point-of-sale terminals also provide effective control over inventory. For example, in a restaurant, these devices track sales by menu item and total sales by cash, type of credit card, gift card redeemed, etc. They create the daily sales journal for that store, which, in turn, interfaces with the general ledger. Managers can use records produced by point-of-sale terminals to check inventory levels and compare them against sales records for accuracy. For example, in a restaurant, an effective way to monitor sales of expensive wine is for a manager to perform a quick count of the bottles on hand at the end of the day and compare it with the count at the end of the previous day, plus the record of any purchased. The count at the end of the previous day, plus the record of bottles purchased, minus the count at the end of the current day should equal the amount sold as recorded by the point-of-sale terminals in the restaurant.

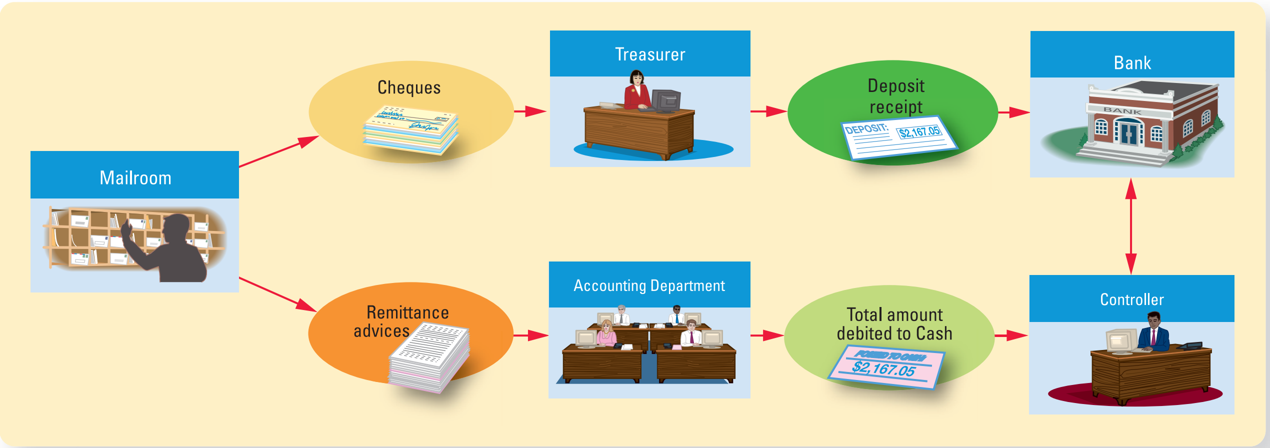
An effective control for many chain retail businesses, such as restaurants, grocery stores, or clothing stores, to prevent unauthorized access to cash as well as to allow for more efficient management of cash, is the use of "depository bank accounts." Cash receipts for an individual store are deposited into a local bank account (preferably delivered by armored car for security reasons) on a daily basis. The corporate headquarters arranges for its centralized bank to draft the local depository accounts on a frequent (perhaps daily) basis to get the money concentrated into the company's centralized account, where it can be used to pay the corporation's bills. Depository accounts are "one-way" accounts where the local management may only make deposits. They have no authority to write cheques on the account or take money out of the store's account.

## Cash Receipts by Mail

Many companies receive cash (in the form of cheques or bank orders) by mail, usually from corporate customers and sometimes from retail customers. Exhibit 5-6 shows how companies control cash received by mail. All incoming mail is opened by a mailroom employee. The mailroom then sends all customer cheques to the treasurer, who has the cashier deposit the money in the bank. The remittance advices go to the accounting department for journal entries to Cash and customer accounts receivable. As a final step, the controller compares the following records for the day:

- bank deposit amount from the treasurer
- debit to Cash from the accounting department

**EXHIBIT 5-6 | Cash Receipts by Mail**




The debit to Cash should equal the amount deposited in the bank. All cash receipts are safe in the bank, and the company books are up-to-date.

To prevent unauthorized access to cash, many companies use a bank lock-box system, rather than risk processing cheques through the mailroom. Customers send their cheques by return mail directly to a post office box controlled by the company's bank. The bank sends a detailed record of cash received, by customer, to the company for use in posting collections to accounts receivable. Internal control is tight because company personnel never touch incoming cash. The lock-box system also gets the cash to the bank in a more timely manner, allowing the company to put the cash to work faster than would be possible if it were processed by the company's mailroom.

# Internal Control Over Cash Payments

Companies make most payments by cheque. Let's see how cash payments by cheque can be controlled.

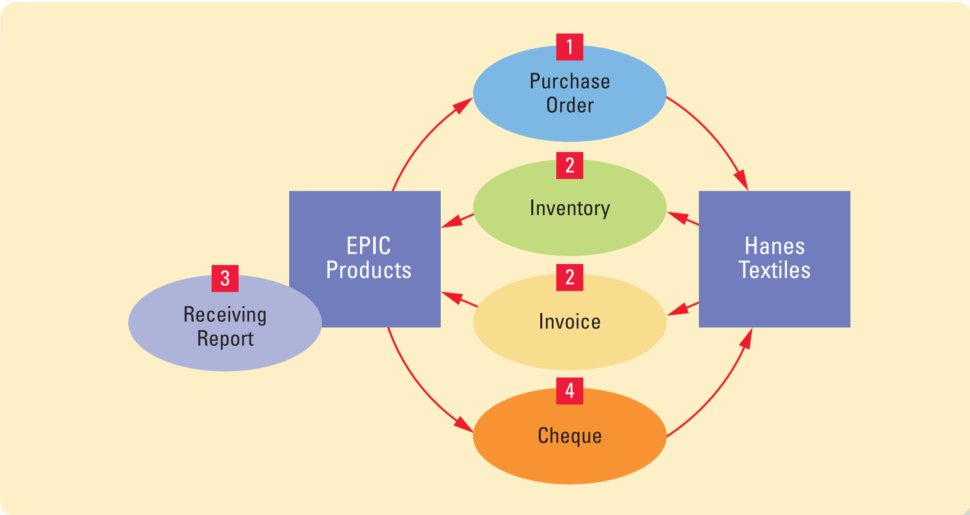
## Controls Over Payments by Cheque

As we have seen, you need a good separation of duties between (a) operations and (b) writing cheques for cash payments. Payment by cheque is an important internal control, as follows:

- The cheque provides a record of the payment.
- The cheque must be signed by an authorized official.
- Before signing the cheque, the official should study the evidence supporting the payment.

**Controls Over Purchase and Payment.** To illustrate the internal control over cash payments by cheque, suppose EPIC Products buys some of its inventory from **Hanes Textiles**. The purchasing and payment process follows these steps, as shown in Exhibit 5-7. Start with the box for EPIC Products on the left side.

**EXHIBIT 5-7 | Cash Payments by Cheque**




1. EPIC Products faxes or e-mails an electronic *purchase order* to Hanes Textiles. EPIC Products says, "Please send us 100 T-shirts."
2. Hanes Textiles ships the goods and sends an electronic or paper *invoice* back to EPIC Products. Hanes sends the goods.
3. EPIC Products receives the *inventory* and prepares a *receiving report* to list the goods received. EPIC Products receives its T-shirts.
4. After approving all documents, EPIC Products sends a *cheque* to Hanes, or authorizes an electronic funds transfer (EFT) directly from its bank to Hanes' bank. By this action, EPIC Products says, "Okay, we'll pay you."

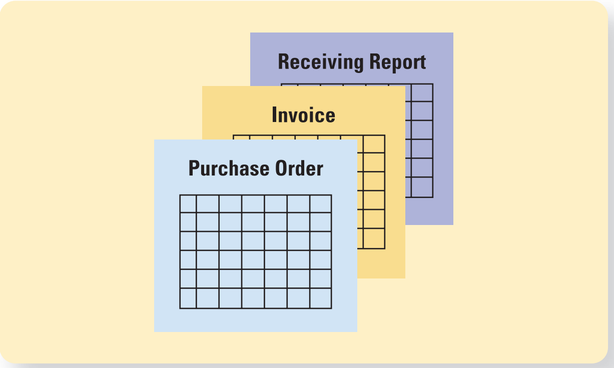
For good internal control, the purchasing agent should neither receive the goods nor approve the payment. If these duties aren't separated, a purchasing agent can buy goods and have them shipped to his or her home. Or a purchasing agent can spend too much on purchases, approve the payment, and split the excess with the supplier. To avoid these problems, companies split the following duties among different employees:

- purchasing goods
- receiving goods
- approving and paying for goods

Exhibit 5-8 shows EPIC Products' payment packet of documents. Before signing the cheque or approving the EFT, the treasurer's department should examine the packet to prove that all the documents agree. Only then does the company know that:

1. It received the goods ordered.
2. It is paying only for the goods received.

**EXHIBIT 5-8 | Payment Packet**




After payment, the person in the treasurer's department who has authorized the disbursement stamps the payment packet "paid" or punches a hole through it to prevent it from being submitted a second time. Dishonest people have tried to run a bill through twice for payment. The stamp or hole shows that the bill has been paid. If cheques are used, they should then be mailed directly to the payee without being allowed to return to the department that prepared them. To do so would violate separation of the duties of cash handling and record keeping, as well as unauthorized access to cash.

**Petty Cash.** It would be wasteful to write separate cheques for an executive's taxi fare, name tags needed right away, or delivery of a package across town. Therefore, companies keep a **petty cash** fund on hand to pay such minor amounts. The word "petty" means small. That's what petty cash is—a small cash fund kept by a single employee for the purpose of making such on-the-spot minor purchases or reimbursements.

The petty cash fund is opened with a particular amount of cash. A cheque for that amount is then issued to the custodian of the petty cash fund, who is solely responsible for accounting for it. Assume that on February 28, Cisco Systems, the worldwide leader in networks for the Internet, establishes a petty cash fund of $500 in a sales department by writing a cheque to the designated custodian. The custodian of the petty cash fund cashes the cheque and places $500 in the fund, which may be a cash box or other device.

For each petty cash payment, the custodian prepares a petty cash voucher to list the item purchased. The sum of the cash in the petty cash fund plus the total of the paid vouchers in the cash box should equal the opening balance at all times—in this case, $500. The Petty Cash account keeps its $500 balance at all times. Maintaining the Petty Cash account at this balance, supported by the fund (cash plus vouchers), is how an **imprest system** works. The control feature is that it clearly identifies the amount for which the custodian is responsible.

# Using a Bank Account as a Control Procedure

**OBJECTIVE**

**3** **Prepare** and use a bank reconciliation

Cash is the most liquid asset because it is the medium of exchange for all economies in the world. Cash is easy to conceal and relatively easy to steal. As a result, most businesses create specific controls for cash.

Keeping cash in a bank account helps control cash because banks have established practices for safeguarding customers' money. The documents used to control a bank account include the following:

- signature card
- deposit ticket
- cheque
- bank statement
- bank reconciliation

**Signature Card.** Banks require each authorized person to sign on an account to provide a *signature card*. This helps safeguard against forgery.

**Deposit Ticket/Slip.** Banks supply standard forms such as *deposit tickets*. The customer fills in the amount of each deposit. As proof of the transaction, the customer keeps a deposit receipt.

**Cheque.** To pay cash, the depositor can write a **cheque**, which tells the bank to pay the designated party a specified amount. There are three parties to a cheque:

- the maker, or drawer, who signs the cheque;
- the payee, to whom the cheque is paid;
- the bank on which the cheque is drawn.

**EXHIBIT 5-9 | Cheque with Remittance Advice**

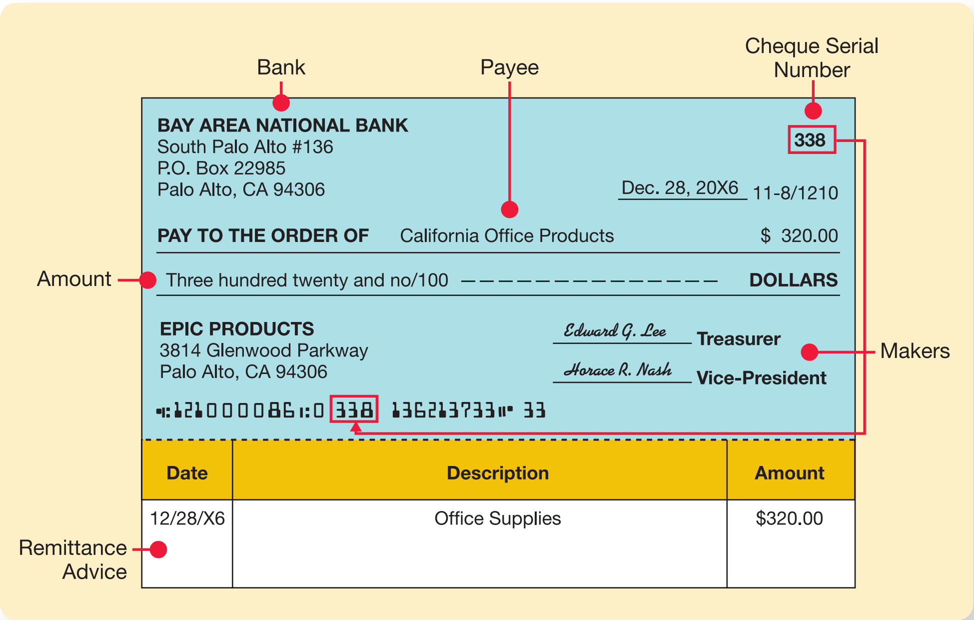


Exhibit 5-9 shows a cheque drawn by EPIC Products, the maker. The cheque has two parts, the cheque itself and the **remittance advice** below. This optional attachment, which may often be scanned electronically, tells the payee the reason for the payment and is used as the source document for posting to proper accounts.

**Bank Statement.** Banks send monthly statements to customers. A **bank statement** reports what the bank did with the customer's cash. The statement shows the account's beginning and ending balances, cash receipts, and payments. Exhibit 5-10 is the December bank statement of the Palo Alto office of EPIC Products.

**EXHIBIT 5-10 | Bank Statement**

**BANK STATEMENT**

**BAY AREA NATIONAL BANK**

SOUTH PALO ALTO #136 P.O. BOX 22985 PALO ALTO, CA 94306

EPIC Products
3814 Glenwood Parkway
Palo Alto, CA 94306

ACCOUNT 136–213733

DECEMBER 31, 20X6

| BEGINNING BALANCE | TOTAL DEPOSITS | TOTAL WITHDRAWALS | SERVICE CHARGES | ENDING BALANCE |
|---|---|---|---|---|
| 6,550 | 4,370 | 5,000 | 20 | 5,900 |

**TRANSACTIONS**

| DEPOSITS | DATE | AMOUNT |
|---|---|---|
| Deposit | 12/04 | 1,150 |
| Deposit | 12/08 | 190 |
| EFT—Receipt of cash dividend | 12/17 | 900 |
| Bank Collection | 12/26 | 2,100 |
| Interest | 12/31 | 30 |

| CHARGES | DATE | AMOUNT |
|---|---|---|
| **Service Charge** | 12/31 | 20 |

**CHEQUES**

| Number | Amount | Number | Amount | Number | Amount |
|---|---|---|---|---|---|
| 307 | 100 | 333 | 150 | 335 | 100 |
| 332 | 3,000 | 334 | 100 | 336 | 1,100 |

| OTHER DEDUCTIONS | DATE | AMOUNT |
|---|---|---|
| **NSF** | 12/04 | 50 |
| **EFT**—Insurance | 12/20 | 400 |

**Electronic funds transfer (EFT)** moves cash by electronic communication. It is cheaper to pay without having to mail a cheque, so many people pay their mortgage, rent, utilities, and insurance by EFT.

**EXHIBIT 5-11 | Cash Records of EPIC Products**

**General Ledger:**

ACCOUNT Cash

| Date | Item | Debit | Credit | Balance |
|---|---|---|---|---|
| 20X6 | | | | |
| Dec 1 | Balance | | | 6,550 |
| 2 | Cash receipt | 1,150 | | 7,700 |
| 7 | Cash receipt | 190 | | 7,890 |
| 31 | Cash payments | | 6,150 | 1,740 |
| 31 | Cash receipt | 1,600 | | 3,340 |

**Cash Payments:**

| Cheque No. | Amount | Cheque No. | Amount |
|---|---|---|---|
| 332 | $3,000 | 337 | $ 280 |
| 333 | 510 | 338 | 320 |
| 334 | 100 | 339 | 250 |
| 335 | 100 | 340 | 490 |
| 336 | 1,100 | Total | $6,150 |

**Bank Reconciliation.** There are two records of a business's cash:

1. The bank statement, which shows the cash receipts and payments transacted through the bank. In Exhibit 5-10 the bank shows an ending balance of $5,900 for EPIC Products.
2. The Cash account in the company's general ledger. Exhibit 5-11 shows that EPIC Products' ending cash balance is $3,340.

**The books and the bank statement usually show different cash balances**. Differences arise because of a time lag in recording transactions—two examples follow:

- When you write a cheque, you immediately deduct it in your cheque book. But the bank does not subtract the cheque from your account until the bank pays the cheque a few days later, after your payee presents the cheque to his or her own bank (which may be different from your bank). And you immediately add the cash receipt for all your deposits. But it may take a day or two for the bank to add deposits to your balance.
- Your EFT payments and cash receipts may be directly deposited by your customers and recorded by the bank before you learn of them.

To ensure accurate cash records, you need to update your cash record—either online or after you receive your bank statement. The result of this updating process creates a **bank reconciliation**, which you must prepare. The bank reconciliation explains all differences between your cash records and your bank balance. The person who prepares the bank reconciliation should have no other cash duties. Otherwise, he or she can steal cash and manipulate the reconciliation to conceal the theft.

## Preparing the Bank Reconciliation

Here are the items that appear on a bank reconciliation. They all cause differences between the bank balance and the book balance. We call your cash record the "Books."

### Bank Side of the Reconciliation

1. Items to show on the *Bank* side of the bank reconciliation include the following:
   a. **Deposits in transit** (outstanding deposits). You have recorded these deposits, but the bank has not. Add deposits in transit on the bank reconciliation.
   b. **Outstanding cheques**. You have recorded these cheques, but the bank has not yet paid them. Subtract outstanding cheques.
   c. **Bank errors.** Correct all bank errors on the Bank side of the reconciliation. For example, the bank may erroneously subtract from your account a cheque written by someone else.

### Book Side of the Reconciliation

2. Items to show on the *Book* side of the bank reconciliation include the following:
   a. **Bank collections.** Bank collections are cash receipts that the bank has recorded for your account. But you haven't recorded the cash receipt yet. Many businesses have their customers pay directly to their bank. This is called a *lock-box system* and reduces theft. An example is a bank collecting an account receivable for you. Add bank collections on the bank reconciliation.
   b. **Electronic funds transfers.** The bank may receive or pay cash on your behalf. An EFT may be a cash receipt or a cash payment. Add EFT receipts and subtract EFT payments.
   c. **Service charge.** This cash payment is the bank's fee for processing your transactions. Subtract service charges.
   d. **Interest revenue on your cheque account.** On certain types of bank accounts, you earn **interest** if you keep enough cash in your account. The bank statement tells you of this cash receipt. Add interest revenue.
   e. **Non-sufficient funds (NSF) cheques.** These are cash receipts from customers for which there are not sufficient funds in their bank to cover the amount. NSF cheques (sometimes called "bounced" cheques) are treated as cash payments on your bank reconciliation. Subtract NSF cheques.
   f. **The cost of printed cheques.** This is usually deducted automatically by the bank and is handled like a service charge. Subtract this cost.
   g. **Book errors.** Correct all book errors on the Book side of the reconciliation. For example, you may have recorded a $150 cheque that you wrote as $510 on your books.

**Bank Reconciliation Illustrated.** The bank statement in Exhibit 5-10 shows that the December 31 bank balance of EPIC Products is $5,900 (upper right corner). However, the company's Cash account has a balance of $3,340, as shown in Exhibit 5-11. This situation calls for a bank reconciliation. Exhibit 5-12, panel A lists the reconciling items for easy reference, and panel B shows the completed reconciliation.

**EXHIBIT 5-12 | Bank Reconciliation**

PANEL A—Reconciling Items

**Bank side:**

1. Deposit in transit, $1,600.
2. Bank error: The bank deducted $100 for a cheque written by another company. Add $100 to the bank balance.
3. Outstanding cheques—total of $1,340.

| Cheque No. | Amount |
|---|---|
| 337 | $280 |
| 338 | 320 |
| 339 | 250 |
| 340 | 490 |

**Book side:**

4. EFT receipt of your dividend revenue earned on an investment, $900.
5. Bank collection of your account receivable, $2,100.
6. Interest revenue earned on your bank balance, $30.
7. Book error: You recorded cheque no. 333 for $510. The amount you actually paid on account was $150. Add $360 to your book balance.
8. Bank service charge, $20.
9. NSF cheque from a customer, $50. Subtract $50 from your book balance.
10. EFT payment of insurance expense, $400.

PANEL B—Bank Reconciliation

**EPIC Products**
**Bank Reconciliation**
December 31, 20X6

| Bank | | | Books | | |
|---|---|---|---|---|---|
| **Balance, December 31** | | **$5,900** | **Balance, December 31** | | **$3,340** |
| Add: | | | Add: | | |
| 1. Deposit in transit | | 1,600 | 4. EFT receipt of dividend revenue | | 900 |
| 2. Correction of bank error | | 100 | 5. Bank collection of account | | |
| | | 7,600 | receivable | | 2,100 |
| | | | 6. Interest revenue earned on | | |
| | | | bank balance | | 30 |
| | | | 7. Correction of book error— | | |
| | | | overstated our cheque no. 333 | | 360 |
| Less: | | | | | 6,730 |
| 3. Outstanding cheques | | | | | |
| No. 337 | $280 | | Less: | | |
| No. 338 | 320 | | 8. Service charge | $ 20 | |
| No. 339 | 250 | | 9. NSF cheque | 50 | |
| No. 340 | 490 | (1,340) | 10. EFT payment of insurance expense | 400 | (470) |
| **Adjusted bank balance** | | $6,260 | **Adjusted bank balance** | | $6,260 |

*These amounts should agree.*

SUMMARY OF THE VARIOUS RECONCILING ITEMS:

**BANK BALANCE**

- *Add* deposits in transit.
- *Subtract* outstanding cheques.
- *Add* or *subtract* corrections of bank errors.

**BOOK BALANCE**

- *Add* bank collections, interest revenue, and EFT receipts.
- *Subtract* service charges, NSF cheques, and EFT payments.
- *Add* or *subtract* corrections of book errors.

**Journalizing Transactions from the Bank Reconciliation.** The bank reconciliation is an accountant's tool separate from the journals and ledgers. It does *not* account for transactions in the journal. To get the transactions into the accounts, we must make journal entries and post to the ledger. All items on the *Book* side of the bank reconciliation require journal entries. The bank reconciliation in Exhibit 5-12 requires EPIC Products to make journal entries to bring the Cash account up-to-date. The numbers in red correspond to the reconciling items listed in Exhibit 5-12, Panel A.

| | | | | |
|---|---|---|---|---|
| 4. | Dec 31 | Cash | 900 | |
| | | Dividend Revenue | | 900 |
| | | *Receipt of dividend revenue earned on investment.* | | |
| | | | | |
| 5. | 31 | Cash | 2,100 | |
| | | Accounts Receivable | | 2,100 |
| | | *Account receivable collected by bank.* | | |
| | | | | |
| 6. | 31 | Cash | 30 | |
| | | Interest Revenue | | 30 |
| | | *Interest earned on bank balance.* | | |
| | | | | |
| 7. | 31 | Cash | 360 | |
| | | Accounts Payable | | 360 |
| | | *Correction of cheque no. 333.* | | |
| | | | | |
| 8. | 31 | Bank Service Charges | 20 | |
| | | Cash | | 20 |
| | | *Bank service charge.* | | |
| | | | | |
| 9. | 31 | Accounts Receivable | 50 | |
| | | Cash | | 50 |
| | | *NSF cheque returned by bank.* | | |
| | | | | |
| 10. | 31 | Insurance Expense | 400 | |
| | | Cash | | 400 |
| | | *Payment of monthly insurance.* | | |

The entry for the NSF cheque (entry 9) deserves additional explanation. Upon learning that a customer's $50 cheque to us was not honored (i.e. declined) by the customer's bank, we must credit Cash to update the Cash account. This typically happens when there are insufficient funds for the cheque issued, unauthorized signature, or other reasons. Unfortunately, we still have a receivable from the customer, so we must debit Accounts Receivable to reinstate our receivable and try to collect it again!

## Online Banking

Online banking allows you to pay bills and view your account electronically. You don't have to wait until the end of the month to get a bank statement. With online banking you can reconcile transactions at any time and keep your account current whenever you wish. Exhibit 5-13 shows a sample page from the account history of a bank account.

**EXHIBIT 5-13 | Online Banking: Account History**

**Transaction History for Account # 5401-632-9**
**as of Close of Business 07/27/20X6**

**Account Details**
Current Balance $4,136.08

| Date ↓ | Description | Withdrawals | Deposits | Balance |
|---|---|---|---|---|
| | **Current Balance** | | | **$4,136.08** |
| 07/27/X6 | DEPOSIT | | 1,170.35 | |
| 07/26/X6 | 28 DAYS INTEREST | | 2.26 | |
| 07/25/X6 | Cheque #6131 View Image | 443.83 | | |
| 07/24/X6 | Cheque #6130 View Image | 401.52 | | |
| 07/23/X6 | EFT PYMT CINGULAR | 61.15 | | |
| 07/22/X6 | EFT PYMT CITICARD PAYMENT | 3,172.85 | | |
| 07/20/X6 | Cheque #6127 View Image | 550.00 | | |
| 07/19/X6 | Cheque #6122 View Image | 50.00 | | |
| 07/16/X6 | Cheque #6116 View Image | 2,056.75 | | |
| 07/15/X6 | Cheque #6123 View Image | 830.00 | | |
| 07/13/X6 | Cheque #6124 View Image | 150.00 | | |
| 07/11/X6 | ATM 4900 SANGER AVE | 200.00 | | |
| 07/09/X6 | Cheque #6119 View Image | 30.00 | | |
| 07/05/X6 | Cheque #6125 View Image | 2,500.00 | | |
| 07/04/X6 | ATM 4900 SANGER AVE | 100.00 | | |
| 07/01/X6 | DEPOSIT | | 9,026.37 | |

E-Mail

The account history—like a bank statement—lists deposits, cheques, EFT payments, ATM withdrawals, and interest earned on your bank balance. But depending on the bank's online system, the account history may not show your beginning balance, so you can't work from your beginning balance to your ending balance.

Whether it is conventional banking or online banking, the discussions we had earlier are still applicable. Organizations that pay their bills electronically would also need to ensure that there are proper authorization processes and adequate internal control measures in place. Payments from customers are received directly to our bank accounts, minimizing risks of misappropriation. Bank reconciliations would still be needed to ensure that the bank balances agree with our records.

## STOP & THINK . . .

The bank statement balance is $4,500 and shows a service charge of $15, interest earned of $5, and an NSF cheque for $300. Deposits in transit total $1,200; outstanding cheques are $575. The bookkeeper recorded as $152 a cheque of $125 in payment of an account payable. This created a book error of $27 (positive amount to correct the error).

1. What is the adjusted bank balance?
2. What was the book balance of cash before the reconciliation?

***Answers:***

1. $5,125 ($4,500 + $1,200 – $575).
2. $5,408 ($5,125 + $15 – $5 + $300 – $27). The adjusted book and bank balances are the same. The answer can be determined by working backward from the adjusted balance.

**Using the Bank Reconciliation to Control Cash.** The bank reconciliation can be a powerful control device. Jonathan Leong is a CPA in Hong Kong. He owns several apartments that are managed by one of his nephews, Alex. Alex signs up tenants, collects the monthly rents, arranges maintenance work, hires and fires employees, writes the cheques, and performs the bank reconciliation. In short, he does it all. This concentration of duties in one person is evidence of weak internal control. Alex could be stealing from him, and as a CPA, Jonathan is aware of this possibility.

Jonathan trusts Alex because he is a member of the family. Nevertheless, Jonathan exercises some controls over Alex's management of his apartments. Jonathan periodically drops by the apartments to see whether the maintenance staff are keeping the property in good condition. To control cash, Jonathan occasionally examines the bank reconciliation that Alex has performed. Jonathan would know immediately if Alex were writing cheques to himself. By examining the copy of each cheque issued, Jonathan establishes control over cash payments.

Jonathan has a simple method for controlling cash receipts. He knows the occupancy level of his apartments. He also knows the monthly rent he charges. Jonathan multiplies the number of apartments—say five—by the monthly rent (which averages $5,000 per unit) to arrive at expected monthly rent revenue of $25,000. By tracing the $25,000 revenue to the bank statement, Jonathan can tell if all his rent money went into his bank account. To keep Alex on his toes, Jonathan lets him know that he periodically audits his work.

Control activities such as these are critical. If there are only a few employees, separation of duties may not be feasible. The manager must control operations, or the assets may slip away.

# MID-CHAPTER SUMMARY PROBLEM

The cash account of Baylor Associates at February 28, 20X7, follows.

**Cash**

| | | | | | |
|---|---|---|---|---|---|
| Feb 1 | Bal | 3,995 | Feb 3 | | 400 |
| 6 | | 800 | 12 | | 3,100 |
| 15 | | 1,800 | 19 | | 1,100 |
| 23 | | 1,100 | 25 | | 500 |
| 28 | | 2,400 | 27 | | 900 |
| Feb 28 | Bal | 4,095 | | | |

Baylor Associates received the bank statement on February 28, 20X7 (negative amounts are in parentheses):

**Bank Statement for February 20X7**

| | | |
|---|---|---|
| Beginning balance | | |
| Deposits: | | $3,995 |
| Feb 7 | $ 800 | |
| 15 | 1,800 | |
| 24 | 1,100 | 3,700 |
| Cheques (total per day): | | |
| Feb 8 | $ 400 | |
| 16 | 3,100 | |
| 23 | 1,100 | (4,600) |
| Other items: | | |
| Service charge | | (10) |
| NSF cheque from M. E. Crown | | (700) |
| Bank collection of note receivable for the company | | 1,000 |
| EFT—monthly rent expense | | (330) |
| Interest revenue earned on account balance | | 15 |
| Ending balance | | $3,070 |

Additional data:
Baylor deposits all cash receipts in the bank and makes all payments by cheque.

### *Requirements*

1. Prepare the bank reconciliation of Baylor Associates at February 28, 20X7.
2. Journalize the entries based on the bank reconciliation.

## Answers

### *Requirement 1*

**Baylor Associates**
**Bank Reconciliation**
February 28, 20X7

| | | | |
|---|---|---|---|
| **Bank:** | | | |
| Balance, February 28, 20X7 | | | $3,070 |
| Add: Deposit of February 28 in transit | | | 2,400 |
| | | | 5,470 |
| | | | |
| Less: Outstanding cheques issued on Feb 25 ($500) | | | |
| and Feb 27 ($900) | | | (1,400) |
| Adjusted bank balance, February 28, 20X7 | | | $4,070 |
| | | | |
| **Books:** | | | |
| Balance, February 28, 20X7 | | | $4,095 |
| Add: Bank collection of note receivable | | | 1,000 |
| Interest revenue earned on bank balance | | | 15 |
| | | | 5,110 |
| Less: Service charge | | $ 10 | |
| NSF cheque | | 700 | |
| EFT—Rent expense | | 330 | (1,040) |
| Adjusted book balance, February 28, 20X7 | | | $4,070 |

### *Requirement 2*

| | | | |
|---|---|---|---|
| Feb 28 | Cash | 1,000 | |
| | Note Receivable | | 1,000 |
| | *Note receivable collected by bank.* | | |
| | | | |
| 28 | Cash | 15 | |
| | Interest Revenue | | 15 |
| | *Interest earned on bank balance.* | | |
| | | | |
| 28 | Miscellaneous Expense | 10 | |
| | Cash | | 10 |
| | *Bank service charge.* | | |
| | | | |
| 28 | Accounts Receivable | 700 | |
| | Cash | | 700 |
| | *NSF cheque returned by bank.* | | |
| | | | |
| 28 | Rent Expense | 330 | |
| | Cash | | 330 |
| | *Monthly rent expense.* | | |

# Using a Budget to Manage Cash

As mentioned earlier in the chapter, a budget is a financial plan that helps coordinate business activities. Managers control operations with an operating budget. They also control cash receipts and cash payments, as well as ending cash balances, through use of a cash budget.

How, for example, does EPIC Products decide when to invest in new inventory-tracking technology? How will EPIC Products decide how much to spend? Will borrowing be needed, or can EPIC Products finance the purchase with internally generated cash? What do ending cash balances need to be in order to provide a "safety margin" so the company won't unexpectedly run out of cash? A cash budget for a business works on roughly the same concept as a personal budget. By what process do you decide how much to spend on your education? On an automobile? On a house? All these decisions depend to some degree on the information that a cash budget provides.

A *cash budget helps a company or an individual manage cash by planning receipts and payments during a future period*. The company must determine how much cash it will need and then decide whether or not operations will bring in the needed cash. Managers proceed as follows:

1. Start with the entity's cash balance at the beginning of the period. This is the amount left over from the preceding period.
2. Add the budgeted cash receipts and subtract the budgeted cash payments.
3. The beginning balance plus receipts and minus payments equals the expected cash balance at the end of the period.
4. Compare the cash available before new financing to the budgeted cash balance at the end of the period. Managers know the minimum amount of cash they need (the budgeted balance). If the budget shows excess cash, managers can invest the excess. But if the cash available falls below the budgeted balance, the company will need additional financing. The company may need to borrow the shortfall amount. The budget is a valuable tool for helping the company plan for the future.

The budget period can span any length of time—a day, a week, a month, or a year. Exhibit 5-14 shows a cash budget for EPIC Products, Inc., for the year ended December 31, 20X7. Study it carefully, because at some point you will use a cash budget.

EPIC Products' cash budget in Exhibit 5-14 begins with \$6,260 of cash at the end of the previous year (line 1). Then add budgeted cash receipts and subtract budgeted payments for the current year. In this case, EPIC Products expects to have \$3,900 of cash available at year-end (line 10). EPIC Products managers need to maintain a cash balance of at least \$5,000 (line 11). Line 12 shows that EPIC Products must arrange \$1,100 of financing in order to achieve its goals for 20X7.

**EXHIBIT 5-14 | Cash Budget**

EPIC Products
Cash Budget
For the Year Ended December 31, 20X7

| | | | |
|---|---|---|---|
| 1 | Cash balance, December 31, 20X6 | | $ 6,260 |
| | Budgeted cash receipts: | | |
| 2 | Collections from customers | | 55,990 |
| 3 | Dividends on investments | | 1,200 |
| 4 | Sale of store fixtures | | 5,700 |
| | | | 69,150 |
| | Budgeted cash payments: | | |
| 5 | Purchases of inventory | $33,720 | |
| 6 | Operating expenses | 11,530 | |
| 7 | Expansion of store | 12,000 | |
| 8 | Payment of long-term debt | 5,000 | |
| 9 | Payment of dividends | 3,000 | 65,250 |
| 10 | Cash available (needed) before new financing | | $ 3,900 |
| 11 | Budgeted cash balance, December 31, 20X7 | | (5,000) |
| 12 | Cash available for additional investments, or (New financing needed) | | $ (1,100) |

## Reporting Cash on the Balance Sheet

Most companies have numerous bank accounts, but they usually combine all cash amounts into a single total called "Cash and Cash Equivalents." You saw at the start of this chapter Nestlé reports cash and cash equivalent of CHF 4.9 billion on its balance sheet. **Cash equivalents** include highly liquid assets such as time deposits, certificates of deposit, and high-grade government securities that are not subjected to any significant change of value. Slightly less liquid than cash, cash equivalents are sufficiently similar to be reported along with cash. We will discuss cash and cash equivalents further in Chapter 11.

# ACCOUNTS AND NOTES RECEIVABLE

## Types of Receivables

**OBJECTIVE**

**4** **Account** for receivables and uncollectible receivables

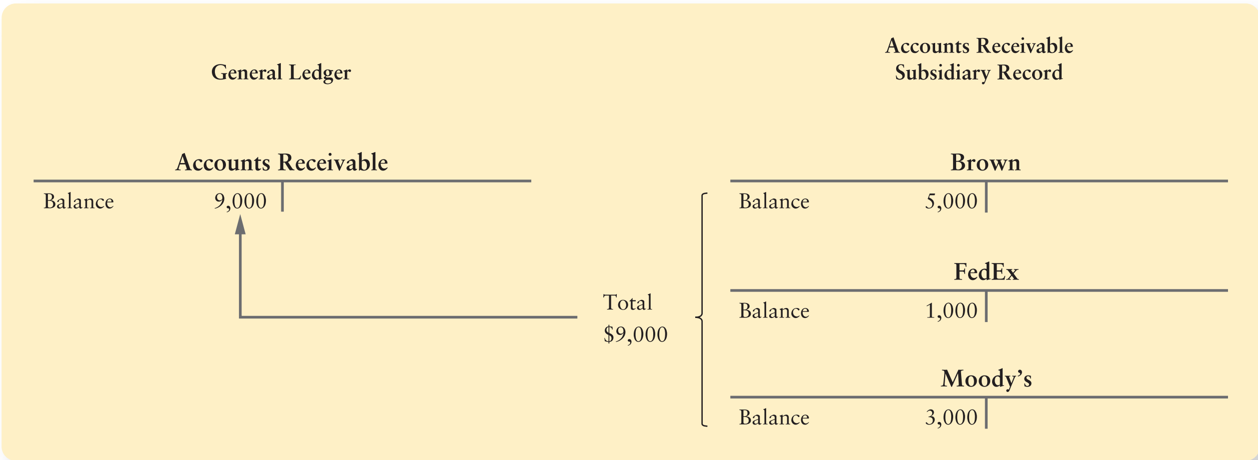
**Receivables** are monetary claims against others. Receivables are acquired mainly by selling goods and services (accounts receivable) and by lending money (notes receivable). The journal entries to record the receivables can be shown as follows:

| Performing a Service on Account | | | Lending Money on a Note Receivable | | |
|---|---|---|---|---|---|
| Accounts Receivable | XXX | | Note Receivable | XXX | |
| Service Revenue | | XXX | Cash | | XXX |
| *Performed a service on account.* | | | *Loaned money to another company.* | | |

The two major types of receivables are accounts receivable and notes receivable. A business's *accounts receivables* are the amounts collectible from customers from the sale of goods and services. Accounts receivable, which typically classified are *current assets*, are sometimes called *trade receivables, debtors*, or sometimes just *receivables*. The use of the word "trade" is usually to separate receivables (and payables) arising from the selling of goods or provision of services to customers (and buying of goods or services from suppliers) as opposed to non-trade receivables. Nestlé's balance sheet at the start of this chapter showed trade and other receivables as one item (line 4) but there is additional information in the notes to the financial statement on the breakdown between trade versus non-trade receivables.

When items are sold on account, the amount recognized as receivable is the fair value of the consideration to be received (recall our discussion in Chapter 3 on revenue recognition). This receivable meets the definition of an asset because it represents future economic benefits the selling entity expects to collect, and it can be measured reliably through contract, invoice, or some other form of sales documentation.

The Accounts Receivable account in the general ledger serves as a *control account* that summarizes the total amount receivable from all customers. Companies also keep a *subsidiary record* of accounts receivable with a separate account for each customer, illustrated as follows:




*Notes receivable* are more formal contracts than accounts receivable. For a note, the borrower signs a written promise to pay the lender a definite sum at a future date, plus interest. This is why notes are also called promissory notes. The note may require the borrower to pledge *security* for the loan. This means that the borrower gives the lender permission to claim certain assets, called *collateral*, if the borrower fails to pay the amount due. We cover the details of notes receivable later in this chapter.

Other than trade and other receivables, an entity may also have *other receivables*, which include various advances and loans to employees and other parties.

## Internal Controls Over Cash Collections on Account

Businesses that sell on credit receive most of their cash receipts from collections of accounts receivable. Internal control over collections on account is just as important as cash collection at point of sale. Earlier we discussed control procedures for cash receipts, but another element of internal control deserves emphasis here—the separation of cash-handling and cash-accounting duties. Consider the following case:

> Central Paint Company is a small, family-owned business that takes pride in the loyalty of its workers. Most employees have been with Central for 10 or more years. The company makes 90% of its sales on account and receives most of its cash (in the form of cheques) by mail.
>
> The office staff consists of a bookkeeper and an office supervisor. The bookkeeper maintains the general ledger and a subsidiary record of individual customer accounts receivable. The bookkeeper also makes the daily bank deposit.
>
> The supervisor prepares monthly financial statements and any special reports the company needs. The supervisor also takes sales orders from customers and serves as office manager.

Can you identify the internal control weakness here? The problem is that the bookkeeper makes the bank deposit. Remember the EPIC Products case (see Exhibit 5-3)? With this cash-handling duty, the bookkeeper could lap accounts receivable. Alternatively, he or she could steal an incoming customer cheque and write off the customer's account as uncollectible. The customer doesn't complain because the bookkeeper wrote off the customer's account, and Central therefore stops pursuing collection.

How can this weakness be corrected? The supervisor—not the bookkeeper—could open incoming mail and make the daily bank deposit. The bookkeeper should *not* be allowed to handle cash. Only the remittance advices should be forwarded to the bookkeeper to credit customer accounts receivable. Removing cash handling from the bookkeeper and keeping the accounts away from the supervisor separate duties and strengthen internal control.

Using a bank lock box achieves the same separation of duties. Customers send their payments directly to Central Paint Company's bank, which records cash as the cash goes into Central's bank account. The bank then forwards the remittance advice to Central's bookkeeper, who credits the customer account. No Central Paint employee even touches incoming cash.

## How Do We Manage the Risk of Not Collecting?

In Chapters 1 to 4, we used many different companies to illustrate how to account for a business. All of them hold substantial amounts of receivables from selling goods or providing services on credit.

Selling on credit creates both a benefit and a cost:

- *Benefit*: Customers who cannot pay cash immediately can buy on credit, so sales and profits increase.
- *Cost*: The company cannot collect from some customers. Accountants label this cost **uncollectible-account expense**, **doubtful-account expense**, or **bad-debt expense**.

By selling on credit, companies run the risk of not collecting some receivables. Unfortunately, some customers don't pay their debts. The prospect of failing to collect from a customer provides the biggest challenge in accounting for receivables. The Decision Guidelines address this challenge.

# DECISION GUIDELINES

## MANAGING AND ACCOUNTING FOR RECEIVABLES

Here are the management and accounting issues a business faces when the company extends credit to customers. For each issue, the Decision Guidelines propose a plan of action. Let's look at a business situation: Suppose you open a health club near your college. Assume you will let customers use the club and bill them for their monthly dues. What challenges will you encounter by extending credit to customers? The main issues in *managing* receivables, along with plans of action, are:

| Issues | Plan of Action |
|---|---|
| 1. What are the benefits and the costs of extending credit to customers? | 1. Benefit—Increase in sales. Cost—Risk of not collecting. |
| 2. Extend credit only to creditworthy customers. | 2. Run a credit check on prospective customers. |
| 3. Separate cash-handling and accounting duties to keep employees from stealing the cash collected from customers. | 3. Design the internal control system to separate duties. |
| 4. Pursue collection from customers to maximize cash flow. | 4. Keep a close eye on customer pay habits. Send second and third statements to slow-paying customers, if necessary. |

The main issues in accounting for receivables, and the related plans of action, are (amounts are assumed):

| Issues | Plan of Action |
|---|---|
| 1. Measure and report receivables on the balance sheet at their net carrying amount, the amount we expect to collect. This is the appropriate amount to report for receivables. | Report receivables at their net carrying amount:<br>**Balance sheet**<br>Receivables ........ \$1,000<br>Less: Allowance for uncollectibles ........ (80)<br>Receivables, net ........ \$ 920 |
| 2. Measure and report the expense associated with failure to collect receivables. This expense is called *uncollectible-account expense* and is reported on the income statement. | Measure the expense of not collecting from customers:<br>**Income statement**<br>Sales (or service) revenue ........ \$8,000<br>Expenses:<br>Uncollectible-account expense ........ 190 |

These guidelines lead to our next topic, Accounting for Uncollectible Receivables.

# Accounting for Uncollectible Receivables

A company gets an account receivable only when it sells its product or service on credit (on account). You'll recall that the entry to record the earning of revenue on account is (amount assumed):

| | | | |
|---|---|---|---|
| | Accounts Receivable | 1,000 | |
| | Sales Revenue (or Service Revenue) | | 1,000 |
| | *Earned revenue on account.* | | |

Ideally, the company would collect cash for all of its receivables. But unfortunately, this does not happen all the time. How do we account for uncollectible receivables? Uncollectible-account expense is an operating expense along with salaries, depreciation, rent, and utilities. You may also see companies label this as *bad debt expense, impairment of receivables expense* or something similar. To measure uncollectible-account expense, accountants use the allowance method or, in certain limited cases, the direct write-off method (see later in this chapter).

## Allowance Method

The best way to provide for bad debts is by the allowance method. *IAS 39—Financial Instruments: Recognition and Measurement* stipulates that loans and receivables, like other financial assets, are impaired if, and only if, there is objective evidence of impairment as a result of one or more "loss events" that occurred after their initial recognition. This includes observable data that comes to the attention of the holder of the loans and receivables about the following loss events:

- Significant financial difficulty of a specific debtor, including the possibility of becoming bankrupt.
- A breach of contract by a specific debtor, such as default or inability to make interest and/or principal payments.
- Adverse changes in the number of delayed payments by debtors in general.
- National or local economic conditions that correlate with defaults by debtors in general (e.g. increase in unemployment rates and other adverse changes in industry conditions that affect debtors).

The allowance method thus records collection losses based on estimates developed from the company's collection experience and information about debtors. Nestlé doesn't wait to see which customers will not pay. Instead, Nestlé records the estimated amount as Uncollectible-Account Expense and also sets up an *Allowance for Uncollectible Receivables* account. Other titles for this account are *Allowance for Doubtful Receivables* and *Allowance for Receivables Impairment*. This is a contra account to Accounts Receivable. The allowance shows the amount of the receivables the business expects not to collect.

In Chapter 3 we used the Accumulated Depreciation account to show the amount of a PPE's cost that has been expensed—the portion of the asset whose benefits have been allocated to prior periods. Allowance for Doubtful Debt serves a similar purpose for Accounts Receivable. The allowance shows how much of the receivable is unlikely to be collected. You'll find this diagram helpful (amounts are assumed):

| | | | |
|---|---|---|---|
| Equipment | $100,000 | Accounts receivable | $10,000 |
| Less: Accumulated depreciation | (40,000) | Less: Allowance for uncollectible receivables | (900) |
| Equipment, net | 60,000 | Accounts receivable, net | 9,100 |

Focus on Accounts Receivable. Customers owe this company $10,000, but it expects to collect only $9,100. The net receivables is therefore $9,100. Another way to report these receivables is

| | |
|---|---|
| Accounts receivable, less allowance of $900 | $9,100 |

You can work backward to determine the full amount of the receivable, $10,000 (net receivables of $9,100 plus the allowance of $900). The income statement reports Uncollectible-Account Expense among the operating expenses, as follows (using assumed figures):

| | | | |
|---|---|---|---|
| Equipment | $100,000 | Accounts receivable | $10,000 |
| Less: Accumulated depreciation | (40,000) | Less: Allowance for uncollectible accounts | (900) |
| Equipment, net | 60,000 | Accounts receivable, net | 9,100 |

The best way to estimate uncollectibles uses the company's history of collections from customers and information on "loss events" as suggested by *IAS 39* (see earlier). In practice, a popular method for estimating uncollectibles is called aging-of-receivables. The aging method is a balance-sheet approach because it focuses on what should be the most relevant and faithful representation of accounts receivable as of the balance sheet date. In the aging method, individual receivables from specific customers are analyzed based on how long they have been outstanding. A simplified version of the aging method would simply list the status or age of the receivables for the receivables, typically classified into age groups such as "Not yet due," "1–30 days overdue," "31–60 days overdue," and "over 60 days overdue." A business entity may estimate that accounts that are not yet due only have a 1% chance of not being collectible, and those that have been overdue for 1–30 days are more likely to be uncollectible, say 5%, and so forth. The allowance for each age group is thus determined *vertically*, and the totals of these allowances will be what the business will need to provide at the year-end. Exhibit 5-15 illustrates a simplified aging method of calculating allowance for uncollectible receivables.

**EXHIBIT 5-15 | Age of Accounts Receivables**

**Age of Account Receivables**

| Receivables | Not yet due | 1–30 Days | 31–60 Days | Over 60 Days | Total |
|---|---|---|---|---|---|
| Customer A | $400 | | | | $400 |
| Customer B | $100 | $100 | | | $200 |
| Customer C | $300 | $200 | $600 | $100 | $1,200 |
| … | … | … | … | … | … |
| Totals | $10,000 | $5,000 | $3,000 | $2,000 | $20,000 |
| Percentage uncollectible | 1.0% | 5.0% | 15.0% | 20.0% | |
| Required allowance | $100 | $250 | $450 | $400 | $1,200 |

As you can see, the total desired amount of allowance based on our aging analysis is $1,200 for receivables totaling $20,000. Whilst we can express this allowance as a percentage of the receivables, i.e. 6% ($1,200 of $20,000) of the receivables are expected to be impaired or uncollectible, you don't decide on the 6% first and then calculate the $1,200. The actual calculation depends on the age groups and the individual percentage uncollectible assigned to each age group.

What is the limitation of this simplified aging method? Well, have a look at Customer C in Exhibit 5-15. Let's say you are now aware of a "loss event" about Customer C, who is very likely to enter bankruptcy. The aging method disregards this fact and only provides an allowance of $123 (300 × 1% + 200 × 5% + 600 × 15% + 100 × 20%) when it is possible that all $1,200 is impaired! If you have assessed each customer's receivable row by row (i.e. *horizontally* rather than by age group *vertically*), you would have taken into account specific information about each customer in your assessment of receivables impairment. For example, you may decide that Customer C's likelihood to be a "loss event" is 80%. You would then set an allowance amounting to $960 ($1,200 × 80%) specifically for Customer C. In practice, a combination of aging and specific customer credit information may be used to determine the required allowance of uncollectible accounts at year-end.

Nestlé's accounting policies on allowance for doubtful receivables are shown below. The allowance for doubtful receivables (CHF 372 million in 2011) represents the amount that Nestlé does not expect to collect. The net amount of the receivables (CHF 13,340 million) is the amount that Nestlé expects to collect. This is called the *net receivables* because it's the amount of cash Nestlé expects to realize in cash receipts. This is the number reported on the face of Nestlé's balance sheet (line 4 on balance sheet at the start of this chapter). We could say that as a percentage of total receivables, Nestlé provided 2.79% allowance for uncollectible receivables. But remember, we don't predetermine this percentage and then apply it to total receivables to get the allowance.

**EXCERPTS (ADAPTED) FROM NESTLÉ'S NOTES TO THE 2011 FINANCIAL STATEMENTS**

Allowances for doubtful receivables represent the Group's estimates of losses that could arise from the failure or inability of customers to make payments when due. These estimates are based on the ageing of customers' balances, specific credit circumstances and the Group's historical bad receivables experience.

| (in millions CFH, Swiss Franc) | 2011 | 2010 |
|---|---|---|
| Not past due | 11,326 | 10,522 |
| Past due 1–30 days | 1,119 | 742 |
| Past due 31–60 days | 353 | 273 |
| Past due 61–90 days | 100 | 121 |
| Past due 91–120 days | 90 | 107 |
| Past due more than 120 days | 724 | 727 |
| Total trade and other receivables | 13,712 | 12,492 |
| Less allowance for doubtful receivables | (372) | (409) |
| Net trade and other receivables | 13,340 | 12,083 |

Based on the historic trend and expected performance of the customers, the Group believes that the above allowance for doubtful receivables sufficiently covers the risk of default.

| Movements of allowance doubtful receivables | 2011 | 2010 |
|---|---|---|
| Beginning allowance as at 1 January | 409 | 451 |
| Amounts used* | (96) | (136) |
| Allowance made during the year | 59 | 94 |
| Ending allowance as at 31 December | 372 | 409 |

*including currency adjustments and translations

Now, let's look at the last portion of Nestlé's excerpt. It shows the movements of the allowance account: the beginning balance (which is equal to last year's ending balance), the amount used, the desired ending balance, and the necessary allowance for the year. To recap, allowance was CHF 409 at the start of the year, and CHF 96 was used for receivable write-offs (more on this later). The total allowance after write-offs was CHF 313 (CHF 409–CHF 96), but a total of CFH 372 (based on aging, specific credit circumstances and historical bad debt experience) is required. Thus, the necessary allowance "top up" (and thus, bad debt expense for the year) is CHF 59, calculated as CHF 372 less CHF 313.

You can think of the following formula to help you better understand the relationship between uncollectible-account expense, write-offs of receivables and allowance for doubtful receivables accounts.

Beginning Allowance − Receivables Write-offs + Bad Debt Expense = Ending Allowance

Suppose it is December 31, 2011, and Nestlé's receivables show the following before the year-end adjustment (amounts in millions). The allowance account has a balance of CHF 313 after receivable write-offs during the year.

| Accounts Receivable | | | Allowance for doubtful receivables | |
|---|---|---|---|---|
| 13,712 | | | 96 | 409 |

These accounts are not yet ready for the financial statements because the allowance balance has not been adjusted to reflect Nestlé's year-end assessment of the collectability of its receivables. You saw from earlier that the required ending balance of the allowance for doubtful receivables was CHF 372. To update the allowance, Nestlé would make this adjusting entry at year-end:

| | | | |
|---|---|---|---|
| 2011 | | | |
| Dec 31 | Uncollectible-Account Expense | 59 | |
| | Allowance for doubtful receivables | | |
| | (372–313) | | 59 |
| | *Recorded bad debt expense for the year.* | | |

The expense decreases Nestlé's assets and net income, as shown by the accounting equation.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| −59 | = | 0 | + | −59 | (uncollectible account expense) |

Now the balance sheet can report the amount that Nestlé expects to collect from customers: CHF 13,340 (CFH 13,712 less allowance of CHF 372).

| Accounts Receivable | | Allowance for Doubtful Receivables | | Uncollectible-Account Expense | |
|---|---|---|---|---|---|
| 13,712 | | Write-off 596 | Beg Bal 409 | 59 | |
| | | | Adj 59 | | |
| | | | End Bal 372 | | |

Net receivable, $13,340

**Writing Off Uncollectible Accounts.** Let's use a more specific example with customer balances to illustrate how businesses handle uncollectible receivables. Let's assume that at the beginning of 20X7 a division of Nestlé had these accounts receivable (amounts in thousands):

| Accounts Receivable—Fiesta | | Accounts Receivable—Stop-N-Shop | | Allowance for Doubtful Receivables | |
|---|---|---|---|---|---|
| 9 | | 3 | | | 20 |

| Accounts Receivable—Others | |
|---|---|
| 88 | |

Total Accounts Receivable = $100

Allowance = $20

Accounts Receivable, Net = $80

Suppose that early in 20X7, Nestlé's credit department determines that Nestlé cannot collect from customers Fiesta and Stop–N–Shop. Nestlé then writes off the receivables from these customers with the following entry:

| | | | |
|---|---|---|---|
| 20X7 | | | |
| Jan 31 | Allowance for Doubtful receivables | 12 | |
| | Accounts Receivable—Fiesta | | 9 |
| | Accounts Receivable—Stop-N-Shop | | 3 |
| | *Wrote off uncollectible receivables.* | | |

After the write-off, Nestlé's accounts show these amounts:

| Accounts Receivable—Fiesta | |
|---|---|
| 9 | 9 |

| Accounts Receivable—Stop-N-Shop | |
|---|---|
| 3 | 3 |

| Allowance for Doubtful Receivables | |
|---|---|
| 12 | 20 |
| | 8 |

| Accounts Receivable—Others | |
|---|---|
| 88 | |

Total Accounts Receivable = $88

Allowance = $8

Accounts Receivable, Net = $80

The receivables are reduced because it is now clear that these amounts will not be collected, and the allowance previously set aside is now "used" by the write-off.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 12<br>− 12 | = | 0 | + | 0 |

The accounting equation shows that the write-off of uncollectibles has no effect on Nestlé's total assets, no effect on current assets, and no effect on net accounts receivable. Notice that Accounts Receivable, Net is still $80. There is no effect on net income either. Why is there no effect on net income? Net income is unaffected because the write-off of uncollectibles affects no expense account. It is merely a realization of the allowance of uncollectible receivables that has been provided in previous accounting periods. Naturally, at the year-end, when Nestlé makes an adjustment for the required amount of allowance of uncollectible receivables, it may recognize more expenses as some of the allowance have been used utilized or used by the earlier write-offs for Fiesta and Stop-N-Shop.

**Adjusting Ending Allowance for Doubtful Receivables.** Let's continue with this example. Suppose by the end of 20X7, Nestlé has receivables totaling $200, and the balance of allowance for uncollectible receivables was the original $20 less the write-offs of $12 = $8. The division also estimated that an appropriate level of allowance for the $200 ending receivables is $30. It will then adjust the allowance for uncollectible receivables to the desired ending balance by recording:

| | | | |
|---|---|---|---|
| 20X7 | | | |
| Dec 31 | Uncollectible for Doubtful receivables | 22 | |
| | Allowance for Doubtful receivables | | |
| | ($30 – $8) | | 22 |
| | *Recorded bad debt expense for the year.* | | |

**Recovery of previously written-off receivables.** Sometimes, accounts that have been written off may be partially recovered. This may take place after liquidation of the customer's business. Such recovery can be treated in one of two ways: (1) reverse the write-off entry or (2) decrease bad debt expense, by the amount recovered. Both methods will eventually result in the same bad debt expense at the end of the period when new allowance (and expense) is calculated.

## STOP & THINK . . .

Suppose Mustafa Confectionery had beginning allowance of SAR (Saudi Arabia Riyal) 600,000. During the year, it wrote off SAR 200,000 of receivables. At the end of the year, an assessment of its receivables shows that credit quality has improved, and accordingly, the required ending balance for allowance for uncollectible account is SAR 300,000. What is the bad debt expense for the year?

***Answer:***

The current balance of the allowance account after receivable write-offs is SAR 400,000. Since the required ending allowance is SAR 300,000, i.e. lower than the current allowance, Mustafa will record a "negative" expense of SAR 100,000. This negative expense will result in an increase in profit for the year.

## Direct Write-Off Method

There is another, less preferable, way to account for uncollectible receivables. Under the **direct write-off method**, the company waits until a specific customer's receivable proves uncollectible. Then the accountant writes off the customer's account and records Uncollectible-Account Expense, as follows (using assumed data):

| | | | |
|---|---|---|---|
| 20X7 | | | |
| Jan 31 | Uncollectible-Account Expense | 12 | |
| | Accounts Receivable—Fiesta | | 9 |
| | Accounts Receivable—Stop-N-Shop | | 3 |
| | *Wrote off bad debts by direct write-off method.* | | |

The direct write-off method is not considered an accepted accounting practice for financial statement purposes. It is considered defective because it fails to take into account the possibility of impairment of the receivables at balance sheet date. As a result, receivables are always reported at their full amount, which is more than the business expects to collect. *Assets on the balance sheet may be overstated.* Because of these deficiencies, Nestlé's and virtually all companies use the allowance method for preparing their financial statements.

Sometimes you may see the concept of the direct write-off method being used for income tax purposes. It is one of several sources of temporary differences that may arise between net income for financial reporting purposes and net income for income tax purposes. We will discuss other differences between book and taxable income in later chapters.

## Computing Cash Collections from Customers

CASH FLOW

A company earns revenue and then collects the cash from customers. For Nestlé and most other companies, there is a time lag between earning the revenue and collecting the cash. Collections from customers are the single most important source of cash for any business. You can compute a company's collections from customers by analyzing its Accounts Receivable account. Receivables typically hold only three types of transactions, as reflected in the five elements of the following Accounts Receivable account balance (amounts assumed):

**Accounts Receivable**

| | | | |
|---|---|---|---|
| Beg Bal (left over from last period) | 200 | Write-offs of uncollectibles | 100[b] |
| Sales (or service) revenue | 1,800[a] | Collections from customers | X = 1,500[c] |
| End Bal (carries over to next period) | 400 | | |

[a] The journal entry that places revenue into the receivable account is

| | | | |
|---|---|---|---|
| | Accounts Receivable | 1,800 | |
| | Sales (or Service) Revenue | | 1,800 |

[b] The journal entry for write-offs is

| | | | |
|---|---|---|---|
| | Allowance for Uncollectibles | 100 | |
| | Accounts Receivable | | 100 |

[c] The journal entry that places collections into the receivable account is

| | | | |
|---|---|---|---|
| | Cash | 1,500 | |
| | Accounts Receivable | | 1,500 |

Suppose you know all these amounts *except* collections from customers. You can compute collections by solving for X in the T-account. The following diagram may help you link the numbers. Collections from customers, X, is therefore $1,500.

Beginning Receivables + Sales − Write-offs − Collections = Ending Receivables

Often write-offs are unknown and may be omitted. Then the computation of collections becomes an approximation.

# Notes Receivable

As stated earlier, notes receivable are more formal than accounts receivable. Notes receivable due within one year or less are current assets. Notes due beyond one year are *long-term receivables* and are reported as long-term assets. Some notes receivable are collected in installments. The portion due within one year is a current asset and the remainder is long term. Nestlé may hold a $20,000 note receivable from a customer, but only the $6,000 the customer must pay within one year is a current asset of Nestlé.

Before launching into the accounting for notes receivable, let's define some key terms:

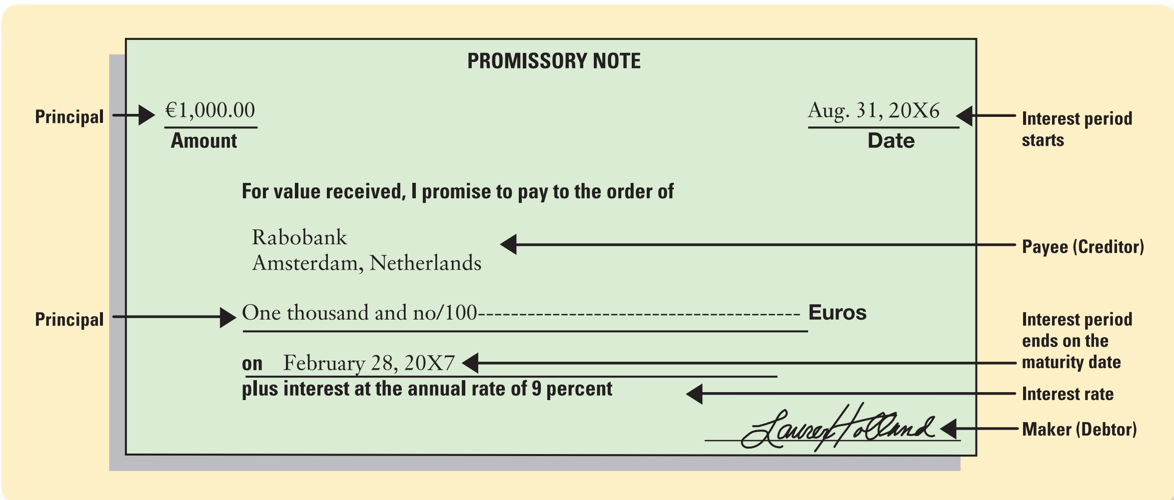
**Creditor**. The party to whom money is owed. The creditor is also called the *lender*.
**Debtor**. The party that borrowed and owes money on the note. The debtor is also called the *maker* of the note or the *borrower*.
**Interest**. Interest is the cost of borrowing money. The interest is stated as an annual percentage rate.
**Maturity date**. The date on which the debtor must pay the note.
**Maturity value**. The sum of principal and interest on the note payable on maturity.
**Principal**. The amount of money borrowed by the debtor.
**Term**. The length of time from when the note was signed by the debtor to when the debtor must pay the note.

There are two parties to a note:

- The *creditor* has a note receivable.
- The *debtor* has a note payable.

Exhibit 5-16 is a typical promissory note.

**EXHIBIT 5-16 | A Promissory Note**




The **principal** amount of the note (€1,000) is the amount borrowed by the debtor, lent by the creditor. This six-month note receivable runs from August 31, 20X6, to February 28, 20X7, when Lauren Holland (the maker) promises to pay **Rabobank** (the creditor) the principal of €1,000 plus 9% interest. Interest is revenue to the creditor (Rabobank, in this case).

## Accounting for Notes Receivable

Consider the promissory note in Exhibit 5-16. After Lauren Holland signs the note, Rabobank gives her €1,000 cash. The bank's entries follow, assuming a December 31 year-end for Rabobank:

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Aug 31 | Note Receivable—L. Holland | 1,000 | |
| | Cash | | 1,000 |
| | *Made a loan.* | | |

**Note Receivable—L. Holland**

| | |
|---|---|
| 1,000 | |

The bank gave one asset, cash, in return for another asset, a note receivable, so total assets did not change.

Rabobank earns interest revenue during September, October, November, and December. At December 31, the bank accrues 9% interest revenue for four months as follows:

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Dec 31 | Interest Receivable (€1,000 × 0.09 × 4/12) | 30 | |
| | Interest Revenue | | 30 |
| | *Accrued interest revenue.* | | |

The bank's assets and revenues increase. Rabobank reports these amounts in its financial statements at December 31, 20X7:

| | |
|---|---|
| **Balance sheet** | |
| Current assets: | €1,000 |
| Note receivable .......................................... | 30 |
| Interest receivable........................................ | |
| **Income statement** | |
| Interest revenue .......................................... | € 30 |

The bank collects the note on February 28, 20X7, and records

| | | | |
|---|---|---|---|
| 20X7 | | | |
| Feb 28 | Cash | 1,045 | |
| | Note Receivable—L. Holland | | 1,000 |
| | Interest Receivable | | 30 |
| | Interest Revenue (€1,000 × 0.09 × 2/12) | | 15 |
| | *Collected note at maturity.* | | |

This entry zeroes out Note Receivable and Interest Receivable and also records the interest revenue earned in 20X7.

**Note Receivable—L. Holland**

| | |
|---|---|
| 1,000 | 1,000 |

In its 20X7 financial statements the only item that Rabobank will report is the interest revenue of €15 that was earned in 20X7. There's no note receivable or interest receivable on the balance sheet because those items were zeroed out when the bank collected the note at maturity.

Three aspects of the interest computation deserve further mention:

1. Interest rates are always for an annual period, unless stated otherwise. In this example, the annual interest rate is 9%. At December 31, 20X6, Rabobank accrues interest revenue for four months. The interest computation is

| Principal | × | Interest Rate | × | Time | = | Amount of Interest |
|---|---|---|---|---|---|---|
| €1,000 | × | 0.09 | × | 4/12 | = | €30 |

2. The time element (4/12) is the fraction of the year that the note has been in force during 20X6.
3. Interest is often computed for a number of days. For example, suppose you loaned out €10,000 on April 10. The note receivable runs for 90 days and specifies interest at 8%.
   **a.** Interest starts accruing on April 11 and runs for 90 days, ending on the due date, July 9, as follows:

| Month | Number of Days That Interest Accrues |
|---|---|
| April | 20 |
| May | 31 |
| June | 30 |
| July | 9 |
| Total | 90 |

   **b.** The interest computation is \$10,000 × 0.08 × 90/365 = \$197

Some companies sell goods and services on notes receivable (versus selling on accounts receivable). This often occurs when the payment term extends beyond the customary accounts receivable period of 30 to 60 days.

Suppose that on March 20, 20X7, Nestlé sells a large amount of merchandise to Carrefour. Nestlé gets Carrefour's three-month promissory note plus 10% annual interest. On initial recognition, Nestlé would debit Notes Receivable and credit Sales Revenue.

A company may also accept a note receivable from a trade customer whose account receivable is past due. The company then debits Notes Receivable and credits Accounts Receivable. We would say the company "received a note receivable on account." Now let's examine some strategies to speed up cash flow.

## How to Speed Up Cash Flow

CASH FLOW

All companies want speedy cash receipts. Rapid cash flow finances new products, research, and development. Thus, companies such as Nestlé find ways to collect cash quickly. Two common strategies generate cash quickly.

## Credit Card or Bankcard Sales

The merchant sells merchandise and lets the customer pay with credit cards such as **American Express**, **VISA** or **MasterCard**. This strategy may increase sales, but the added revenue comes at a cost, which is typically about 2% to 3% of the total amount of the sale. Let's see how credit cards and bankcards work from the seller's perspective.

Suppose **Fujitsu** sells computers for $2,000, and the customer pays with a VISA card. Fujitsu records the sale as follows:

| | | | |
|---|---|---|---|
| | Cash | 1,960 | |
| | Credit Card Processing Fee | 40 | |
| | Sales Revenue | | 2,000 |
| | *Recorded bankcard sales.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 1,960 | = | 0 | + | + 2,000 | (sales revenue) |
| | | | | − 40 | (credit card fees) |

Fujitsu enters the transaction in the credit card machine. The machine, linked to a VISA server, automatically credits Fujitsu's account for a discounted portion, say $1,960, of the $2,000 sale amount. Two percent ($40) goes to VISA. To Fujitsu, the credit card processing fee is an operating expense that reduces Fujitsu's net profit for the year.

## Selling (Factoring) Receivables

Nestlé makes some large sales to grocery chains on account, debiting Accounts Receivable and crediting Sales Revenue. Nestlé might then sell these accounts receivable to another business, called a *factor*. The factor earns revenue by paying a discounted price for the receivable and then hopefully collecting the full amount from the customer. The benefit to Nestlé is the immediate receipt of cash. The biggest disadvantage of factoring is that it is often quite expensive, when compared to the costs of retaining the receivable on the books and ultimately collecting the full amount. In addition, the company that factors its receivables may lose control over the collection process and yet be responsible for any bad debts that may arise after the factoring. For these reasons, factoring is often not used by companies who have other less costly means to raise cash, such as short-term borrowing from banks. Factoring may be used by start-up companies with insufficient credit history to obtain loans at a reasonable cost, by companies with weaker credit history, or by companies that are already saddled with a significant amount of debt.

To illustrate selling, or *factoring*, accounts receivable, suppose a company wishes to speed up cash flow and therefore sells $100,000 of accounts receivables, receiving cash of $95,000. The company would record the sale of the receivables as follows:

| | | | |
|---|---|---|---|
| | Cash | 95,000 | |
| | Financing Expense | 5,000 | |
| | Accounting Receivable | | 100,000 |
| | *Sold accounts receivable.* | | |

Again, Financing Expense is an operating expense, with the same effect as Interest Expense. Discounting a note receivable is similar to selling an account receivable. However, the credit is to Notes Receivable (instead of Accounts Receivable).

Notice the high price (5% of the face amount, or $5,000) the company has had to sacrifice in order to collect the cash immediately, as opposed to waiting 30 to 60 days to collect the full amount. Therefore, if the company can afford to wait, it will probably not engage in factoring in order to collect the full amount of the receivables.

# Using Two Key Ratios to Make Decisions

**OBJECTIVE**

**5** **Use** two key ratios to evaluate a business

As you've seen, accounting provides information for decision making. A bank considering lending money must make an assessment as to whether the borrower can repay the loan. If the borrower already has a lot of debt, the probability of repayment will be lower than otherwise. To analyze a company's financial position, decision makers use ratios computed from various items in the financial statements. We will begin introducing financial ratios to you from this chapter onwards. Let's start with current ratio and the number of days' sales in receivables, which help investors measure liquidity and efficiency, respectively.

## Current Ratio

One of the most widely used financial ratios is the **current ratio**, which divides total current assets by total current liabilities, taken from the balance sheet.

$$\text{Current ratio} = \frac{\text{Total current assets}}{\text{Total current liabilities}}$$

Refer back to Nestlé's financial statements at the start of this chapter. For Nestlé, the current ratio for 2011 is line 7 divided by line 10:

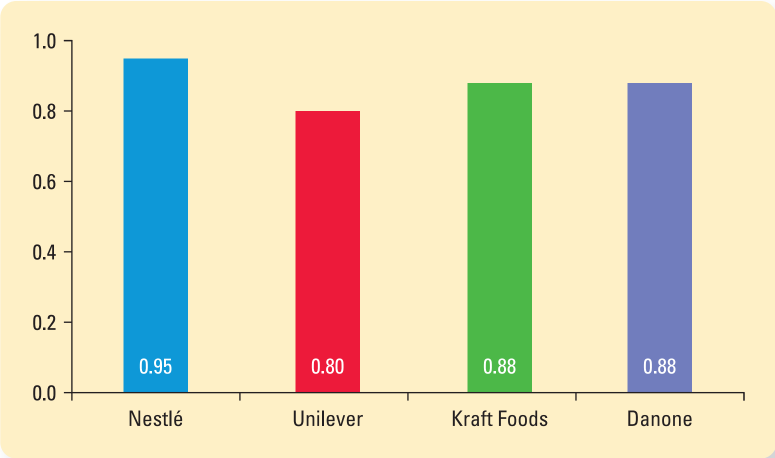
| **Current ratio** | Nestlé 2011 | Nestlé 2010 |
|---|---|---|
| $\frac{\text{Current assets}}{\text{Current liabilities}}$ | $\frac{33{,}324}{35{,}232} = 0.95$ | $\frac{38{,}997}{30{,}186} = 1.29$ |

The current ratio measures the company's ability to pay current liabilities with current assets. A company prefers a high current ratio, which means that the business has plenty of current assets to pay current liabilities. An increasing current ratio from period to period indicates improvement in financial position.

As a rule of thumb, a strong current ratio is 1.50, which indicates that the company has $1.50 in current assets for every $1.00 in current liabilities. A company with a current ratio of 1.50 would probably have little trouble paying its current liabilities. Most successful businesses operate with current ratios between 1.20 and 1.80. A current ratio of less than 1.00 is considered low, but it has to be seen in the context of the business operations and cash flows.

Nestlé's 2011 current ratio is 0.95. Is this current ratio good or bad? Well, any number or ratio is meaningless unless you give it context. We can, for example, compare the 2011 current ratio to the 2010 current ratio (it was 1.29). This indicates that there has been a decrease in Nestlé's current ratio. Another way to make sense of the 0.95 current ratio is to compare it to other similar companies such as **Unilever**, **Kraft Foods** and **Danone**, whose 2011 current ratios were 0.80, 0.88 and 0.88, respectively (see Exhibit 5-17). Thus, in comparison to other companies in the same type of business, Nestlé's current ratio is relatively better.

**EXHIBIT 5-17 | Current Ratio Comparisons**




## Receivable Turnover and Collection Period

After a business makes a credit sale, the next step is collecting the receivable. **Receivable collection period**, also called the *days'sales in receivables*, or *days sales outstanding*, tells a company how long it takes to collect its average level of receivables. Shorter is better because cash is coming in more quickly. The longer the collection period, the less cash is available to pay bills and expand.

The receivable collection period can be computed in two logical steps. First, we can calculate the **receivables turnover**. The receivable turnover is the number of times average receivables are converted into cash in a year. This is calculated as Sales Revenue divided by Average Receivables. Second, we can convert this number of times into days by dividing 365 by the receivable turnover. Net sales come from the income statement, and the receivables amounts are taken from the balance sheet. Average receivables is the simple average of the beginning and ending balances.

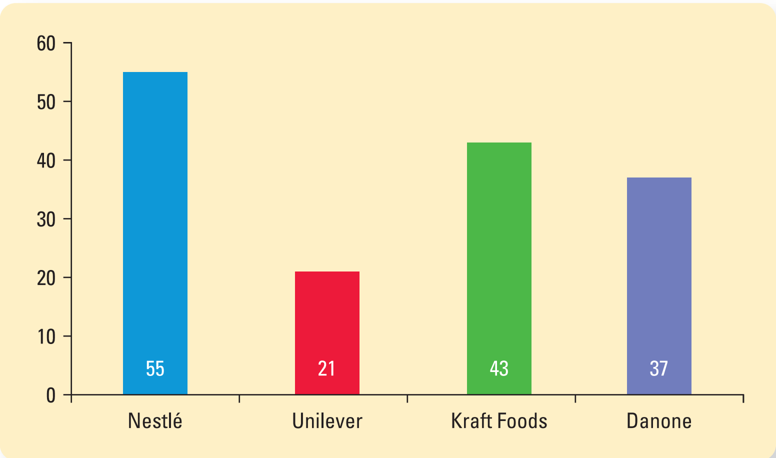
| Receivable turnover and resident period | Nestlé 2011 | Nestlé 2010 |
|---|---|---|
| $\frac{\text{Sales}}{\text{Average receivables*}}$ | $\frac{83{,}642}{12{,}712}$ = 6.58 times | $\frac{93{,}015}{12{,}196}$ = 7.63 times |
| 365/Receivable turnover | 365/6.58 = 55 days | 365/7.63 = 48 days |

**Average = (beginning + ending balance)/2, which is (13,340+12,083)/2 for 2011*

It takes Nestlé an average of 55 days to collect its receivables in 2011 (compared to 48 days in 2010). It appears that, in the financial crisis, more customers are taking longer to pay their bills! To evaluate Nestlé's collection period of 55 days, we can also compare it to the credit terms that Nestlé offers customers when the company makes a sale, as well as the number of days on average that creditors typically allow Nestlé to pay them without penalty. Suppose Nestlé makes sales on "net 30" terms, which means that customers should pay Nestlé within 30 days of the sale. Nestlé's collection period of 55 days is longer than the credit terms it gives to its customers. After all, some customers do drag out their payments. And, as we've seen, some customers don't pay at all. On the other hand, if Nestlé's short-term creditors expect payment of their accounts payable within 30 days, Nestlé might be forced to borrow cash in order to pay its creditors on time, which could prove to be expensive.

When we compare Nestlé's 55 days to those of Unilever (21 days), Kraft Foods (43 days) and Danone (37 days), we can conclude that Nestle's collection period is longer than the other companies in the industry (see Exhibit 5-18).

**EXHIBIT 5-18 | Receivable Collection Period Comparisons**




Companies watch their collection periods closely. Whenever collections slow down, the business must find other sources of financing, such as borrowing or selling receivables. During recessions, customers may take an even longer time to pay, and a longer collection period may be unavoidable.

# END-OF-CHAPTER SUMMARY PROBLEM

Superior Technical Resources' (STR's) balance sheet at December 31, 20X6, reported STR uses the aging method to account for uncollectible receivables.

| | (In millions) |
|---|---|
| Accounts receivable.................................. | $382 |
| Allowance for doubtful accounts............... | (92) |

## *Requirements*

1. How much of the December 31, 20X6, balance of accounts receivables did STR expect to collect? Stated differently, what was the net realizable value of STR's receivables?
2. Journalize, without explanations, 20X7 entries for STR:
   a. Write-offs of uncollectible accounts receivable totaling $58 million. Prepare a T-account for Allowance for Doubtful Accounts and post to this account. Show its unadjusted balance at December 31, 20X7.
   b. December 31, 20X7, aging of receivables, which indicates that $47 million of the total receivables of $409 million is uncollectible at year-end. Post to Allowance for Doubtful Accounts, and show its adjusted balance at December 31, 20X7.
3. Show how STR's receivables and the related allowance will appear on the December 31, 20X7, balance sheet.
4. Show how STR's income statement will report for the foregoing transactions.

## Answers

### *Requirement 1*

| | (In millions) |
|---|---|
| Net realizable value of receivables ($382 – $92) ........... | $290 |

### *Requirement 2*

| | | (In millions) | |
|---|---|---|---|
| a. | Allowance for Doubtful Accounts | 58 | |
| | Accounts Receivable | | 58 |
| | | | |

**Allowance for Doubtful Accounts**

| | | | |
|---|---|---|---|
| | | Dec 31, 20X6 | 52 |
| 20X7 Write-offs | 58 | 2011 Expense | 40 |
| | | Unadjusted balance at Dec 31, 20X7 | 34 |

| | | | |
|---|---|---|---|
| c. | Doubtful-Account Expense ($47 – $34) | 13 | |
| | Allowance for Doubtful Accounts | | 13 |

**Allowance for Doubtful Accounts**

| | | | |
|---|---|---|---|
| | | Dec 31, 20X7 Unadj bal | 34 |
| | | 2011 Expense | 13 |
| | | Dec 31, 20X7 Adj bal | 47 |

*Requirement 3*

| | (In millions) |
|---|---|
| Accounts receivable | $409 |
| Allowance for doubtful accounts | (47) |

*Requirement 4*

| | (In millions) |
|---|---|
| Expenses: Doubtful-account expense for 20X7 ($40 + $13) | $53 |

# REVIEW INTERNAL CONTROL, CASH AND RECEIVABLES

## Quick Check (Answers are given at the end of the chapter.)

1. Each of the following is an example of a control procedure, *except*
   **a.** sound personnel procedures.
   **b.** a sound marketing plan.
   **c.** separation of duties.
   **d.** limited access to assets.

Lowell Corporation has asked you to prepare its bank reconciliation at the end of the current month. Answer **questions 2–6** using the following code letters to indicate how the item described would be reported on the bank reconciliation.

**a.** Deduct from the book balance
**b.** Does not belong on the bank reconciliation
**c.** Add to the bank balance
**d.** Deduct from the bank balance
**e.** Add to the book balance

2. A cheque for $835 written by Lowell during the current month was erroneously recorded as a $358 payment.
3. A $400 deposit made on the last day of the current month did not appear on this month's bank statement.
4. The bank statement showed interest earned of $65.
5. The bank statement included a cheque from a customer that was marked NSF.
6. The bank statement showed the bank had credited Lowell's account for an $800 deposit made by Lawrence Company.
7. Which of the following reconciling items does not require a journal entry?
   **a.** Bank service charge
   **b.** Bank collection of note receivable
   **c.** NSF cheque
   **d.** Deposit in transit
8. A cash budget helps control cash by
   **a.** helping to determine whether additional cash is available for investments or new financing is needed.
   **b.** developing a plan for increasing sales.
   **c.** ensuring accurate cash records.
   **d.** all of the above.

9. Accounts Receivable has a debit balance of $2,800, and the Allowance for Uncollectible Accounts has a credit balance of $400. A $90 account receivable is written off. What is the amount of net receivables (net realizable value) after the write-off?
   **a.** $2,490
   **b.** $2,710
   **c.** $2,310
   **d.** $2,400
10. Arief Company received a four-month, 9%, $2,800 note receivable on December 1. The adjusting entry on December 31 will
   **a.** debit Interest Receivable $21.
   **b.** credit Interest Revenue $21.
   **c.** both a and b.
   **d.** credit Interest Revenue $252.
11. If the adjusting entry to accrue interest on a note receivable is omitted, then
   **a.** assets, net income, and shareholders' equity are understated.
   **b.** assets are overstated, net income is understated, and shareholders' equity is understated.
   **c.** liabilities are understated, net income is overstated, and shareholders' equity is overstated.
   **d.** assets, net income, and shareholders' equity are overstated.
12. Net sales total $803,000. Beginning and ending accounts receivable are $80,000 and $74,000, respectively. Calculate days' sales in receivables.
   **a.** 35 days
   **b.** 10 days
   **c.** 36 days
   **d.** 34 days

## Accounting Vocabulary

**audit** (p. 280) A periodic examination of a company's financial statements and the accounting systems, controls, and records that produce them. Audits may be either external or internal. External audits are usually performed by certified public accountants (CPAs).

**bank collections** (p. 291) Collection of money by the bank on behalf of a depositor.

**bank reconciliation** (p. 290) A document explaining the reasons for the difference between a depositor's records and the bank's records about the depositor's cash.

**bank statement** (p. 289) Document showing the beginning and ending balances of a particular bank account listing the month's transactions that affected the account.

**budget** (p. 280) A quantitative expression of a plan that helps managers coordinate the entity's activities.

**cash budget** (p. 280) A budget that projects the entity's future cash receipts and cash disbursements.

**cash equivalent** (p. 299) Investments such as time deposits, certificates of deposit, or high-grade government securities that are considered so similar to cash that they are combined with cash for financial disclosure purposes on the balance sheet and cash flow statement.

**cheque** (p. 288) Document instructing a bank to pay the designated person or business the specified amount of money.

**computer virus** (p. 282) A malicious program that enters a company's computer system by e-mail or other means and destroys program and data files.

**controller** (p. 279) The chief accounting officer of a business.

**creditor** (p. 311) The party to whom money is owed; also called the lender.

**current ratio** (p. 315) Current assets divided by current liabilities. Measures a company's ability to pay current liabilities with current assets.

**debtor** (p. 311) The party that borrowed and owes money on the note; also called the maker of the note or the borrower.

**deposits in transit** (p. 291) A deposit recorded by the company but not yet by its bank.

**direct write-off** (p. 309) A method of accounting for bad debts.

**doubtful-account expense** (p. 301) Another name for *uncollectible-account expense*.

**electronic fund transfer (EFT)** (p. 289) System that transfers cash by electronic communication rather than by paper documents.

**exception reporting** (p. 280) Identifying data that is not within "normal limits" so that managers can follow up and take corrective action. Exception reporting is used in operating and cash budgets to keep company profits and cash flow in line with management's plans.

**fraud** (p. 271) An intentional misrepresentation of facts, made for the purpose of persuading another party to act in a way that causes injury or damage to that party.

**fraud triangle** (p. 274) The three elements that are present in almost all cases of fraud. These elements are pressure, opportunity, and rationalization on the part of the perpetrator.

**fraudulent financial reporting** (p. 273) Fraud perpetrated by management by preparing misleading financial statements.

**imprest system** (p. 287) A way to account for petty cash by maintaining a constant balance in the petty cash account, supported by the fund (cash plus payment tickets) totaling the same amount.

**interest** (p. 311) The borrower's cost of renting money from a lender. Interest is revenue for the lender and expense for the borrower.

**internal control** (p. 275) Organizational plan and related measures adopted by an entity to safeguard assets, encourage adherence to company policies, promote operational efficiency, and ensure accurate and reliable accounting records.

**lapping** (p. 278) A fraudulent scheme to steal cash through misappropriating certain customer payments and posting payments from other customers to the affected accounts to cover it up. Lapping is caused by weak internal controls (i.e., not segregating the duties of cash handling and accounts receivable bookkeeping, allowing the bookkeeper improper access to cash, and not appropriately monitoring the activities of those who handle cash).

**lock-box system** (p. 280) A system of handling cash receipts by mail whereby customers remit payment directly to the bank, rather than through the entity's mail system.

**maturity date** (p. 311) The date on which the debtor must pay the note.

**maturity value** (p. 311) The sum of principal and interest on the note.

**misappropriation of assets** (p. 273) Fraud committed by employees by stealing assets from the company.

**non-sufficient funds (NSF) cheque** (p. 291) A "hot" cheque, one for which the payer's bank account has insufficient money to pay the cheque. NSF cheques are cash receipts that turn out to be worthless.

**operating budget** (p. 280) A budget of future net income. The operating budget projects a company's future revenue and expenses. It is usually prepared by line item of the company's income statement.

**outstanding cheques** (p. 291) A cheque issued by the company and recorded on its books but not yet paid by its bank.

**petty cash** (p. 287) Fund containing a small amount of cash that is used to pay minor amounts.

**phishing** (p. 283) Creating bogus websites for the purpose of stealing unauthorized data, such as names, addresses, social security numbers, bank account, and credit card numbers.

**principal** (p. 311) The amount borrowed by a debtor and lent by a creditor.

**receivable collection period** (p. 316) the average number of days to collect receivables from customers, calculated by dividing 365 by receivable turnover. Also called days' *sales in receivables* or *days sales outstanding*.

**receivable turnover** (p. 316) the number of times receivables are collected during the year, approximated by taking total sales divided by average receivables. Used in calculating *receivable collection period*.

**receivables** (p. 299) Monetary claims against a business or an individual, acquired mainly by selling goods or services and by lending money.

**remittance advice** (p. 289) An optional attachment to a cheque (sometimes a perforated tear-off document and sometimes capable of being electronically scanned) that indicates the payer, date, and purpose of the cash payment. The remittance advice is often used as the source documents for posting cash receipts or payments.

**term** (p. 311) The length of time from when the note was signed by the debtor to when the debtor must pay the note.

**treasurer** (p. 279) In a large company, the department that has total responsibility for cash handling and cash management. This includes cash budgeting, cash collections, writing cheques, investing excess funds, and making proposals for raising additional cash when needed.

**Trojan horse** (p. 282) A malicious program that hides within legitimate programs and acts like a computer virus.

**uncollectible-account expense** (p. 301) Cost to the seller of extending credit. Arises from the failure to collect from credit customers. Also called doubtful-account expense, or bad-debt expense.

# ASSESS YOUR PROGRESS

## Short Exercises

**S5-1** ***(Learning Objective 1: Defining fraud)*** Define "fraud." List and briefly discuss the three major components of the "fraud triangle."

■ **writing assignment**

**S5-2** ***(Learning Objective 1: Explaining and describing characteristics of an effective system of internal control)*** Explain why separation of duties is often described as the cornerstone of internal control for safeguarding assets. Describe what can happen if the same person has custody of an asset and also accounts for the asset.

**S5-3** ***(Learning Objective 1: Explaining the role of internal control)*** Cash may be a small item on the financial statements. Nevertheless, internal control over cash is very important. Why is this true?

**S5-4** ***(Learning Objective 2: Applying internal controls over cash receipts)*** Greta Cassidy sells memberships to the Phoenix Symphony Association in Vienna, Austria. The Symphony's procedure requires Cassidy to write a patron receipt for all memberships sold. The receipt forms are prenumbered. Cassidy is having personal financial problems and she stole $400 received from a customer. To hide her theft, Cassidy destroyed the company copy of the receipt that she gave the patron. What will alert manager Stephanie Stevens that something is wrong?

**S5-5** ***(Learning Objective 2: Applying internal control over cash payments by cheque)*** Answer the following questions about internal control over cash payments:

1. Payment by cheque carries three controls over cash. What are they?
2. Suppose a purchasing agent receives the goods that he purchases and also approves payment for the goods. How could a dishonest purchasing agent cheat his company? How do companies avoid this internal control weakness?

**S5-6** ***(Learning Objective 3: Preparing a bank reconciliation)*** The Cash account of Randell Corp. reported a balance of $2,400 at October 31. Included were outstanding cheques totaling $500 and an October 31 deposit of $200 that did not appear on the bank statement. The bank statement, which came from Park Bank, listed an October 31 balance of $3,180. Included in the bank balance was an October 30 collection of $530 on account from a customer who pays the bank directly. The bank statement also shows a $20 service charge, $10 of interest revenue that Randell earned on its bank balance, and an NSF cheque for $40.

Prepare a bank reconciliation to determine how much cash Randell actually has at October 31.

■ **writing assignment**

**S5-7** ***(Learning Objective 3: Recording transactions from a bank reconciliation)*** After preparing Randell Corp.'s bank reconciliation in Short Exercise 5-6, make the company's journal entries for transactions that arise from the bank reconciliation. Date each transaction October 31, and include an explanation with each entry.

**S5-8** ***(Learning Objective 3: Using a bank reconciliation as a control device)*** Barbara Smith manages Jones Advertising. Smith fears that a trusted employee has been stealing from the company. This employee receives cash from clients and also prepares the monthly bank reconciliation. To check up on the employee, Smith prepares her own bank reconciliation, as follows:

**Jones Advertising**
**Bank Reconciliation**
October 31, 20X6

| Bank | | Books | |
|---|---|---|---|
| Balance, October 31 | $4,400 | Balance, October 31 | $3,920 |
| Add: | | Add: | |
| Deposits in transit | 500 | Bank collections | 900 |
| | | Interest revenue | 20 |
| Less: | | Less: | |
| Outstanding cheques | (900) | Service charge | (40) |
| Adjusted bank balance | $4,000 | Adjusted book balance | $4,800 |

Does it appear that the employee has stolen from the company? If so, how much? Explain your answer. Which side of the bank reconciliation shows the company's true cash balance?

**S5-9** ***(Learning Objective 3: Preparing a cash budget)*** Crescent Artichoke Growers (CAG) is a major food cooperative. Suppose CAG begins 20X6 with cash of $11 million. CAG estimates cash receipts during 20X6 will total $104 million. Planned payments will total $93 million. To meet daily cash needs next year, CAG must maintain a cash balance of at least $17 million. Prepare the organization's cash budget for 20X6.

**S5-10** ***(Learning Objective 4: Applying the allowance method to account for uncollectibles)*** Use the information from the following journal entries of Turning Leaves Furniture Restoration to answer the questions below:

| Journal Entry | | | |
|---|---|---|---|
| | **Accounts** | **Debit** | **Credit** |
| **1.** | Accounts Receivable | 1,000,000 | |
| | Sales Revenue | | 1,000,000 |
| | | | |
| **2.** | Cash | 870,000 | |
| | Accounts Receivable | | 870,000 |
| | | | |
| **3.** | Allowance for Uncollectible Accounts | 12,000 | |
| | Accounts Receivable | | 12,000 |
| | | | |
| **4.** | Uncollectible-Account Expense | 40,000 | |
| | Allowance for Uncollectible Accounts | | 40,000 |

### *Requirements*

1. Start with Accounts Receivable's beginning balance ($38,000) and then post to the Accounts Receivable T-account. How much do Turning Leaves Furniture Restoration's customers owe the company at December 31?
2. Start with the Allowance account's beginning credit balance ($12,480) and then post to the Allowance for Uncollectible Accounts T-account. How much of the receivables at December 31 does Turning Leaves Furniture Restoration expect *not* to collect?
3. At December 31, how much cash does Turning Leaves Furniture Restoration expect to collect on its accounts receivable?

**S5-11** ***(Learning Objective 4: Applying the allowance method to account for uncollectibles)*** Gray and Dumham, a law firm, started 20X6 with accounts receivable of $31,000 and an allowance for uncollectible accounts of $4,000. The 20X6 service revenues on account totaled $175,000, and cash collections on account totaled $128,000. During 20X6, Gray and Dumham wrote off uncollectible accounts receivable of $2,800. At December 31, 20X6, the aging of accounts receivable indicated that Gray and Dumham will not collect $1,850 of its accounts receivable.

Journalize Gray and Dumham's (a) service revenue, (b) cash collections on account, (c) write-offs of uncollectible receivables, and (d) uncollectible-account expense for the year. Explanations are not required. Prepare a T-account for Allowance for Uncollectible Accounts to show your computation of uncollectible-account expense for the year.

**S5-12** ***(Learning Objective 4: Applying the allowance method to account for uncollectibles)*** Perform the following accounting for the receivables of Evans and Tanner, a law firm, at December 31, 20X6.

### *Requirements*

1. Start with the beginning balances for these T-accounts:
   - Accounts Receivable, $97,000
   - Allowance for Uncollectible Accounts, $5,000

Post the following 20X6 transactions to the T-accounts:

**a.** Service revenue of $698,000, all on account
**b.** Collections on account, $722,000
**c.** Write-offs of uncollectible accounts, $8,000
**d.** Uncollectible-account expense (allowance method), $14,000

**2.** What are the ending balances of Accounts Receivable and Allowance for Uncollectible Accounts?
**3.** Show how Evans and Tanner will report accounts receivable on its balance sheet at December 31, 20X6.

**S5-13** ***(Learning Objectives 4: Answering practical questions about receivables)*** Answer these questions about receivables and uncollectibles. For the true-false questions, explain any answers that turn out to be false.

1. True or false? Credit sales increase receivables. Collections and write-offs decrease receivables.
2. Which receivables figure, the *total* amount that customers *owe* the company, or the *net* amount the company expects to collect, is more interesting to investors as they consider buying the company's shares? Give your reason.
3. Show how to determine net accounts receivable.
4. True or false? The direct write-off method of accounting for uncollectibles understates assets.
5. California Bank lent $200,000 to Sacramento Company on a six-month, 8% note. Which party has interest receivable? Which party has interest payable? Interest expense? Interest revenue? How much interest will these organizations record one month after Sacramento Company signs the note?
6. When California Bank accrues interest on the Sacramento Company note, show the directional effects on the bank's assets, liabilities, and equity (increase, decrease, or no effect).

**S5-14** ***(Learning Objective 4: Accruing interest receivable and collecting a note receivable)*** On August 31, 20X6, Nancy Thompson borrowed $2,000 from Green Interstate Bank. Thompson signed a note payable, promising to pay the bank principal plus interest on August 31, 20X7. The interest rate on the note is 10%. The accounting year of Green Interstate Bank ends on June 30, 20X7. Journalize Green Interstate Bank's (a) lending money on the note receivable at August 31, 20X6, (b) accrual of interest at June 30, 20X7, and (c) collection of principal and interest August 31, 20X7, the maturity date of the note.

**S5-15** ***(Learning Objective 5: Evaluating the current ratio and days' sales in receivables)*** West Highland Clothiers reported the following amounts in its 20X7 financial statements. The 20X6 amounts are given for comparison.

| | 20X7 | | 20X6 | |
|---|---|---|---|---|
| Current assets: | | | | |
| Cash | | $ 9,700 | | $ 9,700 |
| Short-term investments | | 17,000 | | 14,000 |
| Accounts receivable | $84,000 | | $77,000 | |
| Less: Allowance for uncollectibles | (7,100) | 76,900 | (6,100) | 70,900 |
| Inventory | | 189,000 | | 190,500 |
| Prepaid insurance | | 2,300 | | 2,300 |
| Total current assets | | 294,900 | | 287,400 |
| Total current liabilities | | 99,000 | | 111,000 |
| Net sales | | 802,000 | | 736,000 |

## *Requirements*

1. Compute West Highland's current ratio at the end of 20X7. Round to two decimal places.
2. Compute West Highland's receivables collection period for 20X7.

## Exercises

All of the Group A and Group B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

MyAccountingLab

### (Group A)

**E5-16A** ***(Learning Objectives 1, 2: Learning about fraud; identifying internal control weaknesses)*** Identify the internal control weakness in the following situations. State how the person can hurt the company.

■ **writing assignment**

**a.** James Mason works as a security guard at SAFETY parking in Budapest. Mason has a master key to the cash box where customers pay for parking. Each night Mason prepares the cash report that shows (a) the number of cars that parked on the lot and (b) the day's cash receipts. Louise Carrington, the SAFETY treasurer, checks Mason's figures by multiplying the number of cars by the parking fee per car. Carrington then deposits the cash in the bank.

**b.** Elizabeth Fleming is the purchasing agent for Marshfield Golf Equipment. Fleming prepares purchase orders based on requests from division managers of the company. Fleming faxes the purchase order to suppliers who then ship the goods to Marshfield. Fleming receives each incoming shipment and checks it for agreement with the purchase order and the related invoice. She then routes the goods to the respective division managers and sends the receiving report and the invoice to the accounting department for payment.

**E5-17A** ***(Learning Objective 2: Identifying internal control strengths and weaknesses)*** The following situations describe two cash payment situations and two cash receipt situations. In each pair, one set of internal controls is better than the other. Evaluate the internal controls in each situation as strong or weak, and give the reason for your answer.

Cash payments:

**a.** Tim McDermott Construction policy calls for construction supervisors to request the equipment needed for their jobs. The home office then purchases the equipment and has it shipped to the construction site.

**b.** Gravel & Sand, Inc., policy calls for project supervisors to purchase the equipment needed for jobs. The supervisors then submit the paid receipts to the home office for reimbursement. This policy enables supervisors to get the equipment quickly and keep construction jobs moving.

Cash receipts:

**a.** At Carlisle Auto Parts, cash received by mail goes straight to the accountant, who debits Cash and credits Accounts Receivable to record the collections from customers. The Carlisle accountant then deposits the cash in the bank.

**b.** Cash received by mail at Sole Orthopedic Clinic goes to the mail room, where a mail clerk opens envelopes and totals the cash receipts for the day. The mail clerk forwards customer cheques to the cashier for deposit in the bank and forwards the remittance advices to the accounting department for posting credits to customer accounts.

**E5-18A** ***(Learning Objectives 1, 2: Learning about fraud; correcting an internal control weakness)*** Bobby Flynn served as executive director of Downtown Kalamazoo, an organization created to revitalize Kalamazoo. Over the course of 13 years Flynn embezzled $333,000. How did Flynn do it? By depositing subscriber cash receipts in his own bank account, writing Downtown Kalamazoo cheques to himself, and creating phony entities to which Downtown Kalamazoo wrote cheques.

■ **writing assignment**

Downtown Kalamazoo was led by a board of directors comprised of civic leaders. Flynn's embezzlement went undetected until Downtown Kalamazoo couldn't pay its bills. Give four ways in which Flynn's embezzlement could have been prevented.

**E5-19A** ***(Learning Objective 2: Evaluating internal control over cash receipts)*** McCall stores use point-of-sale terminals as cash registers. The register shows the amount of each sale, the cash received from the customer, and any change returned to the customer. The machine also produces a customer receipt but keeps no record of transactions. At the end of the day, the clerk counts the cash in the register and gives it to the cashier for deposit in the company bank account.

Write a memo to convince the store manager that there is an internal control weakness over cash receipts. Identify the weakness that gives an employee the best opportunity to steal cash and state how to prevent such a theft.

**E5-20A** ***(Learning Objective 2: Evaluating internal control over cash payments)*** Green Grass Golf Company manufactures a popular line of golf clubs. Green Grass Golf employs 188 workers and keeps their employment records on time sheets that show how many hours the employee works each week. On Friday the shop foreman collects the time sheets, checks them for accuracy, and delivers them to the payroll department for preparation of paycheques. The treasurer signs the paycheques and returns the cheques to the payroll department for distribution to the employees.

Identify the main internal control weakness in this situation, state how the weakness can hurt Green Grass Golf, and propose a way to correct the weakness.

**E5-21A** ***(Learning Objective 3: Classifying bank reconciliation items)*** The following items appear on a bank reconciliation:

1. ___ Outstanding cheques
2. ___ Bank error: The bank credited our account for a deposit made by another bank customer.
3. ___ Service charge
4. ___ Deposits in transit
5. ___ NSF cheque
6. ___ Bank collection of a note receivable on our behalf
7. ___ Book error: We debited Cash for $200. The correct debit was $2,000.

Classify each item as (a) an addition to the bank balance, (b) a subtraction from the bank balance, (c) an addition to the book balance, or (d) a subtraction from the book balance.

**E5-22A** ***(Learning Objective 3: Preparing a bank reconciliation)*** D.J. Hunter's chequebook lists the following:

| Date | Cheque No. | Item | Cheque | Deposit | Balance |
|---|---|---|---|---|---|
| 6/1 | | | | | $ 525 |
| 4 | 622 | Art Cafe | $ 30 | | 495 |
| 9 | | Dividends received | | $ 110 | 605 |
| 13 | 623 | General Tire Co. | 35 | | 570 |
| 14 | 624 | QuickMobil | 68 | | 502 |
| 18 | 625 | Cash | 55 | | 447 |
| 26 | 626 | Woodway Baptist Church | 85 | | 362 |
| 28 | 627 | Bent Tree Apartments | 285 | | 77 |
| 30 | | Paycheque | | 1,210 | 1,287 |

The June bank statement shows

| | | | | |
|---|---|---|---|---|
| Balance | | | | $525 |
| Add: Deposits | | | | 110 |
| Debit cheques: | No. | Amount | | |
| | 622 | $30 | | |
| | 623 | 35 | | |
| | 624 | 86* | | |
| | 625 | 55 | | (206) |
| Other charges: | | | | |
| NSF cheque | | | $20 | |
| Service charge | | | 10 | (30) |
| Balance | | | | $399 |

*This is the correct amount for cheque number 624.

### Requirement

1. Prepare Hunter's bank reconciliation at June 30.

**E5-23A** ***(Learning Objective 3: Preparing a bank reconciliation)*** Evan Strikes operates a bowling alley. He has just received the monthly bank statement at April 30 from City National Bank, and the statement shows an ending balance of $565. Listed on the statement are an EFT rent collection of $320, a service charge of $7, two NSF cheques totaling $115, and an $11 charge for printed cheques. In reviewing his cash records, Root identifies outstanding cheques totaling $602 and an April 30 deposit in transit of $1,790. During April, he recorded a $290 cheque for the salary of a part-time employee as $29. Root's Cash account shows an April 30 cash balance of $1,827. How much cash does Root actually have at April 30?

**E5-24A** ***(Learning Objective 3: Making journal entries from a bank reconciliation)*** Use the data from Exercise 5-23A to make the journal entries that Root should record on April 30 to update his Cash account. Include an explanation for each entry.

■ **writing assignment**

**E5-25A** ***(Learning Objective 3: Preparing a cash budget)*** Cole Communications, Inc., is preparing its cash budget for 20X7. Cole ended 20X6 with cash of $86 million, and managers need to keep a cash balance of at least $82 million for operations.

■ **spreadsheet**

Collections from customers are expected to total $11,305 million during 20X7, and payments for the cost of services and products should reach $6,167 million. Operating expense payments are budgeted at $2,544 million.

During 20X7, Cole expects to invest $1,826 million in new equipment and sell older assets for $118 million. Debt payments scheduled for 2011 will total $603 million. The company forecasts net income of $885 million for 2011 and plans to pay dividends of $347 million.

Prepare Cole Communications' cash budget for 20X7. Will the budgeted level of cash receipts leave Cole with the desired ending cash balance of $82 million, or will the company need additional financing? If so, how much?

**E5-26A** ***(Learning Objective 4: Reporting bad debts by the allowance method)*** On December 31, Darci's Travel has an accounts receivable balance of $88,000. Allowance for Doubtful Accounts has a credit balance of $900 before the year-end adjustment. Darci's Travel estimates that doubtful-account expense for the year is equal to 5% of ending receivables. Make the year-end entry to record doubtful-account expense. Show how the accounts receivable and the allowance for doubtful accounts are reported on the balance sheet.

**E5-27A** ***(Learning Objective 4: Using the allowance method for bad debts)*** On September 30, Hilly Mountain Party Planners had a $30,000 balance in Accounts Receivable and a $2,000 credit balance in Allowance for Uncollectible Accounts. During October, the store made credit sales of $161,000. October collections on account were $137,000, and write-offs of uncollectible receivables totaled $2,300. The required allowance at year-end is calculated to be $4,000.

### *Requirements*

1. Journalize sales, collections, write-offs of uncollectibles, and uncollectible-account expense by the allowance method during October. Explanations are not required.
2. Show the ending balances in Accounts Receivable, Allowance for Uncollectible Accounts, and *Net* Accounts Receivable at October 31. How much does the store expect to collect?
3. Show how the store will report Accounts Receivable on its October 31 balance sheet.

**E5-28A** ***(Learning Objective 4: Using the aging approach to estimate bad debts)*** On December 31, before any year-end adjustments, the Accounts Receivable balance of Alpha Company is $210,000. The Allowance for Doubtful Accounts has a $13,500 credit balance. Alpha Company prepares the following aging schedule for Accounts Receivable:

| | Age of Accounts | | | |
|---|---|---|---|---|
| Total Balance | 1–30 Days | 31–60 Days | 61–90 Days | Over 90 Days |
| $210,000 | $80,000 | $60,000 | $40,000 | $30,000 |
| Estimated uncollectible | 0.6% | 4.0% | 5.0% | 40.0% |

■ **spreadsheet**

### *Requirements*

1. Based on the aging of accounts receivable, is the unadjusted balance of the allowance account adequate? Too high? Too low?
2. Make the entry required by the aging schedule. Prepare a T-account for the allowance.
3. Show how Alpha Company will report Accounts Receivable on its December 31 balance sheet.

**E5-29A** ***(Learning Objective 4: Recording notes receivable and accruing interest revenue)*** Record the following note receivable transactions in the journal of Aegean Realty. How much interest revenue did Aegean earn this year? Use a 365-day year for interest computations, and round interest amounts to the nearest dollar.

| | |
|---|---|
| Sep 1 | Loaned $15,000 cash to Carroll Fadal on a one-year, 10% note. |
| Nov 6 | Performed service for Turf Masters, receiving a 90-day, 8% note for $12,000. |
| 16 | Received a $4,000, six-month, 11% note on account from Voleron, Inc. |
| 30 | Accrued interest revenue for the year. |

**E5-30A** ***(Learning Objective 5: Using the current ratio and days' sales in receivables to evaluate a company)*** Cherokee, Inc., reported the following items at December 31, 20X6 and 20X5:

**Balance Sheets (Summarized)**

| | Year End 20X6 | Year End 20X5 | | Year End 20X6 | Year End 20X5 |
|---|---|---|---|---|---|
| **Current assets:** | | | **Current liabilities:** | | |
| Cash | $ 3,000 | $ 9,000 | Accounts payable | $ 19,000 | $ 20,500 |
| Marketable securities | 20,000 | 9,000 | Other current liabilities | 103,000 | 105,000 |
| Accounts receivable, net | 55,000 | 69,000 | Long-term liabilities | 15,000 | 16,000 |
| Inventory | 92,000 | 88,000 | | | |
| Other current assets | 2,000 | 2,000 | Shareholders' equity | 135,000 | 135,500 |
| Long-term assets | 100,000 | 100,000 | | | |
| Total assets | $272,000 | $277,000 | Total liabilities and equity | $272,000 | $277,000 |
| **Income Statement (partial):** | **20X5** | | | | |
| Sales revenue | $730,000 | | | | |

### *Requirement*

1. Compute Cherokee's (a) current ratio and (b) days' sales in average receivables for 20X6. Evaluate each ratio value as strong or weak. Cherokee sells on terms of net 30 days.

**E5-31A** ***(Learning Objective 5: Analyzing a company's financial statements)*** Modern Limited, the electronics and appliance chain, reported these figures in millions of dollars:

| | 20X7 | 20X6 |
|---|---|---|
| Net sales | $573,000 | $604,000 |
| Receivables at end of year | 3,910 | 4,710 |

### *Requirements*

1. Compute Modern's average collection period during 20X7.
2. Is Modern's collection period long or short? Viflex Networks takes 25 days to collect its average level of receivables. Domarko, the overnight shipper, takes 35 days. What causes Modern's collection period to be so different?

## (Group B)

**E5-32B** ***(Learning Objectives 1, 2: Learning about fraud; identifying internal control weaknesses)*** Identify the internal control weakness in the following situations. State how the person can hurt the company.

**writing assignment**

a. Jason Monroe works as a security guard at CITY parking in Cologne, Germany. Monroe has a master key to the cash box where customers pay for parking. Each night Monroe prepares the cash report that shows (a) the number of cars that parked on the lot and (b) the day's cash receipts. Linda Cooper, the CITY treasurer, checks Monroe's figures by multiplying the number of cars by the parking fee per car. Cooper then deposits the cash in the bank.

b. Ashley Adams is the purchasing agent for Superior Golf Equipment. Adams prepares purchase orders based on requests from division managers of the company. Adams faxes the purchase order to suppliers who then ship the goods to Superior. Adams receives each incoming shipment and checks it for agreement with the purchase order and the related invoice. She then routes the goods to the respective division managers and sends the receiving report and the invoice to the accounting department for payment.

**E5-33B** ***(Learning Objective 2: Identifying internal control strengths and weaknesses)*** The following situations describe two cash payment situations and two cash receipt situations. In each pair, one set of internal controls is better than the other. Evaluate the internal controls in each situation as strong or weak, and give the reason for your answer.

**Cash payments:**

**a.** Mike Milford Construction policy calls for construction supervisors to request the equipment needed for their jobs. The home office then purchases the equipment and has it shipped to the construction site.

**b.** Superior Structures, Inc., policy calls for project supervisors to purchase the equipment needed for jobs. The supervisors then submit the paid receipts to the home office for reimbursement. This policy enables supervisors to get the equipment quickly and keep construction jobs moving.

**Cash receipts:**

**a.** At Cramer Auto Parts, cash received by mail goes straight to the accountant, who debits Cash and credits Accounts Receivable to record the collections from customers. The Cramer accountant then deposits the cash in the bank.

**b.** Cash received by mail at Better Vision Eye Clinic goes to the mail room, where a mail clerk opens envelopes and totals the cash receipts for the day. The mail clerk forwards customer cheques to the cashier for deposit in the bank and forwards the remittance slips to the accounting department for posting credits to customer accounts.

■ **writing assignment**

**E5-34B** ***(Learning Objectives 1, 2: Learning about fraud; correcting an internal control weakness)*** Sam Smith served as executive director of Downtown Scanlon, an organization created to revitalize Scanlon. Over the course of 11 years Smith embezzled €297,000. How did Smith do it? He did it by depositing subscriber cash receipts in his own bank account, writing Downtown Scanlon cheques to himself, and creating phony entities that Downtown Scanlon wrote cheques to.

Downtown Scanlon was led by a board of directors comprised of civic leaders. Smith's embezzlement went undetected until Downtown Scanlon couldn't pay its bills.

Give four ways Smith's embezzlement could have been prevented.

**E5-35B** ***(Learning Objective 2: Evaluating internal control over cash receipts)*** Radley stores use point-of-sale terminals as cash registers. The register shows the amount of each sale, the cash received from the customer, and any change returned to the customer. The machine also produces a customer receipt but keeps no record of transactions. At the end of the day, the clerk counts the cash in the register and gives it to the cashier for deposit in the company bank account.

Write a memo to convince the store manager that there is an internal control weakness over cash receipts. Identify the weakness that gives an employee the best opportunity to steal cash and state how to prevent such a theft.

**E5-36B** ***(Learning Objective 24: Evaluating internal control over cash payments)*** Beautiful Meadows Golf Company manufactures a popular line of golf clubs. Beautiful Meadows Golf employs 173 workers and keeps their employment records on time sheets that show how many hours the employee works each week. On Friday the shop foreman collects the time sheets, checks them for accuracy, and delivers them to the payroll department for preparation of paycheques. The treasurer signs the paycheques and returns the cheques to the payroll department for distribution to the employees.

Identify the main internal control weakness in this situation, state how the weakness can hurt Beautiful Meadows Golf, and propose a way to correct the weakness.

**E5-37B** ***(Learning Objective 3: Classifying bank reconciliation items)*** The following items appear on a bank reconciliation.

Classify each item as (a) an addition to the bank balance, (b) a subtraction from the bank balance, (c) an addition to the book balance, or (d) a subtraction from the book balance.

1. ___ Outstanding cheques
2. ___ Bank error: The bank credited our account for a deposit made by another bank customer.

3. ___ Service charge
4. ___ Deposits in transit
5. ___ NSF cheque
6. ___ Bank collection of a note receivable on our behalf
7. ___ Book error: We debited Cash for €300. The correct debit was €3,000.

**E5-38B** ***(Learning Objective 3: Preparing a bank reconciliation)*** D.J. Hill's chequebook and February bank statement show the following:

| Date | Cheque No. | Item | Cheque | Deposit | Balance |
|---|---|---|---|---|---|
| 2/1 | | | | | € 515 |
| 4 | 622 | Art Cafe | € 15 | | 500 |
| 9 | | Dividends received | | € 115 | 615 |
| 13 | 623 | General Tire Co. | 40 | | 575 |
| 14 | 624 | QuickMobil | 78 | | 497 |
| 18 | 625 | Cash | 70 | | 427 |
| 26 | 626 | Woodway Baptist Church | 85 | | 342 |
| 28 | 627 | Bent Tree Apartments | 275 | | 67 |
| 28 | | Paycheque | | 1,215 | 1,282 |

| | | | | |
|---|---|---|---|---|
| Balance ............................................. | | | | €515 |
| Add: Deposits .................................... | | | | 115 |
| Debit cheques: | No. | Amount | | |
| | 622 ......... | €15 | | |
| | 623 ......... | 40 | | |
| | 624 ......... | 87* | | |
| | 625 ......... | 70 | | (212) |
| Other charges: | | | | |
| NSF cheque.................................... | | | €20 | |
| Service charge ................................ | | | 15 | (35) |
| Balance ............................................. | | | | €383 |

*This is the correct amount for cheque number 624.

### *Requirement*

1. Prepare Hill's bank reconciliation at February 28.

**E5-39B** ***(Learning Objective 3: Preparing a bank reconciliation)*** Harry Spares operates a bowling alley. He has just received the monthly bank statement at September 30 from City National Bank, and the statement shows an ending balance of €545. Listed on the statement are an EFT rent collection of €325, a service charge of €8, two NSF cheques totaling €125, and a €10 charge for printed cheques. In reviewing his cash records, Smith identifies outstanding cheques totaling €609 and a September 30 deposit in transit of €1,790. During September, he recorded a €310 cheque for the salary of a part-time employee as €31. Smith's Cash account shows a September 30 cash balance of €1,823. How much cash does Smith actually have at September 30?

**E5-40B** ***(Learning Objective 3: Making journal entries from a bank reconciliation)*** Use the data from Exercise 5-39B to make the journal entries that Smith should record on September 30 to update his Cash account. Include an explanation for each entry.

■ **writing assignment**

**E5-41B** ***(Learning Objective 3: Preparing a cash budget)*** Fallon Communications, Inc., is preparing its cash budget for 20X7. Fallon ended 20X6 with cash of €82 million, and managers need to keep a cash balance of at least €81 million for operations.

■ **spreadsheet**

Collections from customers are expected to total €11,307 million during 20X7, and payments for the cost of services and products should reach €6,174 million. Operating expense payments are budgeted at €2,545 million.

During 20X7, Fallon expects to invest €1,831 million in new equipment and sell older assets for €121 million. Debt payments scheduled for 20X7 will total €604 million. The company forecasts net income of €883 million for 20X7 and plans to pay dividends of €341 million.

Prepare Fallon Communications' cash budget for 20X7. Will the budgeted level of cash receipts leave Fallon with the desired ending cash balance of €81 million, or will the company need additional financing? If so, how much?

**E5-42B** ***(Learning Objective 4: Reporting bad debts by the allowance method)*** At December 31, White's Travel has an accounts receivable balance of €92,000. Allowance for Doubtful Accounts has a credit balance of €820 before the year-end adjustment. White's Travel estimates that doubtful-account expense for the year is equal to 8% of ending receivables. Make the December 31 entry to record doubtful-account expense. Show how the Accounts Receivable and the Allowance for Doubtful Accounts are reported on the balance sheet.

**E5-43B** ***(Learning Objective 4: Using the allowance method for bad debts)*** On April 30, Hilltop Party Planners had a €33,000 balance in Accounts Receivable and a €4,000 credit balance in Allowance for Uncollectible Accounts. During May, the store made credit sales of €156,000. May collections on account were €132,000, and write-offs of uncollectible receivables totaled €2,300. Hilltop Party Planners estimates the required allowance for uncollectible accounts for the year is €4,820.

### *Requirements*

1. Journalize sales, collections, write-offs of uncollectibles, and uncollectible-account expense by the allowance method during May. Explanations are not required.
2. Show the ending balances in Accounts Receivable, Allowance for Uncollectible Accounts, and *Net* Accounts Receivable at May 31. How much does the store expect to collect?
3. Show how the store will report Accounts Receivable on its May 31 balance sheet.

■ **spreadsheet**

**E5-44B** ***(Learning Objective 4: Using the aging approach to estimate bad debts)*** At December 31, before any year-end adjustments, the accounts receivable balance of Digital Electronics Company is €150,000. The allowance for doubtful accounts has a €6,800 credit balance. Digital Electronics Company prepares the following aging schedule for accounts receivable:

| | Age of Accounts | | | |
|---|---|---|---|---|
| **Total Balance** | **1–30 Days** | **31–60 Days** | **61–90 Days** | **Over 90 Days** |
| $150,000 | €60,000 | €50,000 | €30,000 | €10,000 |
| Estimated uncollectible | 0.6% | 4.0% | 7.0% | 40.0% |

### *Requirements*

1. Based on the aging of accounts receivable, is the unadjusted balance of the allowance account adequate? Too high? Too low?
2. Make the entry required by the aging schedule. Prepare a T-account for the allowance.
3. Show how Digital Electronics Company will report Accounts Receivable on its December 31 balance sheet.

**E5-45B** ***(Learning Objective 4: Recording notes receivable and accruing interest revenue)*** Record the following note receivable transactions in the journal of Celtic Realty. How much interest revenue did Celtic earn this year? Use a 365-day year for interest computations, and round interest amounts to the nearest dollar.

| | |
|---|---|
| Apr 1 | Loaned €11,000 cash to Britt Durant on a one-year, 6% note. |
| Jun 6 | Performed service for Putt Masters, receiving a 90-day, 7% note for €14,000. |
| 16 | Received a €3,000, six-month, 12% note on account from Voleron, Inc. |
| 30 | Accrued interest revenue for the year. |

**E5-46B** ***(Learning Objective 5: Using the current ratio and days' sales in receivables to evaluate a company)*** Navajo, Inc., reported the following items at December 31, 20X6 and 20X5:

**Balance Sheets (Summarized)**

| | Year End 20X6 | Year End 20X5 | | Year End 20X6 | Year End 20X5 |
|---|---|---|---|---|---|
| **Current assets:** | | | **Current liabilities:** | | |
| Cash | € 4,000 | € 10,000 | Accounts payable | € 15,000 | € 16,500 |
| Marketable securities | 23,000 | 12,000 | Other current liabilities | 105,000 | 107,000 |
| Accounts receivable, net | 56,000 | 70,000 | Long-term liabilities | 15,000 | 16,000 |
| Inventory | 92,000 | 88,000 | | | |
| Other current assets | 6,000 | 6,000 | Stockholders' equity | 146,000 | 146,500 |
| Long-term assets | 100,000 | 100,000 | | | |
| Total assets | €281,000 | €286,000 | Total liabilities and equity | €281,000 | €286,000 |
| **Income Statement (partial):** | **20X6** | | | | |
| Sales revenue | €727,000 | | | | |

## *Requirement*

1. Compute Navajo's (a) current ratio and (b) days' sales in average receivables for 20X6. Evaluate each ratio value as strong or weak. Navajo sells on terms of net 30 days.

**E5-47B** ***(Learning Objective 5: Analyzing a company's financial statements)*** Contemporary Limited, the electronics and appliance chain, reported these figures in millions of dollars:

| | 20X7 | 20X6 |
|---|---|---|
| Net sales | €572,000 | €601,000 |
| Receivables at end of year | 3,880 | 4,810 |

## *Requirements*

1. Compute Contemporary's average collection period during 20X7.
2. Is Contemporary's collection period long or short? Kurzwel Networks takes 40 days to collect its average level of receivables. Damascus, the overnight shipper, takes 25 days. What causes Contemporary's collection period to be so different?

## Challenge Exercises

**E5-48** ***(Learning Objectives 1, 2: Learning about fraud; evaluating internal controls over cash payments; focusing on ethical considerations)*** Susan Healey, the owner of Susan's Perfect Presents, has delegated management of the business to Louise Owens, a friend. Healey drops by to meet customers and check up on cash receipts, but Owens buys the merchandise and handles cash payments. Business has been very good lately, and cash receipts have kept pace with the apparent level of sales. However, for a year or so, the amount of cash on hand has been too low. When asked about this, Owens explains that suppliers are charging more for goods than in the past. During the past year, Owens has taken two expensive vacations, and Healey wonders how Owens can afford these trips on her $59,000 annual salary and commissions.

List at least three ways Owens could be defrauding Healey of cash. In each instance also identify how Healey can determine whether Owens' actions are ethical. Limit your answers to the store's cash payments. The business pays all suppliers by cheque (no EFTs).

**E5-49** ***(Learning Objective 3: Preparing and using a cash budget)*** Dan Davis, the chief financial officer, is responsible for The Furniture Mart's cash budget for 20X6. The budget will help Davis determine the amount of long-term borrowing needed to end the year with a cash balance of $130,000. Davis's assistants have assembled budget data for 20X6, which the computer printed in alphabetical order. Not all the data items reproduced below are used in preparing the cash budget.

| (Assumed Data) | (In thousands) |
|---|---|
| Actual cash balance, December 31, 20X5 | $ 130 |
| Budgeted total assets | 22,377 |
| Budgeted total current assets | 7,976 |
| Budgeted total current liabilities | 4,260 |
| Budgeted total liabilities | 11,088 |
| Budgeted total shareholders' equity | 7,197 |
| Collections from customers | 21,800 |
| Dividend payments | 317 |
| Issuance of shares | 647 |
| Net income | 1,183 |
| Payment of long-term and short-term debt | 980 |
| Payment of operating expenses | 2,349 |
| Purchases of inventory items | 14,545 |
| Purchase of property and equipment | 1,528 |

### *Requirements*

1. Prepare the cash budget of The Furniture Mart, Inc.
2. Compute The Furniture Mart's budgeted current ratio at December 31, 20X6. Based on the current ratio and on the cash budget, would you lend $100,000 to The Furniture Mart? Give the reason for your decision.

**E5-50** ***(Learning Objective 4: Reconstructing receivables and bad-debt amounts)*** Suppose Diamond, Inc., reported net receivables of $2,586 million and $2,268 million at January 31, 20X7, and 20X6, after subtracting allowances of $70 million and $64 million at these respective dates. Diamond earned total revenue of $53,333 million (all on account) and recorded doubtful-account expense of $16 million for the year ended January 31, 20X7.

### *Requirement*

1. Use this information to measure the following amounts for the year ended January 31, 20X7:
   **a.** Write-offs of uncollectible receivables.
   **b.** Collections from customers.

## Quiz

Test your understanding of internal control and cash by answering the following questions. Answer each question by selecting the best choice from among the answers given.

**Q5-51** All of the following are objectives of internal control except
**a.** to comply with legal requirements.
**b.** to maximize net income.
**c.** to ensure accurate and reliable accounting records.
**d.** to safeguard assets.

**Q5-52** Requiring that an employee with no access to cash do the accounting is an example of which characteristic of internal control?
**a.** Assignment of responsibility
**b.** Competent and reliable personnel
**c.** Monitoring of controls
**d.** Separation of duties

**Q5-53** All of the following are controls for cash received over the counter except
**a.** the cash drawer should open only when the sales clerk enters an amount on the keys.
**b.** a printed receipt must be given to the customer.
**c.** the customer should be able to see the amounts entered into the cash register.
**d.** the sales clerk must have access to the cash register tape.

**Q5-54** If a bookkeeper mistakenly recorded a $35 deposit as $53, the error would be shown on the bank reconciliation as a
**a.** $53 deduction from the book balance.
**b.** $53 addition to the book balance.
**c.** $18 deduction from the book balance.
**d.** $18 addition to the book balance.

**Q5-55** If a bank reconciliation included a deposit in transit of $880, the entry to record this reconciling item would include a
**a.** credit to cash for $880.
**b.** debit to cash for $880.
**c.** credit to prepaid insurance for $880.
**d.** no entry is required.

**Q5-56** Before paying an invoice for goods received on account, the controller or treasurer should ensure that
**a.** the company has not already paid this invoice.
**b.** the company is paying for the goods it ordered.
**c.** the company is paying for the goods it actually received.
**d.** all of the above.

**Q5-57** Under the allowance method for uncollectible receivables, the entry to record uncollectible-account expense has what effect on the financial statements?
**a.** Decreases owners' equity and increases liabilities
**b.** Increases expenses and increases owners' equity
**c.** Decreases assets and has no effect on net income
**d.** Decreases net income and decreases assets

**Q5-58** Vincent Company uses the aging method to adjust the allowance for uncollectible accounts at the end of the period. At December 31, the balance of accounts receivable is $200,000 and the allowance for uncollectible accounts has a credit balance of $4,000 (before adjustment). An analysis of accounts receivable produced the following age groups:

| | |
|---|---|
| Current | $160,000 |
| 60 days past due | 32,000 |
| Over 60 days past due | 8,000 |
| | $200,000 |

Based on past experience, Vincent estimates that the percentage of accounts that will prove to be uncollectible within the three age groups is 4%, 10%, and 21%, respectively. Based on these facts, the adjusting entry for uncollectible accounts should be made in the amount of

**a.** $7,280.
**b.** $11,280.
**c.** $16,280.
**d.** $2,000.

**Q5-59** Refer to Question 5-58. The net receivables on the balance sheet is ______.

**Q5-60** Graham Company uses the aging method in setting its allowance for doubtful receivables. Allowance for doubtful accounts prior to adjustment has a credit balance of $2,000. Management estimates that due to the economic crisis, a higher level of allowance is necessary and decides that a $5,900 allowance is an appropriate amount at the year-end. The amount of expense to report on the income statement will be

**a.** $3,900.
**b.** $5,200.
**c.** $1,000.
**d.** $5,900.

## Problems

MyAccountingLab

All of the Group A and Group B problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

### (Group A)

■ writing assignment

**P5-61A** ***(Learning Objectives 1, 2: Learning about fraud; identifying internal control weakness)*** Each of the following situations reveals an internal control weakness:

**a.** In evaluating the internal control over cash payments of Framingham Manufacturing, an auditor learns that the purchasing agent is responsible for purchasing diamonds for use in the company's manufacturing process, approving the invoices for payment, and signing the cheques. No supervisor reviews the purchasing agent's work.

**b.** Leslie Joyce owns an architectural firm. Joyce's staff consists of 18 professional architects, and Joyce manages the office. Often, Joyce's work requires her to travel to meet with clients. During the past six months, Joyce has observed that when she returns from a business trip, the architecture jobs in the office have not progressed satisfactorily. Joyce learns that when she is away, two of her senior architects take over office management and neglect their normal duties. One employee could manage the office.

**c.** J.T. Durfee has been an employee of the City of Maron for many years. Because the city is small, Durfee performs all accounting duties, plus opening the mail, preparing the bank deposit, and preparing the bank reconciliation.

***Requirements***

1. Identify the missing internal control characteristic in each situation.
2. Identify each firm's possible problem.
3. Propose a solution to the problem.

■ writing assignment

**P5-62A** ***(Learning Objective 3: Using the bank reconciliation as a control device)*** The cash data of Dunlap Automotive for July 20X6 follow:

| Cash | | | | | Account No. 101 |
|---|---|---|---|---|---|
| **Date** | **Item** | **Jrnl. Ref.** | **Debit** | **Credit** | **Balance** |
| Jul 1 | Balance | | | | 7,900 |
| 31 | | CR6 | 9,124 | | 17,024 |
| 31 | | CP11 | | 9,087 | 7,937 |

| Cash Receipts (CR) | | Cash Payments (CP) | |
|---|---|---|---|
| Date | Cash Debit | Cheque No. | Cash Credit |
| Jul 2 | $2,771 | 3113 | $1,503 |
| 8 | 516 | 3114 | 1,149 |
| 10 | 1,682 | 3115 | 1,630 |
| 16 | 871 | 3116 | 19 |
| 22 | 352 | 3117 | 825 |
| 29 | 924 | 3118 | 91 |
| 30 | 2,008 | 3119 | 440 |
| Total | $9,124 | 3120 | 965 |
| | | 3121 | 205 |
| | | 3122 | 2,260 |
| | | Total | $9,087 |

Dunlap received the following bank statement on July 31, 20X6:

■ **spreadsheet**

**Bank Statement for July 20X6**

| | | |
|---|---|---|
| Beginning balance ............... | | $ 7,900 |
| Deposits and other additions: | | |
| Jul 1 .......................... | $ 750 EFT | |
| 4 .......................... | 2,771 | |
| 9 .......................... | 516 | |
| 12 .......................... | 1,682 | |
| 17 .......................... | 871 | |
| 22 .......................... | 352 | |
| 23 .......................... | 1,250 BC | 8,192 |
| Cheques and other deductions: | | |
| Jul 7 .......................... | $1,503 | |
| 13 .......................... | 1,360 | |
| 14 .......................... | 407 US | |
| 15 .......................... | 1,149 | |
| 18 .......................... | 19 | |
| 21 .......................... | 334 EFT | |
| 26 .......................... | 825 | |
| 30 .......................... | 91 | |
| 30 .......................... | 25 SC | (5,713) |
| Ending balance .................... | | $10,379 |

Explanation: BC—bank collection, EFT—electronic funds transfer, US—unauthorized signature, SC—service charge

Additional data for the bank reconciliation include the following:

**a.** The EFT deposit was a receipt of monthly rent. The EFT debit was a monthly insurance payment.

**b.** The unauthorized signature cheque was received from a customer.

**c.** The correct amount of cheque number 3115, a payment on account, is $1,360. (Dunlap's accountant mistakenly recorded the cheque for $1,630.)

### *Requirements*

1. Prepare the Dunlap Automotive bank reconciliation at July 31, 20X6.
2. Describe how a bank account and the bank reconciliation help the general manager control Dunlap's cash.

■ spreadsheet

**P5-63A** ***(Learning Objectives 2: Identifying internal control weakness in sales and cash receipts)*** Fresh Skin Care makes all sales on credit. Cash receipts arrive by mail, usually within 30 days of the sale. Kate Martin opens envelopes and separates the cheques from the accompanying remittance advices. Martin forwards the cheques to another employee, who makes the daily bank deposit but has no access to the accounting records. Martin sends the remittance advices, which show the amount of cash received, to the accounting department for entry in the accounts receivable. Martin's only other duty is to grant allowances to customers. (An allowance decreases the amount that the customer must pay.) When Martin receives a customer cheque for less than the full amount of the invoice, she records the allowance in the accounting records and forwards the document to the accounting department.

### Requirement

1. You are a new employee of Fresh Skin Care. Write a memo to the company president identifying the internal control weakness in this situation. State how to correct the weakness.

■ writing assignment

**P5-64A** ***(Learning Objective 3: Preparing a bank reconciliation and the related journal entries)*** The August 31 bank statement of Dickson Engineering Associates has just arrived from Carolina First Bank. To prepare the Dickson bank reconciliation, you gather the following data:

**a.** Dickson's Cash account shows a balance of $8,152.71 on August 31.
**b.** The August 31 bank balance is $8,879.24.
**c.** The bank statement shows that Dickson earned $15.85 of interest on its bank balance during August. This amount was added to Dickson's bank balance.
**d.** Dickson pays utilities ($730) and insurance ($280) by EFT.

| Cheque No. | Amount |
|---|---|
| 237 | $401.00 |
| 288 | 74.82 |
| 291 | 33.25 |
| 293 | 165.55 |
| 294 | 236.00 |
| 295 | 47.75 |
| 296 | 107.85 |

**e.** The following Dickson cheques did not clear the bank by August 31:
**f.** The bank statement includes a deposit of $899.15, collected on account by the bank on behalf of Dickson.
**g.** The bank statement lists a $5.50 bank service charge.
**h.** On August 31, the Dickson treasurer deposited $383.54, which will appear on the September bank statement.
**i.** The bank statement includes a $398.00 deposit that Dickson did not make. The bank added $398.00 to Dickson's account for another company's deposit.
**j.** The bank statement includes two charges for returned cheques from customers. One is a $185.50 cheque received from a customer with the imprint "Unauthorized Signature." The other is a nonsufficient funds cheque in the amount of $68.15 received from another customer.

### Requirements

1. Prepare the bank reconciliation for Dickson Engineering Associates.
2. Journalize the August 31 transactions needed to update Dickson's Cash account. Include an explanation for each entry.

**P5-65A** ***(Learning Objective 3: Preparing a cash budget and using cash-flow information)*** John Watson, chief financial officer of Jasper Wireless, is responsible for the company's budgeting process. Watson's staff is preparing the Jasper cash budget for 20X7. A key input to the budgeting process is last year's statement of cash flows, which follows (amounts in thousands):

**Jasper Wireless**
**Statement of Cash Flows**
20X6

| (In thousands) | |
|---|---|
| **Cash Flows from Operating Activities** | |
| Collections from customers | $ 64,000 |
| Interest received | 300 |
| Purchases of inventory | (49,000) |
| Operating expenses | (13,500) |
| Net cash provided by operating activities | 1,800 |
| **Cash Flows from Investing Activities** | |
| Purchases of equipment | (4,800) |
| Purchases of investments | (400) |
| Sales of investments | 500 |
| Net cash used for investing activities | (4,700) |
| **Cash Flows from Financing Activities** | |
| Payment of long-term debt | (400) |
| Issuance of shares | 1,700 |
| Payment of cash dividends | (300) |
| Net cash provided by financing activities | 1,000 |
| **Cash** | |
| Increase (decrease) in Cash | (1,900) |
| Cash, beginning of year | 3,400 |
| Cash, end of year | $ 1,500 |

### *Requirements*

1. Prepare the Jasper Wireless cash budget for 20X7. Date the budget simply "20X7" and denote the beginning and ending cash balances as "beginning" and "ending." Assume the company expects 20X7 to be the same as 20X6, but with the following changes:
   a. In 20X7, the company expects a 10% increase in collections from customers and a 20% increase in purchases of inventory.
   b. There will be no sales of investments in 20X7.
   c. Jasper plans to issue no shares in 20X7.
   d. Jasper plans to end the year with a cash balance of $3,800.
2. Does the company's cash budget for 20X7 suggest that Jasper is growing, holding steady, or decreasing in size? (Challenge)

**writing assignment**

**P5-66A** ***(Learning Objective 4: Accounting for revenue, collections, and uncollectibles)*** This problem takes you through the accounting for sales, receivables, and uncollectibles for Mail Time Corp., the overnight shipper. By selling on credit, the company cannot expect to collect 100% of its accounts receivable. At May 31, 20X6, and 20X7, respectively, Mail Time Corp. reported the following on its balance sheet (in millions of dollars):

| | May 31 | |
|---|---|---|
| | 20X7 | 20X6 |
| Accounts receivable | $3,693 | $3,435 |
| Less: Allowance for uncollectible accounts | (129) | (156) |
| Accounts receivable, net | $3,564 | $3,279 |

During the year ended May 31, 20X7, Mail Time Corp. earned service revenue and collected cash from customers. Assume that Mail Time wrote off uncollectible receivables. At year-end Mail Time ended with the foregoing May 31, 20X7, balances.

### *Requirements*

1. Prepare T-accounts for Accounts Receivable and Allowance for Uncollectibles and insert the May 31, 20X6, balances as given.
2. Journalize the following assumed transactions of Mail Time Corp. for the year ended May 31, 20X7 (explanations are not required):
   **a.** Service revenue on account, $32,481 million
   **b.** Collections from customers on account, $31,864 million
   **c.** Write-offs of uncollectible accounts receivable, $354 million
   **d.** Uncollectible-account expense, $325 million
3. Post your entries to the Accounts Receivable and the Allowance for Uncollectibles T-accounts.
4. Compute the ending balances for the two T-accounts and compare your balances to the actual May 31, 20X7, amounts. They should be the same.
5. Show what Mail Time would report on its income statement for the year ended May 31, 20X7.

**P5-67A** ***(Learning Objective 4: Using the aging approach for uncollectibles)*** The September 30, 20X7, records of Perfecto Communications include these accounts:

| | |
|---|---|
| Accounts Receivable | $250,000 |
| Allowance for Doubtful Accounts | (8,200) |

At year-end (December 31), the company ages its receivables and adjusts the balance in Allowance for Doubtful Accounts to correspond to the aging schedule. During the last quarter of 20X7, the company completed the following selected transactions:

| | |
|---|---|
| Nov 30 | Wrote off as uncollectible the $1,400 account receivable from Black Carpets and the $600 account receivable from Old Timer Antiques. |
| Dec 31 | Adjusted the Allowance for Doubtful Accounts and recorded doubtful-account expense at year-end, based on the aging of receivables, which follows. |

| | Age of Accounts | | | |
|---|---|---|---|---|
| **Accounts Receivable** | **1–30 Days** | **31–60 Days** | **61–90 Days** | **Over 90 Days** |
| $232,000 | $140,000 | $45,000 | $18,000 | $29,000 |
| Estimated percent uncollectible | 0.1% | 1% | 10% | 30% |

### *Requirements*

1. Record the transactions in the journal. Explanations are not required.
2. Prepare a T-account for Allowance for Doubtful Accounts and post to that account.
3. Show how Perfecto Communications will report its accounts receivable on its balance sheet as at December 31, 20X7.

**P5-68A** *(Learning Objective 4: Accounting for notes receivable and accrued interest revenue)* Healthy Meal completed the following selected transactions.

| | |
|---|---|
| **20X6** | |
| Oct 31 | Sold goods to Buy Low Foods, receiving a $34,000, three-month, 5.25% note. |
| Dec 31 | Made an adjusting entry to accrue interest on the Buy Low Foods note. |
| **20X7** | |
| Jan 31 | Collected the Buy Low Foods note. |
| Feb 18 | Received a 90-day, 7.75%, $7,600 note from Dutton Market on account. |
| 19 | Sold the Dutton Market note to Amherst Bank, receiving cash of $7,400. (Debit the difference to financing expense.) |
| Nov 11 | Lent $14,600 cash to Street Provisions, receiving a 90-day, 10.00% note. |
| Dec 31 | Accrued the interest on the Street Provisions note. |

### *Requirements*

1. Record the transactions in Healthy Meal's journal. Round interest amounts to the nearest dollar. Explanations are not required.
2. Show what Healthy Meal will report on its comparative classified balance sheet at December 31, 20X7, and December 31, 20X6.

**P5-69A** *(Learning Objective 5: Using ratio data to evaluate a company's financial position)* The comparative financial statements of Highland Pools, Inc., for 20X7, 20X6, and 20X5 included the following select data:

■ **spreadsheet**

| | (In millions) | | |
|---|---|---|---|
| | **20X7** | **20X6** | **20X5** |
| **Balance sheet** | | | |
| Current assets: | | | |
| Cash | $ 80 | $ 70 | $ 60 |
| Short-term investments | 145 | 170 | 120 |
| Receivables, net of allowance for doubtful accounts of $7, $6, and $4, respectively | 270 | 250 | 240 |
| Inventories | 355 | 345 | 300 |
| Prepaid expenses | 60 | 30 | 55 |
| Total current assets | $ 910 | $ 865 | $ 775 |
| Total current liabilities | $ 580 | $ 620 | $ 690 |
| **Income statement** | | | |
| Net sales | $5,880 | $5,130 | $4,220 |

### *Requirements*

1. Compute current ratio and days' sales in receivables for 20X7 and 20X6:
2. Which ratio(s) improved from 20X6 to 20X7 and which ratio(s) deteriorated? Is this trend favorable or unfavorable?

## (Group B)

■ writing assignment

**P5-70B** ***(Learning Objectives 1, 2: Learning about fraud; identifying internal control weakness)*** Each of the following situations reveals an internal control weakness:

**Situation a.** In evaluating the internal control over cash payments of York Manufacturing, an auditor learns that the purchasing agent is responsible for purchasing diamonds for use in the company's manufacturing process, approving the invoices for payment, and signing the cheques. No supervisor reviews the purchasing agent's work.

**Situation b.** Rita White owns an architectural firm. White's staff consists of 16 professional architects, and White manages the office. Often, White's work requires her to travel to meet with clients. During the past six months, White has observed that when she returns from a business trip, the architecture jobs in the office have not progressed satisfactorily. White learns that when she is away, two of her senior architects take over office management and neglect their normal duties. One employee could manage the office.

**Situation c.** M.J. Dowd has been an employee of the City of Northport for many years. Because the city is small, Dowd performs all accounting duties, plus opening the mail, preparing the bank deposit, and preparing the bank reconciliation.

### *Requirements*

1. Identify the missing internal control characteristic in each situation.
2. Identify each firm's possible problem.
3. Propose a solution to the problem.

■ writing assignment

■ spreadsheet

**P5-71B** ***(Learning Objective 3: Using the bank reconciliation as a control device)*** The cash data of Donald Automotive for January 20X6 follows:

| Cash | | | | | Account No. 101 |
|---|---|---|---|---|---|
| **Date** | **Item** | **Jrnl. Ref.** | **Debit** | **Credit** | **Balance** |
| Jan 1 | Balance | | | | 7,200 |
| 31 | | CR 6 | 9,127 | | 16,327 |
| 31 | | CP 11 | | 9,983 | 6,344 |

| Cash Receipts (CR) | | Cash Payments (CP) | |
|---|---|---|---|
| **Date** | **Cash Debit** | **Cheque No.** | **Cash Credit** |
| Jan 2 | €2,726 | 3113 | €1,475 |
| 8 | 572 | 3114 | 1,925 |
| 10 | 1,647 | 3115 | 1,530 |
| 16 | 837 | 3116 | 32 |
| 22 | 436 | 3117 | 870 |
| 29 | 856 | 3118 | 132 |
| 30 | 2,053 | 3119 | 493 |
| Total | €9,127 | 3120 | 985 |
| | | 3121 | 219 |
| | | 3122 | 2,322 |
| | | Total | €9,983 |

Donald received the following bank statement on January 31, 20X6:

**Bank Statement for January 20X6**

| | | | |
|---|---|---|---|
| Beginning balance | | | € 7,200 |
| Deposits and other additions: | | | |
| Jan | 1 | € 650 EFT | |
| | 4 | 2,726 | |
| | 9 | 572 | |
| | 12 | 1,647 | |
| | 17 | 837 | |
| | 22 | 436 | |
| | 23 | 1,350 BC | 8,218 |
| Cheques and other deductions: | | | |
| Jan | 7 | €1,475 | |
| | 13 | 1,350 | |
| | 14 | 466 US | |
| | 15 | 1,925 | |
| | 18 | 32 | |
| | 21 | 331 EFT | |
| | 26 | 870 | |
| | 30 | 132 | |
| | 30 | 20 SC | (6,601) |
| Ending balance | | | € 8,817 |

Explanation: BC—bank collection, EFT—electronic funds transfer, US—unauthorized signature, SC—service charge

Additional data for the bank reconciliation include the following:

**a.** The EFT deposit was a receipt of monthly rent. The EFT debit was a monthly insurance expense.

**b.** The unauthorized signature cheque was received from a customer.

**c.** The correct amount of cheque number 3115, a payment on account, is €1,350. (Donald's accountant mistakenly recorded the cheque for €1,530.)

### *Requirements*

1. Prepare the Donald Automotive bank reconciliation at January 31, 20X6.
2. Describe how a bank account and the bank reconciliation help the general manager control Donald's cash.

**P5-72B** ***(Learning Objective 2: Identifying internal control weakness in sales and cash receipts)*** Flawless Skin Care makes all sales on credit. Cash receipts arrive by mail, usually within 30 days of the sale. Elizabeth Nelson opens envelopes and separates the cheques from the accompanying remittance advices. Nelson forwards the cheques to another employee, who makes the daily bank deposit but has no access to the accounting records. Nelson sends the remittance advices, which show the amount of cash received, to the accounting department for entry in the accounts receivable. Nelson's only other duty is to grant allowances to customers. (An *allowance* decreases the amount that the customer must pay.) When Nelson receives a customer cheque for less than the full amount of the invoice, she records the allowance in the accounting records and forwards the document to the accounting department.

**writing assignment**

### *Requirement*

1. You are a new employee of Flawless Skin Care. Write a memo to the company president identifying the internal control weakness in this situation. State how to correct the weakness.

■ spreadsheet

**P5-73B** ***(Learning Objective 3: Preparing a bank reconciliation and the related journal entries)*** The October 31 bank statement of Dunlap Engineering Associates has just arrived from Carolina First Bank. To prepare the Dunlap bank reconciliation, you gather the following data:

**a.** Dunlap's Cash account shows a balance of €7,605.86 on October 31.
**b.** The October 31 bank balance is €8,343.87.
**c.** The bank statement shows that Dunlap earned €15.45 of interest on its bank balance during October. This amount was added to Dunlap's bank balance.
**d.** Dunlap pays utilities (€770) and insurance (€250) by EFT.
**e.** The following Dunlap cheques did not clear the bank by October 31:

| Cheque No. | Amount |
|---|---|
| 237 | €403.15 |
| 288 | 78.98 |
| 291 | 36.39 |
| 293 | 155.45 |
| 294 | 234.00 |
| 295 | 47.50 |
| 296 | 106.79 |

**f.** The bank statement includes a deposit of €915.20, collected on account by the bank on behalf of Dunlap.
**g.** The bank statement lists a €6.25 bank service charge.
**h.** On October 31, the Dunlap treasurer deposited €380.50, which will appear on the November bank statement.
**i.** The bank statement includes a €405.00 deposit that Dunlap did not make. The bank added €405.00 to Dunlap's account for another company's deposit.
**j.** The bank statement includes two charges for returned cheques from customers. One is a €185.50 cheque received from a customer with the imprint "Unauthorized Signature." The other is a nonsufficient funds cheque in the amount of €67.65 received from another customer.

### *Requirements*

1. Prepare the bank reconciliation for Dunlap Engineering Associates.
2. Journalize the October 31 transactions needed to update Dunlap's Cash account. Include an explanation for each entry.

**P5-74B** ***(Learning Objective 3: Preparing a cash budget and using cash-flow information)*** Don Beecher, chief financial officer of Carvel Wireless, is responsible for the company's budgeting process. Beecher's staff is preparing the Carvel cash budget for 20X7. A key input to the budgeting process is last year's statement of cash flows, which follows (amount in thousands):

**Carvel Wireless**
**Statement of Cash Flows**
**20X6**

| (In thousands) | |
|---|---|
| **Cash Flows from Operating Activities** | |
| Collections from customers | € 62,000 |
| Interest received | 700 |
| Purchases of inventory | (47,000) |
| Operating expenses | (13,700) |
| Net cash provided by operating activities | 2,000 |
| **Cash Flows from Investing Activities** | |
| Purchases of equipment | (4,100) |
| Purchases of investments | (300) |
| Sales of investments | 900 |
| Net cash used for investing activities | (3,500) |
| **Cash Flows from Financing Activities** | |
| Payment of long-term debt | (500) |
| Issuance of shares | 1,500 |
| Payment of cash dividends | (400) |
| Net cash provided by financing activities | 600 |
| **Cash** | |
| Increase (decrease) in Cash | (900) |
| Cash, beginning of year | 2,800 |
| Cash, end of year | € 1,900 |

### *Requirements*

1. Prepare the Carvel Wireless cash budget for 20X7. Date the budget simply "20X7" and denote the beginning and ending cash balances as "beginning" and "ending." Assume the company expects 20X7 to be the same as 2010, but with the following changes:
   - **a.** In 20X7, the company expects a 14% increase in collections from customers and a 25% increase in purchases of inventory.
   - **b.** There will be no sales of investments in 20X7.
   - **c.** Carvel plans to issue no shares in 20X7.
   - **d.** Carvel plans to end the year with a cash balance of €3,550.
2. Does the company's cash budget for 20X7 suggest that Carvel is growing, holding steady, or decreasing in size?

**P5-75B** ***(Learning Objective 4: Accounting for revenue, collections, and uncollectibles)*** This problem takes you through the accounting for sales, receivables, and uncollectibles for Dependable Delivery Corp, the overnight shipper. By selling on credit, the company cannot expect to collect 100% of its accounts receivable. At May 31, 20X6, and 20X7, respectively, Dependable Delivery Corp. reported the following on its balance sheet (in millions of euros):

| | **May 31** | |
|---|---|---|
| | **20X7** | **20X6** |
| Accounts receivable | €3,693 | €3,435 |
| Less: Allowance for uncollectible accounts | (129) | (156) |
| Accounts receivable, net | €3,564 | €3,279 |

During the year ended May 31, 20X7, Dependable Delivery Corp. earned sales revenue and collected cash from customers. Assume that Dependable Delivery Corp. wrote off uncollectible receivables. At year-end, Dependable Delivery Corp. ended with the foregoing May 31, 20X7 balances.

**Requirements**

1. Prepare T-accounts for Accounts Receivable and Allowance for Uncollectibles, and insert the May 31, 20X6, balances as given.
2. Journalize the following transactions of Dependable Delivery for the year ended May 31, 20X7. (Explanations are not required.)
   **a.** Service revenue on account, €32,487 million.
   **b.** Collections from customers on account, €31,877 million.
   **c.** Write-offs of uncollectible accounts receivable, €352 million.
   **d.** Uncollectible-account expense, €325 million.
3. Post to the Accounts Receivable and Allowance for Uncollectibles T-accounts.
4. Compute the ending balances for the two T-accounts and compare your balances to the actual May 31, 20X7, amounts. They should be the same.
5. Show what Dependable Delivery should report on its income statement for the year ended May 31, 20X7.

**P5-76B** ***(Learning Objective 4: Using the aging approach for uncollectibles)*** The September 30, 20X7, records of Image Communications include these accounts:

| | |
|---|---|
| Accounts receivable.................................. | €260,000 |
| Allowance for doubtful accounts............... | (8,100) |

At year-end, the company ages its receivables and adjusts the balance in Allowance for Doubtful Accounts to correspond to the aging schedule. During the last quarter of 20X7, the company completed the following selected transactions:

| | |
|---|---|
| Dec 28 | Wrote off as uncollectible the €1,500 account receivable from Blue Carpets and the €400 account receivable from Show-N-Tell Antiques. |
| Dec 31 | Adjusted the Allowance for Doubtful Accounts and recorded doubtful-account expense at year-end, based on the aging of receivables, which follows. |

| | Age of Accounts | | | |
|---|---|---|---|---|
| **Accounts Receivable** | **1–30 Days** | **31–60 Days** | **61–90 Days** | **Over 90 Days** |
| €230,000 | €160,000 | €35,000 | €14,000 | €21,000 |
| Estimated percent uncollectible | 0.2% | 1% | 5% | 30% |

**Requirements**

1. Record the transactions in the journal. Explanations are not required.
2. Prepare a T-account for Allowance for Doubtful Accounts and post to that account.
3. Show how Image Communications will report its accounts receivable on its balance sheet as at December 31, 20X7.

**P5-77B** *(Learning Objective 4: Accounting for notes receivable and accrued interest revenue)* Quick Meals completed the following selected transactions:

| | |
|---|---|
| **20X6** | |
| Nov 30 | Sold goods to Bragg Market, receiving a €32,000, three-month, 4.00% note. |
| Dec 31 | Made an adjusting entry to accrue interest on the Bragg Market note. |
| **20X7** | |
| Feb 28 | Collected the Bragg Market note. |
| Mar 1 | Received a 90-day, 8.00%, €7,200 note from Don's Market on account. |
| 1 | Sold the Don's Market note to Chelmsford Bank, receiving cash of €7,000. (Debit the difference to financing expense.) |
| Dec 16 | Lent €15,400 cash to Stratford Provisions, receiving a 90-day, 9.50% note. |
| Dec 31 | Accrued the interest on the Stratford Provisions note. |

## *Requirements*

1. Record the transactions in Quick Meals' journal. Round all amounts to the nearest dollar. Explanations are not required.
2. Show what Quick Meals will report on its comparative classified balance sheet at December 31, 20X7, and December 31, 20X6.

**P5-78B** *(Learning Objective 5: Using ratio data to evaluate a company's financial position)* ■ **spreadsheet**

The comparative financial statements of Gold Pools, Inc., for 20X7, 20X6, and 20X5 included the following select data:

| | (In millions) | | |
|---|---|---|---|
| | **20X7** | **20X6** | **20X5** |
| **Balance sheet** | | | |
| Current assets: | | | |
| Cash | € 70 | € 80 | € 50 |
| Short-term investments | 145 | 160 | 110 |
| Receivables, net of allowance for doubtful accounts of €7, €6, and €4, respectively | 290 | 260 | 230 |
| Inventories | 360 | 345 | 310 |
| Prepaid expenses | 70 | 10 | 40 |
| Total current assets | € 935 | € 855 | € 740 |
| Total current liabilities | € 560 | € 610 | € 680 |
| **Income statement** | | | |
| Net sales | €5,890 | €5,150 | €4,200 |

## *Requirements*

1. Compute current ratio and days' sales in receivables for 20X7 and 20X6.
2. Which ratio(s) improved from 20X6 to 20X7 and which ratio(s) deteriorated? Is this trend favorable or unfavorable?

# APPLY YOUR KNOWLEDGE

## Decision Cases

**Case 1.** ***(Learning Objectives 1, 2, 3: Learning about fraud; using a bank reconciliation to detect a theft)*** Environmental Concerns, Inc., has poor internal control. Recently, Oscar Benz, the manager, has suspected the bookkeeper of stealing. Details of the business's cash position at September 30 follow.

**a.** The Cash account shows a balance of $10,402. This amount includes a September 30 deposit of $3,794 that does not appear on the September 30 bank statement.

**b.** The September 30 bank statement shows a balance of $8,224. The bank statement lists a $200 bank collection, an $8 service charge, and a $36 NSF cheque. The accountant has not recorded any of these items.

**c.** At September 30, the following cheques are outstanding:

| Cheque No. | Amount |
|---|---|
| 154 | $116 |
| 256 | 150 |
| 278 | 853 |
| 291 | 990 |
| 292 | 206 |
| 293 | 145 |

**d.** The bookkeeper receives all incoming cash and makes the bank deposits. He also reconciles the monthly bank statement. Here is his September 30 reconciliation:

| | | |
|---|---|---|
| Balance per books, September 30 | | $10,402 |
| Add: Outstanding cheques | | 1,460 |
| Bank collection | | 200 |
| Subtotal | | 12,062 |
| Less: Deposits in transit | $3,794 | |
| Service charge | 8 | |
| NSF cheque | 36 | (3,838) |
| Balance per bank, September 30 | | $ 8,224 |

### *Requirement*

1. Benz has requested that you determine whether the bookkeeper has stolen cash from the business and, if so, how much. He also asks you to explain how the bookkeeper attempted to conceal the theft. To make this determination, you perform a proper bank reconciliation. There are no bank or book errors. Benz also asks you to evaluate the internal controls and to recommend any changes needed to improve them.

**Case 2.** ***(Learning Objectives 1, 2: Learning about fraud; correcting an internal control weakness)*** This case is based on an actual situation experienced by one of the authors. Gilead Construction, headquartered in Topeka, Kansas, built a motel in Kansas City. The construction foreman, Slim Pickins, hired the workers for the project. Pickins had his workers fill out the necessary tax forms and sent the employment documents to the home office.

Work on the motel began on May 1 and ended in December. Each Thursday evening, Pickins filled out a time card that listed the hours worked by each employee during the five-day work-week ended at 5 p.m. on Thursday. Pickins faxed the time sheets to the home office, which prepared the payroll cheques on Friday morning. Pickins drove to the home office after lunch on Friday, picked up the payroll cheques, and returned to the construction site. At 5 p.m. on Friday, Pickins distributed the paycheques to the workers.

**a.** Describe in detail the internal control weakness in this situation. Specify what negative result could occur because of the internal control weakness.

**b.** Describe what you would do to correct the internal control weakness.

**Case 3.** ***(Learning Objective 3: Determining allowance for doubtful receivables using the aging method, with and without additional information about loss events)*** Two accounting interns, Serene and Joel, were tasked by you, their supervisor, to propose the required amount of allowance as at December 31, 20X7 for Alyssa Candy Empire (ACE), a distributor of specialty confectionery. Data provided to the two interns include an aging schedule below:

**Age of Account Receivables**

| Receivables | Not yet due | 1–30 Days | 31–60 Days | Over 60 Days | Total |
|---|---|---|---|---|---|
| Customer A | 400 | | | | 400 |
| Customer B | 100 | 100 | | | 200 |
| Customer C | 300 | 200 | 600 | 100 | 1,200 |
| … | … | … | … | … | … |
| Totals | 11,060 | 1,363 | 370 | 1,093 | 13,886 |
| Percentage uncollectible | 1.0% | 5.0% | 12.5% | 20.0% | |
| Required allowance | 111 | 68 | 46 | 219 | 444 |

Serene evaluated ACE's historical records of customer defaults and concluded that the likelihood of a receivable becoming bad is correlated to the age of the receivable. She assigned a 1%, 5%, 10% and 20% likelihood for each age group of receivables.

Joel took another approach and evaluated the likelihood of receivable impairment customer by customer. His research shows that Customer A is a new customer and since it is not yet overdue, there is only a 1% chance that it will not be collected. Customer B and Customer D are long-time customers, and whilst they may pay a little later than the usual credit term of 30 days, the likelihood of not being able to collect their receivables is only 10%. Joel has read that Customer C was not able to make its loan repayments last month. Newspaper articles also point to some worry about Customer C's ability to continue as a growing concern. Joel estimated that it is almost certain that the amount owing would be uncollectible. Customer E, located in another country, has also experienced significant decline in business due to a severe recession in the country. Joel believes that there is a 20% chance that the receivables may be impaired.

Joel and Serene performed their analysis and reported back to you with their recommendations. Whose recommendation will you accept? Why?

## Ethical Issues

For each of the following situations, answer the following questions:

1. What is the ethical issue in this situation?
2. What are the alternatives?
3. Who are the stakeholders? What are the possible consequences to each? Analyze from the following standpoints: (a) economic, (b) legal, and (c) ethical.
4. Place yourself in the role of the decision maker. What would you do? How would you justify your decision?

**Issue 1.** Sunrise Bank recently appointed the accounting firm of Smith, Godfroy, and Hannaford as the bank's auditor. Sunrise quickly became one of Smith, Godfroy, and Hannaford's largest clients. Subject to banking regulations, Sunrise must provide for any expected losses on notes receivable that Sunrise may not collect in full.

During the course of the audit, Smith, Godfroy, and Hannaford determined that three large notes receivable of Sunrise seem questionable. Smith, Godfroy, and Hannaford discussed these loans with Susan Carter, controller of Sunrise. Carter assured the auditors that these notes were good and that the makers of the notes will be able to pay their notes after the economy improves.

Smith, Godfroy, and Hannaford stated that Sunrise must record a loss for a portion of these notes receivable to account for the likelihood that Sunrise may never collect their full amount. Carter objected and threatened to dismiss Smith, Godfroy, and Hannaford if the auditor demands that the bank record the loss. Smith, Godfroy, and Hannaford want to keep Sunrise as a client. In fact, Smith, Godfroy, and Hannaford were counting on the revenue from the Sunrise audit to finance an expansion of the firm.

**Issue 2.** Barry Galvin is executive vice president of Community Bank. Active in community affairs, Galvin serves on the board of directors of The Salvation Army. The Salvation Army is expanding rapidly and is considering relocating. At a recent meeting, The Salvation Army decided to buy 250 acres of land on the edge of town. The owner of the property is Olga Nadar, a major depositor in Community Bank. Nadar is completing a bitter divorce, and Galvin knows that Nadar is eager to sell her property. In view of Nadar's difficult situation, Galvin believes Nadar would accept a low offer for the land. Realtors have appraised the property at $3.6 million.

**Issue 3.** Community Bank has a loan receivable from IMS Chocolates. IMS is six months late in making payments to the bank, and Jan French, a Community Bank vice president, is assisting IMS to restructure its debt.

French learns that IMS is depending on landing a contract with Snicker Foods, another Community Bank client. French also serves as Snicker Foods' loan officer at the bank. In this capacity, French is aware that Snicker is considering bankruptcy. No one else outside Snicker Foods knows this. French has been a great help to IMS and IMS's owner is counting on French's expertise in loan workouts to advise the company through this difficult process. To help the bank collect on this large loan, French has a strong motivation to alert IMS of Snicker's financial difficulties.

**Issue 4.** Sunnyvale Loan Company is in the consumer loan business. Sunnyvale borrows from banks and loans out the money at higher interest rates. Sunnyvale's bank requires Sunnyvale to submit quarterly financial statements to keep its line of credit. Sunnyvale's main asset is Accounts Receivable. Therefore, Uncollectible-Account Expense and Allowance for Uncollectible Accounts are important accounts for the company.

| | 20X7 | 20X6 | 20X5 |
|---|---|---|---|
| | (In thousands) | | |
| Sales | $1,475 | $1,001 | $902 |
| Cost of goods sold | 876 | 647 | 605 |
| Gross profit | 599 | 354 | 297 |
| Other expenses | 518 | 287 | 253 |
| Net profit or (loss) before taxes | $ 81 | $ 67 | $ 44 |
| Accounts receivable | $ 128 | $ 107 | $ 94 |
| Allowance for doubtful accounts | 13 | 11 | 9 |

Kimberly Burnham, the company's owner, prefers that net income reflect a steady increase in a smooth pattern, rather than increase in some periods and decrease in other periods. To report smoothly increasing net income, Burnham underestimates Uncollectible-Account

Expense in some periods. In other periods, Burnham overestimates the expense. She reasons that the income overstatements roughly offset the income understatements over time.

## Focus on Financials: ■ Vodafone Corporation

This case spans all 12 chapters and is based on the consolidated financial statements of **Vodafone Corporation**. As you work with Vodafone throughout this course, you will develop the confidence and ability to use the financial statements of other companies as well. Refer to Vodafone's financial statements in Appendix A. Alternatively, you may choose to obtain the full annual report from Vodafone's website at www.vodafone.com.

### *Requirements*

1. The bank and cash section of the Balance Sheet shows a balance of £6,252 million as of March 31, 2011, and is made up of many different bank accounts, as well as time deposits, certificates of deposit, and perhaps government securities that are equivalent to cash. Suppose one of Vodafone's year-end bank statements, dated March 31, 2011, has just arrived at company headquarters. Further assume the bank statement shows Vodafone's cash balance at £324 million and that Vodafone's record for this bank account has a balance of £316 million on the books. You must determine the correct balance for cash in this bank account on March 31, 2011. Suppose you uncover the following reconciling items (all amounts are assumed and are stated in millions):
   **a.** Interest earned on bank balance, £1
   **b.** Outstanding checks, £8
   **c.** Bank collections of various items, £2
   **d.** Deposits in transit, £3.
   Prepare a bank reconciliation to show how Vodafone arrived at the correct amount of cash in this bank account at March 31, 2011. Journal entries are not required.
2. Refer to the account in Vodafone's balance sheet entitled "trade and other receivables." This amount is typically shown net of allowances for doubtful accounts. What does "net" mean? How does Vodafone determine its allowance for doubtful accounts? You may refer to Note 17.
3. How much is the allowance for bad and doubtful accounts in 2011 and 2010? How much was utilized in 2011 and 2010? Do the journal entries for the writing off of uncollectible accounts and the allowance for bad debts in 2011.

## Group Project

You are promoting a rock concert in your area. Assume you organize as a corporation, with each member of your group purchasing $10,000 of the corporation's shares. Therefore, each of you is risking some hard-earned money on this venture. Assume it is April 1 and that the concert will be performed on June 30. Your promotional activities begin immediately, and ticket sales start on May 1. You expect to sell all of the firm's assets, pay all the liabilities, and distribute all remaining cash to the group members by July 31.

### *Requirements*

Write an internal control manual that will help to safeguard the assets of the business. The manual should address the following aspects of internal control:

1. Assign responsibilities among the group members.
2. Authorize individuals, including group members and any outsiders that you need to hire to perform specific jobs.
3. Separate duties among the group and any employees.
4. Describe all documents needed to account for and safeguard the business's assets.

## Quick Check Answers

1. *b*
2. *a*
3. *c*
4. *e*
5. *a*
6. *d*
7. *d*
8. *a*
9. *d* (\$2,800 − \$90) − (\$400 − \$90)
10. *c* (\$2,800 × 0.09 × 4/12 × 1/4)
11. *a*
12. *a* (365 × [(\$80,000 + \$74,000)/2] ÷ \$803,000)

# 6 Inventory and Merchandizing Operations


*Source*: www.inditex.com

**SPOTLIGHT: Inditex** **www.inditex.com**

Industria de Diseño Textil, better known as **Inditex**, is the world's largest integrated fashion manufacturer and retailer. Inditex can identify fashion trends, design, produce, and distribute its labels (Zara, Massimo Dutti, Pull and Bear, Bershka, and others) to its over 5,400 outlets in 80 countries within 30 days. Every month, Inditex churns out over 1,000 new styles and stores are stocked with small quantities of the new designs twice a week. According to the *Wall Street Journal*, collections are small and sell out quickly, creating a buzz about the garments and cutting down the need for reductions. Clearly, inventory and merchandising operations are at the heart of Inditex's business.

As a retailer, inventory is an important part of Inditex's operations. Its Balance Sheet showed that, excluding cash, inventories (at €1.2 billion) comprise the second largest current asset. In addition, Inditex's biggest expense item on its Income Statement is the cost of the inventory it sold to customers (€5.1 billion) on net sales of €12.5 billion for financial year ended January 31, 2011. How does Inditex account for its inventory and associated cost of sales?

**Industria de Diseño Textil SA**
**Consolidated Income Statement (Adapted)**
Financial Year Ended January 31, 2011

| | (In millions €, Euros) | 2011 | 2010 |
|---|---|---|---|
| 1 | Net sales | 12,526.6 | 11,083.5 |
| 2 | Cost of merchandise | (5,104.6) | (4,755.5) |
| 3 | Gross margin | 7,422.0 | 6,328.0 |
| 4 | Operating expenses | (4,452.2) | (3,952.7) |
| 5 | Other expenses and income, net | (3.6) | (1.1) |
| 6 | Operating profit | 2,966.2 | 2,374.2 |
| 7 | Amortization and depreciation | (675.7) | (645.8) |
| 8 | Financial results | 31.1 | 3.8 |
| 9 | Income tax | (580.3) | (410.0) |
| 10 | Net profit | 1,741.3 | 1,322.1 |

**Industria de Diseño Textil SA**
**Consolidated Balance Sheet (Adapted)**
As at January 31

| | (In millions €, Euros) | 2011 | 2010 |
|---|---|---|---|
| | **Assets** | | |
| 1 | Inventories | 1,214.6 | 992.6 |
| 2 | All other current assets | 3,987.9 | 2,951.2 |
| 3 | All other non-current assets | 4,623.6 | 4,391.6 |
| 4 | Total assets | 9,826.1 | 8,335.4 |
| | **Liabilities** | | |
| 5 | Total current liabilities | 2,674.9 | 2,305.0 |
| 6 | Total non-current liabilities | 728.0 | 659.9 |
| 7 | Total liabilities | 3,402.9 | 2,964.9 |
| | **Equity** | | |
| 8 | Total equity | 6,423.2 | 5,370.5 |
| 9 | Total liability and equity | 9,826.1 | 8,335.4 |

*Source*: Inditex

You can see that "Cost of Merchandise" is by far Inditex's largest expense item. The title *Cost of Merchandise*, *Cost of Sales* or *Cost of Goods Sold* perfectly describes that expense. In short:

- Inditex buys (or manufactures) inventory, an asset carried on the books at cost.
- The goods that Inditex sold are no longer Inditex's assets. The cost of inventory that's sold gets shifted into the expense account, Cost of Sales or Cost of Goods Sold (usually abbreviated COGS). We will use both terms interchangeably.

Inventory is the heart of a merchandising business, and cost of goods sold is the most important expense item for a retailer. Gross profit (or gross margin, line 3 in Inditex's income statement) is the difference between net sales and cost of goods sold. This chapter covers the accounting for inventory and cost of goods sold. It also shows you how to further analyze financial statements. Here we focus on inventory, cost of goods sold and gross profit.

## LEARNING OBJECTIVES

1 **Understand** the nature of inventory and retailing operations

2 **Recording** inventory-related transactions

3 **Determine** inventory and cost of sales based on various inventory cost flow assumptions

4 **Use** gross profit percentage and inventory turnover to evaluate operations

5 **Show** how inventory errors affect the financial statements

# Inventory and Retailing Operations

We begin by showing how the financial statements of a merchandiser or retailers such as Inditex, or **Muji**, differ from those of service entities such as **Qatar Airways** and accounting firms. The financial statements in Exhibit 6-1 highlight how service entities differ from merchandisers (dollar amounts are assumed).

**OBJECTIVE**

1 **Understand** the nature of inventory and retailing operations

**EXHIBIT 6-1 | Contrasting a Service Company With a Merchandiser**

**Service Company**

| Qatar Airways Income Statement | |
|---|---|
| *Service revenue* | $XXX |
| *Expenses:* | |
| Salary expense | X |
| Depreciation expense | X |
| Income tax expense | X |
| Net income | $ X |

**Merchandising Company**

| Inditex Income Statement | |
|---|---|
| *Sales revenue* | $XXX |
| *Cost of goods sold* | XXX |
| Gross profit | XXX |
| Operating *expenses:* | |
| Salary expense | X |
| Depreciation expense | X |
| Income tax expense | X |
| Net income (net loss) | $ X |

| Qatar Airways Balance Sheet | |
|---|---|
| Assets | |
| Current assets | |
| Cash | $ X |
| Accounts receivable, net | X |
| Prepaid expenses | X |

| Inditex Balance Sheet | |
|---|---|
| Assets | |
| Current assets | |
| Cash | $ X |
| Accounts receivable, net | X |
| *Inventory* | X |
| Prepaid expenses | X |

The basic concept of accounting for merchandise **inventory** can be illustrated with an example. Suppose a retailer has in stock three shirts that cost $30 each. It sells two shirts for $50 each:

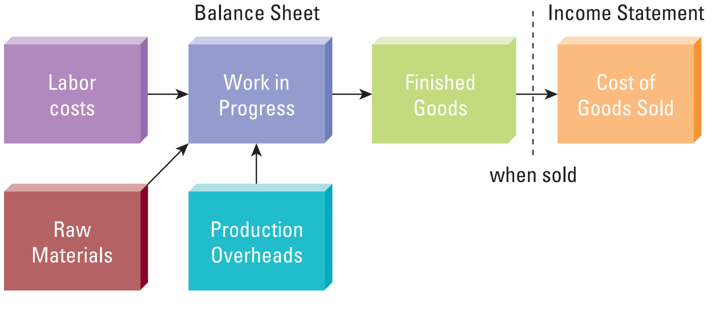
- The balance sheet reports the one shirt that the company still holds in inventory.
- The income statement reports the cost of the two shirts sold, as shown in Exhibit 6-2.

**EXHIBIT 6-2 | Inventory and Cost of Goods Sold when Inventory Cost is Constant**

| Balance Sheet (partial) | | Income Statement (partial) | |
|---|---|---|---|
| Current assets | | Sales revenue | |
| Cash | $XXX | (2 shirts @ sale price of $50 each) | $100 |
| Short-term investments | XXX | Cost of goods sold | |
| Accounts receivable | XXX | (2 shirts @ cost of $30 each) | 60 |
| Inventory (1 shirt @ cost of $30) | 30 | Gross profit | $ 40 |
| Prepaid expenses | XXX | | |

This is the basic concept of how we identify **inventory**, the asset, from **cost of goods sold** (COGS), the expense. The cost of the inventory sold shifts from asset to expense when the seller delivers the goods to the buyer. (We discussed this in Chapter 3, and looked at the revenue recognition criteria stipulated in *IAS 18—Revenue*). For manufacturers, inventory is handled in much the same way as a merchandiser, the difference being that manufacturers buy raw materials (accounted for as "raw materials inventory") that they work on (as "work-in-progress, or WIP inventory") until they are ready for sale ("finished goods inventory"). Whatever costs (and overheads) they incur during the production process is added (or allocated) to the WIP inventory. Finished goods that are sold are shown in the income statement, and those that remain on hand are shown in the balance sheet (Exhibit 6.3).

**EXHIBIT 6-3 | Overview of Inventory for Manufacturers**




A retailer is more likely to have only finished goods in its inventory, whereas a manufacturer may have inventories at various stages of completion (from raw materials to finished goods). We shall limit our discussion in this chapter to finished goods, or goods ready for resale, but the principles of accounting for inventory remain the same for all three categories of inventories. Remember earlier we spoke of management accounting? The topic of product costing and cost allocation methods are major components of a typical management accounting course.

## Sale Price vs. Cost of Inventory

Note the difference between the sale price of inventory and the cost of inventory. In our earlier example:

- Sales revenue is based on the *sale price* of the inventory sold ($50 per shirt).
- Cost of goods sold is based on the *cost* of the inventory sold ($30 per shirt).
- Inventory on the balance sheet is based on the *cost* of the inventory still on hand ($30 per shirt).

**Gross profit**, also called **gross margin**, is the excess of sales revenue over cost of goods sold. It is called *gross* profit because operating expenses have not yet been subtracted. Inditex's gross margin was €7,422.0 million (i.e. net sales of €12,526 million less cost of sales of €5,104.6 million) as shown earlier. On its balance sheet, remaining inventory at the end of the financial year totaled €1,214.6 million.

This ending inventory of €1,214.6 million represents:

| Inventory (balance sheet) | = | Number of units of inventory *on hand* | × | Cost per unit of inventory |
|---|---|---|---|---|

And the cost of goods sold of €5,104.6 million represents:

| Cost of goods sold (income statement) | = | Number of units of inventory *sold* | × | Cost per unit of inventory |
|---|---|---|---|---|

Let's see what "units of inventory" and "cost per unit" mean.

**Number of Units of Inventory.** The number of inventory units on hand is determined from the accounting records, backed up by a physical count of the goods at year-end. Companies do not include any goods in their inventory which they hold on **consignment** because those goods belong to another company. But they do include their own inventory that is out on consignment and held by another company. Companies include inventory in transit from suppliers or in transit to customers that, according to shipping terms, legally belong to them as of the year-end. Shipping terms, otherwise known as *FOB terms*, indicate who owns the goods at a particular time and, therefore, who must pay for the shipping costs. The term **FOB** stands for *free on board* (or *freight on board*). When the vendor invoice specifies *FOB shipping point* (the most common business practice), legal title to the goods passes from the seller to the purchaser when the inventory leaves the seller's place of business. The purchaser therefore owns the goods while they are in transit and must pay the transportation costs. In the case of goods purchased FOB shipping point, the company purchasing the goods must include goods in transit from suppliers as units in inventory as of the year-end. In the case of goods purchased *FOB destination*, title to the goods does not pass from the seller to the purchaser until the goods arrive at the purchaser's receiving dock. Therefore, these goods are not counted in year-end inventory of the purchasing company. Rather, the cost of these goods is included in inventory of the seller until the goods reach their destination.

**Cost per Unit of Inventory.** The cost per unit of inventory poses a challenge because companies purchase goods at different prices throughout the year. Which unit costs go into ending inventory? Which unit costs go to cost of goods sold?

## A CLOSER LOOK

The cost of inventory on the balance sheet represents all the costs that the entity incurred to make its inventory ready for sale. *IAS 2—Inventories* states that the cost of inventories shall comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. The costs of purchase of inventories thus comprise the purchase price, import duties and other taxes, and transport, handling, and other costs directly attributable to the acquisition of finished goods, materials and services. If an entity receives trade discounts, rebates and other similar items, they are deducted when determining the costs of purchase. Once the goods are ready for resale, other costs, such as advertising, and sales commissions, are *not* included as the cost of inventory. Advertising, sales commissions, and delivery costs are selling expenses that go in the income statement, rather than in the balance sheet.

Let's have a look at Inditex's inventory policy. There may be terms that you may not quite understand for now, but as we progress through this chapter, you will hopefully gain a better understanding of the inventory policy.

**EXCERPTS FROM INDITEX'S NOTES TO THE 2011 FINANCIAL STATEMENTS**

**Inventories**

Inventories are measured at the lower of cost and net realizable value. Cost comprises all costs of acquisition, transformation and other costs incurred in bringing the inventories to their present location and condition . . . Cost is calculated on a FIFO basis and includes the cost of materials consumed, labour and manufacturing expenses. The cost of inventories is adjusted when cost exceeds net realizable value.

*Source*: Inditex

The next section shows how different accounting methods determine amounts reported on the balance sheet and the income statement. First, however, you need to understand how inventory accounting systems work.

# Inventory-Related Transactions Under the Perpetual System

## Inventory Systems

OBJECTIVE

2 **Recording** inventory-related transactions

There are two main types of inventory accounting systems: the periodic system and the perpetual system. The **periodic inventory system**, discussed in more detail in Appendix 6A, is typically used for inexpensive goods. A fabric store or a lumber yard won't keep a running record of every bolt of fabric or every piece of wood. Instead, these stores count their inventory periodically to determine the quantities on hand. Other businesses, such as restaurants and florists, may also use the periodic system because it does not make sense to keep track of the exact amount of meat, vegetables, cooking oil, and other ingredients that are used in producing the food items. This is an example of applying the "cost-benefit constraints" of the *Conceptual Framework*. The difference between quantity on hand and accounting records is simply considered used or sold.

A **perpetual inventory system**, on the other hand, tracks all inventory movements and typically uses a computer system to keep a running record of inventory on hand and what has been sold. This system provides better information and control over inventory for companies such as Inditex, **Carrefour**, **Nestlé**, and the majority of retailers. In fact, every time you see a retailer scanning bar codes of the products you are buying, the business is more likely than not using a perpetual inventory system. The bar code on the product label holds lots of information. The optical scanner reads the bar code, and the computer system automatically records the sale and updates the inventory records.

Even with a perpetual system, a business should still count the inventory on hand annually. The physical count establishes the correct amount of ending inventory for the financial statements and also serves as a check on the perpetual records. Any discrepancy may signal the possibility of inventory theft that we should be aware of! Here is a quick summary of the two main inventory accounting systems.

| Perpetual Inventory System | Periodic Inventory System |
|---|---|
| • Used for all types of goods<br>• Keeps a running record of all goods bought, sold, and on hand<br>• Inventory counted at least once a year to determine any discrepancies between accounting records and inventory on hand | • Used for inexpensive goods<br>• Does *not* keep a running record of all goods bought, sold, and on hand<br>• Inventory counted at least once a year to determine ending inventory with any difference assumed to be used or sold |

## Recording Transactions in the Perpetual System

In a perpetual inventory system, all inventory transactions are tracked and accounting records are updated. At any point in time, the inventory account and cost of sales account are always up-to-date. Let's walk through a typical set of transactions related to the purchase and sale of inventory.

Natalie Quah started an online shop called "We Love Baby Stuff" for baby clothing on January 1, 20X1. She sources various manufacturers of baby clothing, orders selected styles in bulk and then sells the clothing to customers via her "blog shop."

**Recording Inventory Purchases.** Natalie selected and ordered a number of clothing items from a manufacturer. She was also able to negotiate a bulk **purchase discount** of 10% and a payment period of 30 days (we will discuss settlement or early payment discount later). When the goods arrived, they were accompanied by an invoice that also showed a total purchase price of $2,000 (after deducting the bulk purchase discount) and a freight-in, delivery, or shipping charge of $50. Freight-in is the transportation cost paid by the buyer to move goods from the seller to the buyer. Freight-in is accounted for as part of the cost of inventory, but some businesses may choose to keep track of it separately before adding it to the cost of inventory at a later point. Doing this will allow a business to track and monitor how much shipping charges it incurs. For example, Natalie could record either of the following journal entries:

Option 1

| | | | |
|---|---|---|---|
| Jan 1 | Inventory | 2,050 | |
| 20X1 | Accounts Payable | | 2,050 |
| | *Purchase of inventory, including $50 freight costs* | | |

Option 2

| | | | |
|---|---|---|---|
| Jan 1 | Inventory | 2,000 | |
| 20X1 | Freight-inwards | 50 | |
| | Accounts Payable | | |
| | *Purchase of inventory, including $50 freight costs* | | 2,050 |

If Natalie uses Option 2, at the end of the accounting period, the freight-inwards should be transferred to the inventory account as part of the closing entry process (as discussed in Chapter 3).

| | | | |
|---|---|---|---|
| Jan 31 | Inventory | 50 | |
| 20X1 | Freight-inwards | | 50 |
| | *Transfer of freight-inwards to inventory cost* | | |

**Recording Purchase Returns.** Sometimes, businesses may receive goods that fail to meet their specifications. For example, Natalie might have ordered 10 units of blue rompers but green ones were delivered instead, or in the wrong sizes, or perhaps the items were defective. Depending on the purchase contract or terms of sales, Natalie may be able to ask for either a refund or a further discount. A **purchase return** is a decrease in the cost of inventory because the buyer returned the goods to the vendor. A **purchase allowance** also decreases the cost of inventory because the buyer got an allowance (a deduction) from the amount owed. To document approval of purchase returns, the vendor issues a **debit memorandum** (or debit memo), meaning that accounts payable are reduced (debited) for the amount of the return. The offsetting credit is to inventory as the goods are shipped back to the seller (vendor). Purchase discounts and allowances are usually documented on a revised invoice from the vendor. Suppose Natalie returned $100 worth of products to her supplier and the vendor agreed to deduct this amount from the amount due. Natalie would record the following entry:

| | | | |
|---|---|---|---|
| Jan XX | Accounts Payable | 100 | |
| 20X1 | Inventory | | 100 |
| | *Returned defective inventory to vendor* | | |

The amount due to the vendor is now reduced by $100 to $1,950, called net purchases after deducting purchase returns and/or allowances. Throughout this book, we often refer to net purchases simply as *Purchases*.

**Recording Inventory Sales.** When Natalie's blog shop makes a sale, two things happen, in accordance with the *Conceptual Framework*.

- First, it now has an increase in assets, either in the form of cash or rights to receive cash (i.e. accounts receivable),which results in an increase in the business's net worth (via revenue).
- Second, it gave up some assets (i.e. the inventory sold), which results in a reduction in the business's net worth (via expense).

For example, if Natalie sold a romper suit that costs $15 for $25 cash, she would record the following journal entry:

| | | | |
|---|---|---|---|
| Jan XX | Cash | 25 | |
| 20X1 | Sales Revenue | | 25 |
| | Cost of Sales | 15 | |
| | Inventory | | 15 |
| | *Sold inventory costing $15 for $25 cash* | | |

If Natalie incurs freight-out, delivery, or shipping costs in transporting her goods to the customers (i.e. under a FOB destination), such an expense is recorded as an operating expense, and not as part of cost of goods sold.

**Recording Settlement Discount.** We mentioned earlier that Natalie purchased her inventory from suppliers on credit. Usually, you may see the term "net 30," which tells the buyer to pay the full amount within 30 days. Occasionally, you may see payment terms such as "2/10, n/30." This means the buyer can take a 2% discount for early payments made within 10 days, otherwise the invoiced amount is due within 30 days. The discount is applied to the amount owing from goods purchased and excludes other charges such shipping and handling costs.

Suppose Natalie ordered another line of baby clothing from a different vendor, totaling $1,000. This particular vendor offers a "2/10, n/30" with free shipping and handling. Upon receipt of the inventory from the supplier, Natalie recorded the following.

| | | | |
|---|---|---|---|
| Jan XX | Inventory | 1,000 | |
| 20X1 | Accounts Payable | | 1,000 |
| | *Purchased of inventory on 2/10, n/30 terms* | | |

If Natalie decides to take advantage of the early settlement discount, she would pay $980 to settle the $1,000 obligation with the following journal entry.

| | | | |
|---|---|---|---|
| Jan XX | Accounts Payable | 1,000 | |
| 20X1 | Cash | | 980 |
| | Discounts Received (or Inventory) | | 20 |
| | *Payment for inventory with 2/10 settlement discount* | | |

Discount received is a reduction in cost of inventory purchased. Similar to our earlier discussion on freight-inwards, if Natalie wants to keep track of the various settlement discounts she has received, she can use a specific account to keep track of it. At the end of the accounting period, discount received is closed to the Inventory account. Alternatively, she can reduce the cost of inventory directly.

## STOP & THINK . . .

During the month of June 20X4, Ten East, a shoe retailer, bought purchases totaling $600,000. Whilst most suppliers provide free shipping and handling, Ten East paid $4,000 in delivery charges to get some shoes delivered to its store. Unfortunately, due to unsuitable goods or incorrect specifications, the company made purchase returns amounting to $25,000. In addition, one of its suppliers also extended a purchase allowance of $5,000. Ten East took advantage of early settlement discount schemes offered by its suppliers, and enjoyed a total of $14,000 discounts. What is Ten East's net cost of inventory purchases?

| | | |
|---|---|---|
| | Purchase price of the inventory | $600,000 |
| + | **Freight-in** (the cost to transport the goods from the seller to the buyer) | 4,000 |
| − | **Purchase returns** for unsuitable goods returned to the seller | (25,000) |
| − | **Purchase allowances** granted by the seller | (5,000) |
| − | **Purchase discounts** for early payment by the buyer | (14,000) |
| = | Net purchases of inventory (Cost to the buyer) | $560,000 |

## Inventory Costing Methods

**OBJECTIVE**

**3** **Determine** inventory and cost of sales based on various inventory cost flow assumptions

Inventory is an example of an asset for which a manager can decide which accounting method to use. You may recall that Inditex uses a "FIFO" inventory method. The accounting method selected affects the profits to be reported, the amount of income tax to be paid, and the values of the financial ratios derived from the financial statements.

Determining the cost of inventory is easy when the unit cost remains constant, as in Exhibit 6-2. But the unit cost usually changes. For example, prices often rise. The trousers that cost Zara $10 in January may cost $14 in June and $18 in October. Suppose Zara sells 1,000 pairs of trousers in November. How many of those cost $10, how many cost $14, and how many cost $18?

To compute cost of goods sold and the cost of ending inventory still on hand, we must assign unit cost to the items. *IAS 2—Inventories* prescribes that cost of inventory items that are not ordinarily interchangeable (and goods or services produced and segregated for specific projects) shall be assigned by using **specific identification** of their individual costs. Cost of other inventories that are ordinarily interchangeable shall be determined using **cost formulas**. The common cost formulas (also known as **inventory costing methods**) include: **first-in**, **first-out (FIFO)**, **last-in first-out (LIFO)**, and **weighted average cost method**.

## A CLOSER LOOK

*IAS 2—Inventories* prohibits the use of the last-in, last-out (LIFO) cost formula. This is one of the major differences between US and International GAAP. For the purpose of this chapter, we will continue to elaborate on LIFO because it provides a good contrast to FIFO, one of the cost formulas allowed under IFRS.

*IAS 2—Inventories* also allows the *retail inventory method* to be used, as long as it approximates the cost. This method is used by certain retailers for measuring inventories of large numbers of rapidly changing items with similar margins. The cost of the inventory is determined by reducing the sales value of the inventory by the appropriate percentage gross margin. The percentage used takes into consideration inventory that has been marked down to below its original selling price. As this is an industry-specific cost formula, we will not be discussing this method in detail.

The inventory costing methods can have very different effects on reported profits in the income statement and inventory on the balance sheet. Therefore, companies select their inventory method with great care. *IAS 2* requires an entity to use the same cost formula for all inventories having a similar nature and use to the entity. It is possible to use different cost formulas for inventories with a different nature or use. For example, **Chow Tai Fook**, a leading jeweler in Asia, uses different inventory methods for different inventory items.

**EXCERPTS (ADAPTED) FROM CHOW TAI FOOK'S 2011 INITIAL PUBLIC OFFERING (IPO) DOCUMENT**

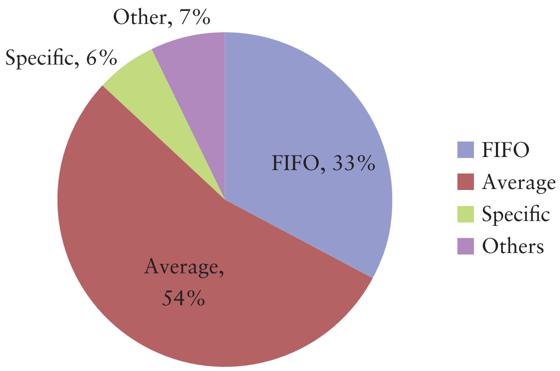
**Inventories**

Inventory cost is calculated using specific identification basis for gem-set jewellery and watches, and weighted average for other inventories.



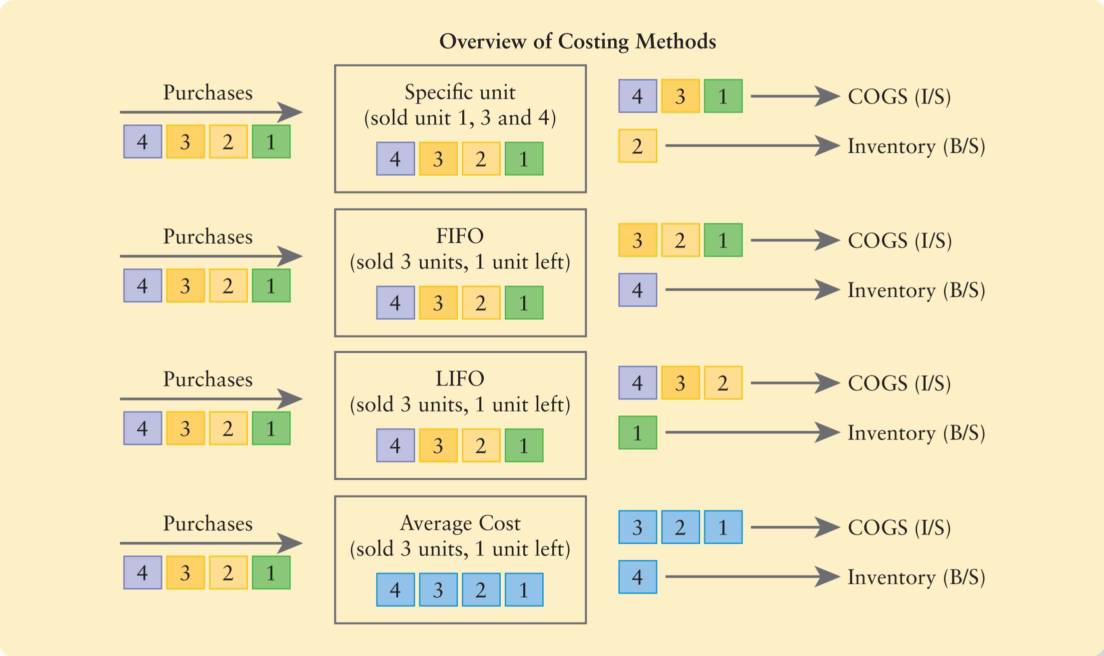
Exhibit 6-4, based on a survey of 170 IFRS companies in 2010, indicates that weighted average is the most popular inventory costing method. The same survey also shows that 30 out of the 70 companies employ more than one inventory costing method, like Chow Tai Fook.

**EXHIBIT 6-4 | Use of the Various Inventory Methods**




*Source*: Exhibit created from source data found in IFRS Financial Statements – Best Practices in Presentation and Disclosure 2012/13, AICPA

Let's start with a diagrammatic overview of how specific identification and the other cost formulas work. For now, just look at how the different inventory costing methods will result in different costs being reported on the balance sheet as ending inventory and on the income statement as cost of goods sold.




**Specific Identification.** Some businesses deal in unique inventory items, such as automobiles, antique furniture, jewelry, and real estate. These businesses cost their inventories at the specific cost of the particular unit. For instance, a **Toyota** dealer may have four vehicles in the showroom—(1) a Camry, (2) a Corolla, (3) a Prius, and (4) a Lexus. If the dealer sells the Camry, Prius, and Lexus, the cost of goods sold is the costs of the three vehicles (1, 3 and 4) sold. The only item remaining on its balance sheet will be the (2) Corolla.

The specific identification method is also called the specific-unit-cost method. For most businesses, this method is too expensive to use for inventory items that have common characteristics, such as bushels of wheat, gallons of paint, or the casual apparel that Zara sells.

The other inventory costing methods, or cost formulas (FIFO, LIFO, and weighted average) are fundamentally different. These other methods do not use the specific cost of a particular unit. Instead, they assume different flows of inventory costs. Remember that the goods are interchangeable, and cost formulas are not the same as the physical units. Businesses will always try to sell older units first (to prevent spoilage, obsolescence, etc.) before selling newer units. This is independent of the cost formulas used.

To illustrate FIFO, LIFO and average inventory costing methods, we use a common set of data, given in Exhibit 6-5.

**EXHIBIT 6-5 | Inventory Data Used to Illustrate the Various Inventory Costing Methods**

Inventory

| | | | | |
|---|---|---|---|---|
| Beg bal | (10 units @ $10) | 100 | | |
| Purchases: | | | Cost of goods sold | |
| No. 1 | (25 units @ $14) | 350 | (40 units @ ?) | ? |
| No. 2 | (25 units @ $18) | 450 | | |
| End bal | (20 units @ ?) | ? | | |

In Exhibit 6-5, let's assume Zara began the period with 10 khakis that cost $10 each; hence the beginning inventory was therefore $100. During the period, Zara bought 50 more khakis (at different prices), sold 40 khakis, and ended the period with 20 khakis, summarized as follows:

| Goods Available | | Number of Units | Total Cost |
|---|---|---|---|
| Goods available | = | 10 + 25 + 25 = 60 units | $100 + $350 + $450 = $900 |
| Cost of goods sold | = | 40 units | ? |
| Ending inventory | = | 20 units | ? |

The big accounting questions are:

1. What is the cost of goods sold for the income statement?
2. What is the cost of the ending inventory for the balance sheet?

It all depends on which inventory method Zara uses. Zara actually uses the first-in, first-out method, so let's look at FIFO costing first.

**FIFO Cost.** Under the FIFO method, the first costs into inventory are the first costs assigned to cost of goods sold—hence, the name *first-in, first-out*. The following T-account shows how to compute FIFO cost of goods sold and ending inventory for the Zara khakis (data from Exhibit 6-5):

**Inventory (at FIFO cost)**

| | | | | | |
|---|---|---|---|---|---|
| Beg bal | (10 units @ $10) | 100 | | | |
| Purchases: | | | Cost of goods sold (40 units): | | |
| No. 1 | (25 units @ $14) | 350 | (10 units @ $10) | 100 | |
| No. 2 | (25 units @ $18) | 450 | (25 units @ $14) | 350 | 540 |
| | | | (5 units @ $18) | 90 | |
| End bal | (20 units @ $18) | 360 | | | |

Under FIFO, the cost of ending inventory is always based on the latest costs incurred—in this case $18 per unit.

**LIFO Cost.** LIFO costing is the opposite of FIFO. Under LIFO *(last-in-first-out)*, the last costs into inventory go immediately to cost of goods sold. The following T-account shows how to compute the LIFO inventory amounts for the Zara khakis (data from Exhibit 6-5):

**Inventory (at LIFO cost)**

| | | | | | |
|---|---|---|---|---|---|
| Beg bal | (10 units @ $10) | 100 | | | |
| Purchases: | | | Cost of goods sold (40 units): | | |
| No. 1 | (25 units @ $14) | 350 | (25 units @ $18) | 450 | 660 |
| No. 2 | (25 units @ $18) | 450 | (15 units @ $14) | 210 | |
| End bal | (10 units @ $10) | 240 | | | |
| | (10 units @ $14) | | | | |

Under LIFO, the cost of ending inventory is always based on the oldest costs—from beginning inventory plus the early purchases of the period—$10 and $14 per unit.

**Average Cost.** The *average-cost method*, sometimes called the **weighted-average method**, is based on the average cost of inventory during the period. Unlike LIFO and FIFO, the individual inventory costs are no longer relevant when the inventory is sold. Average cost per unit is determined as follows (data from Exhibit 6-5):

$$\text{Average cost per unit} = \frac{\text{Cost of goods available*}}{\text{Number of units available*}} = \frac{\$900}{60} = \$15$$

*Goods available = Beginning inventory + Purchases

| | | | | |
|---|---|---|---|---|
| Cost of goods sold = | Number of units sold | × Average cost per unit | | |
| = | 40 units | × | $15 | = $600 |

| | | | | |
|---|---|---|---|---|
| Ending inventory = | Number of units on hand | × Average cost per unit | | |
| = | 20 units | × | $15 | = $300 |

The following T-account shows the effects of average costing:

**Inventory (at Average Cost)**

| | | | | |
|---|---|---|---|---|
| Beg bal | (10 units @ $10) | 100 | | |
| Purchases: | | | | |
| No. 1 | (25 units @ $14) | 350 | | |
| No. 2 | (25 units @ $18) | 450 | Cost of goods sold (40 units @ average cost of $15 per unit) | 600 |
| End bal | (20 units @ average cost of $15 per unit) | 300 | | |

## Effects of FIFO, LIFO and Average Cost on Cost of Goods Sold, Gross Profit, and Ending Inventory

In our Zara trousers example, the cost of inventory rose from $10 to $14 to $18. When inventory unit costs change this way, the various inventory methods produce different cost-of-goods sold figures. Exhibit 6-6 summarizes the income effects (sales – cost of goods sold = gross profit) of the three inventory methods (remember that prices are rising). Study Exhibit 6-6 carefully, focusing on cost of goods sold and gross profit.

**EXHIBIT 6-6 | Financial Statements Effects of the FIFO, LIFO and Average Cost Inventory Methods**

| | FIFO | LIFO | Average |
|---|---|---|---|
| Sales revenue (assumed) | $1,000 | $1,000 | $1,000 |
| Cost of goods sold | 540 (lowest) | 660 (highest) | 660 |
| Gross profit | $ 460 (highest) | $ 340 (lowest) | $ 400 |
| Inventory (on balance sheet) | $ 360 (highest) | $ 240 (lowest) | $ 300 |

Exhibit 6-7 shows the impact of both FIFO and LIFO costing methods on cost of goods sold and inventories during both increasing costs (Panel A) and decreasing costs (Panel B). Study this exhibit carefully; it will help you *really* understand FIFO and LIFO.

**EXHIBIT 6-7 | Cost of Goods Sold and Ending Inventory: FIFO and LIFO; Increasing and Decreasing Costs**

**Panel A—When Inventory Costs are Increasing**

| | Cost of Goods Sold (COGS) | Ending Inventory |
|---|---|---|
| FIFO | FIFO COGS is lowest because it's based on the oldest costs, which are low. Gross profit is therefore the highest. | FIFO ending inventory is highest because it's based on the most recent costs, which are high. |
| LIFO | LIFO COGS is highest because it's based on the most recent costs, which are high. Gross profit is therefore the lowest. | LIFO ending inventory is lowest because it's based on the oldest costs, which are low. |

**Panel B—When Inventory Costs are Decreasing**

| | Cost of Goods Sold (COGS) | Ending Inventory |
|---|---|---|
| FIFO | FIFO COGS is highest because it's based on the oldest costs, which are high. Gross profit is therefore, the lowest. | FIFO ending inventory is lowest because it's based on the most recent costs, which are low. |
| LIFO | LIFO COGS is lowest because it's based on the most recent costs which are low. Gross profit is therefore, the highest. | LIFO ending inventory is highest because it's based on the oldest costs, which are high. |

## Comparison of the Inventory Methods

Let's compare the average, FIFO, and LIFO inventory methods.

1. Measuring Cost of Goods Sold. How well does each method match inventory expense—cost of goods sold—against revenue? LIFO results in the most realistic net income figure because LIFO assigns the most recent inventory costs to expense. In contrast, FIFO matches older inventory costs against revenue—a poor measure of expense. FIFO income is therefore less realistic than LIFO income.
2. Measuring Ending Inventory. Which method reports the most up-to-date inventory cost on the balance sheet? FIFO. LIFO can value inventory at very old costs because LIFO leaves the oldest prices in ending inventory.

## A CLOSER LOOK

How would the method of recording inventory transactions and cost flow assumptions interact with each other? The frequency of recording inventory transactions (perpetual versus periodic) affect how we calculate weighted average and LIFO. For example, let's consider a simple illustration below.

Suppose Natalie and her "We Love Baby Stuff" has an inventory opening balance of $1,000 (100 units) on July 1, 20X2. Natalie sold 30 units of inventory for $400 on July 10 and bought an additional 50 units of inventory totaling $575 on July 20. Under the "periodic average," the average inventory cost is $10.50 ($1,000 + $575 for 150 units), resulting in ending inventory of $1,260 (120 units × $10.50) and cost of sales of $315 (30 units × $10.50).

However, if a "perpetual average" is used, we will calculate a new weighted average cost every time we make a purchase. In this example, at the time of the sale on July 10, the average cost per inventory item was still $10 (based on 100 units of opening inventory for $1,000), so the cost of sales is $300 (30 units × $10 per unit). After the additional inventory purchase on July 20, the "new" average cost per unit is now $10.625 ($700 + $575 for 120 units). Any sales Natalie makes after July 20 will use this $10.625 as the average cost (until new purchases that will produce a newer average cost). A similar concept applies to "periodic LIFO" verus "perpetual LIFO."

As perpetual inventory systems use computerized accounting systems, these calculations are usually automated. Unless you are given specific dates and quantities of inventory purchases and sales, you will not be able to work out the perpetual variations of LIFO or weighted average. In such cases, for simplicity, you can assume that the cost of sales and ending inventory are calculated at the end of the period.

# MID-CHAPTER SUMMARY PROBLEM

Suppose a division of **Infineon** that sells computer microchips has these inventory records for January 20X7:

| Date | Item | Quantity | Unit Cost | Total cost |
|---|---|---|---|---|
| Jan 1 | Beginning inventory | 100 units | $ 8 | $ 800 |
| 6 | Purchase | 60 units | 9 | 540 |
| 21 | Purchase | 150 units | 9 | 1,350 |
| 27 | Purchase | 90 units | 10 | 900 |

Company accounting records show sales of 310 units for revenue of $6,770. Operating expense for January was $1,900.

### *Requirements*

1. Prepare the January income statement, showing amounts for LIFO, average, and FIFO cost. Label the bottom line "Operating income." Round average cost per unit to three decimal places and all other figures to whole-dollar amounts. Show your computations.

2. Suppose you are the financial vice president of Infineon. Which inventory method will you use if your motive is to
   a. minimize income taxes?
   b. report the highest operating income?
   c. report operating income between the extremes of FIFO and LIFO?
   d. report inventory on the balance sheet at the most current cost?
   e. attain the best measure of net income for the income statement?
   State the reason for each of your answers.

## Answers

### *Requirement 1*

**Infineon Limited**
**Income Statement for Microchip**
Month Ended January 31, 20X7

| | LIFO | Average | FIFO |
|---|---|---|---|
| Sales revenue | $6,770 | $6,770 | $6,770 |
| Cost of goods sold | 2,870 | 2,782 | 2,690 |
| Gross profit | 3,900 | 3,988 | 4,080 |
| Operating expenses | 1,900 | 1,900 | 1,900 |
| Operating income | $2,000 | $2,088 | $2,180 |

Cost of goods sold computations:
LIFO: (90 @ $10) + (150 @ $9) + (60 @ $9) + (10 @ $8) = $2,870
Average: 310 × $8.975* = $2,782
FIFO: (100 @ $8) + (60 @ $9) + (150 @ $9) = $2,690

$$^{*}\frac{(\$800 + \$540 + \$1{,}350 + \$900)}{(100 + 60 + 150 + 90)} = \$8.975$$

### *Requirement 2*

a. Use LIFO to minimize income taxes. Operating income under LIFO is lowest when inventory unit costs are increasing, as they are in this case (from $8 to $10). (If inventory costs were decreasing, income under FIFO would be lowest.)
b. Use FIFO to report the highest operating income. Income under FIFO is highest when inventory unit costs are increasing, as in this situation.
c. Use the **average-cost method** to report an operating income amount between the FIFO and LIFO extremes. This is true in this situation and in others when inventory unit costs are increasing or decreasing.
d. Use FIFO to report inventory on the balance sheet at the most current cost. The oldest inventory costs are expensed as cost of goods sold, leaving in ending inventory the most recent (most current) costs of the period.
e. Use LIFO to attain the best measure of net income. LIFO produces the best matching of current expense with current revenue. The most recent (most current) inventory costs are expensed as cost of goods sold.

# Other Inventory Issues

## Comparability as an Enhancing Qualitative Characteristic

The **comparability** qualitative characteristic states that businesses should use the same accounting methods and procedures from period to period. Consistency enables investors to compare a company's financial statements from one period to the next.

Suppose you are analyzing a company's net income pattern which showed an increase over a two-year period. However, you also noted that the company switched from LIFO to FIFO during that time. Its net income increased dramatically but only because of the change in inventory method. If you did not know of the accounting change, you might believe that the company's income increased due to improved operations, but that's not the case!

The comparability qualitative characteristic does not mean that a company is not permitted to change its accounting methods. As long as the change reflects a more relevant and faithful representation of an underlying economic phenomenon, the lack of (short-term) comparability should not prevent the accounting method change. Typically, a reporting entity that makes an accounting change must disclose the effect of the change on net income or restate the previous year's figures for comparative purposes.

For example, **HollyFrontier Corporation** changed its inventory cost method from FIFO to LIFO in 2009. In its press release on the accounting policy change, HollyFrontier stated that its pre-tax income will decrease by US$ 180 million.

On the other hand, **Pactiv Corporation** changed its inventory cost method from a combination of LIFO and FIFO to exclusively FIFO. It claimed that this change would better reflect the current value of inventories, provide better matching of sales and expenses, provide uniformity across all operations with respect to the method of inventory accounting and enhance comparability with peers. Another reason cited for the switch was that the convergence of US and International GAAP would likely eliminate LIFO because IFRS does not allow the use of LIFO.

Clearly, the choice of inventory method is an important one for all companies that deal with inventory!

## Why is LIFO not allowed under IFRS?

In the introduction section of *IAS 2—Inventories*, IASB simply states: "The Standard does not permit the use of the last-in, first-out (LIFO) formula to measure the cost of inventories." So why does IASB prohibit the use of LIFO?

We said earlier that using the latest costs is a better of measure of income and, on the other hand, using older costs results in more appropriate inventory values on the balance sheet. The *Conceptual Framework* favors a balance sheet primacy. Changes in assets and liabilities determine income and net worth of a business. LIFO prioritizes income measurements over that of assets and liabilities and results in inventories being recognized on the balance sheet at amounts that bear little relationship to cost level of inventories. In its basis for conclusions for *IAS* 2, the IASB stated: "it is not appropriate to allow an approach that results in a measurement of profit or loss for the period that is inconsistent with the measurement of inventories for balance sheet purposes."

In fact, LIFO can also distort income when inventory is depleted to very low level, as much older costs (that could have been in the inventory for years) are used, creating unrealistic profits.

Furthermore, IASB explained that the concept of selling newer items first before older ones in "generally not a reliable representation of actual inventory flows," and that LIFO lacks "representation faithfulness of inventory flows."

What you should find interesting is how the accounting standard is determined at the highest level. The IASB uses the *Conceptual Framework* to determine what should be the most appropriate accounting treatment for items on the financial statements.

## Net Realizable Value

All our previous discussions have focused on the cost aspect of inventory. Regardless of which cost method you are using, there is one additional aspect that is equally important. *IAS* 2 requires inventories to be measured at the lower of cost and net realizable value (NRV). You may recall reading this statement in Inditex's inventory policy. In other words, once you have determined cost (using specific identification, FIFO, or average cost method), you will need to compare the inventory to its NRV. The lower of the two shall be what is reported on the balance sheet. **Net realizable value** is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

This evaluation of cost versus NRV is necessary because an entity may not be able to recover the cost of inventory if the goods are damaged or obsolete, or if their selling price has declined below costs. If an inventory is written down to an NRV below cost, the write-down is recognized as an expense in the period of the write-down. Any subsequent reversal is recognized as a reduction in COGS in the period in which the reversal occurs. The exact determination of NRV is not within the scope of this textbook, but the example below demonstrates the concept of lower of cost and NRV.

Suppose Zara paid \$3,000 for inventory on September 26. By January 31, its financial year-end, \$2,000 of the inventory has been sold, and the cost of the remaining inventory is \$1,000. Let's further assume that some of these inventories are damaged and no longer suitable for normal sale. Zara estimates the net realizable value of these goods to be \$400. Inditex's year-end balance sheet must report this inventory at NRV of \$400. Exhibit 6-8 presents the effects of NRV on the balance sheet and the income statement. Before any NRV effect, cost of goods sold is \$2,000. An NRV write-down decreases Inventory and increases Cost of Goods Sold, as follows:

| | | | |
|---|---|---|---|
| | Cost of Goods Sold | 600 | |
| | Inventory | | 600 |
| | *Wrote inventory down to realizable value.* | | |

If the NRV of Inditex's inventory had been above cost, it would have made no adjustment for NRV. In that case, simply report the inventory at cost, which is the lower of cost and NRV.

**EXHIBIT 6-8 | Net Realizable Value (NRV) Effects on Inventory and Cost of Goods Sold**

| **Balance Sheet** | |
|---|---|
| Current assets: | |
| Cash | $ XXX |
| Short-term investments | XXX |
| Accounts receivable | XXX |
| Inventories, net realizable value (which is lower than $1,000 cost) | 400 |
| Prepaid expenses | XXX |
| Total current assets | $X,XXX |

| **Income Statement** | |
|---|---|
| Sales revenue | $ XXX |
| Cost of goods sold ($2,000 + $600) | 2,600 |
| Gross profit | $X,XXX |

Let's have a look at how **Bossini**, another clothing retailer, provides disclosure on its determination of NRV (adapted).

**EXCERPTS (ADAPTED) FROM BOSSINI'S NOTES TO THE 2011 FINANCIAL STATEMENTS**

**Inventory Obsolescence**

The management reviews the aging analysis of inventories of the Group at each balance sheet date, and makes allowance for obsolete and slow-moving inventory items identified that are no longer suitable for sale. The assessment of allowance amount required involves management judgements and estimates. . . . In addition, physical count on all inventories is carried out on a periodical basis in order to determine whether allowance needs to be made in respect of any obsolete inventories identified. The Group carries out an inventory review at the end of each reporting period and makes allowance against obsolete and slow-moving items.

| **Cost of Sales (in HK$ thousands):** | **2011** | **2010** |
|---|---|---|
| Cost of inventories sold | 1,276,644 | 1,108,979 |
| Inventory obsolescence | 11,096 | 7,136 |
| Cost of Sales on income statement | 1,287,740 | 1,116,115 |



In Bossini's case, the company wrote off inventory down to net realizable value. You may see other companies setting up an allowance account for inventory obsolescence. The concept is similar to the allowance for uncollectible debt you saw earlier (in Chapter 5). **Adidas** group, for example, uses specific allowance accounts for potential reduction in value in its various inventories. The net value of €2,119 million will be shown on its balance sheet.

**EXCERPTS (ADAPTED) FROM ADIDAS' NOTES TO THE 2011 FINANCIAL STATEMENTS**

**Inventory**

| *(as at 31 December 2011, in € millions)* | Gross value | Allowance for Obsolescence | Net value |
|---|---|---|---|
| Finished goods and merchandise on hand | 1,782 | 80 | 1,702 |
| Goods in transit | 746 | – | 746 |
| Raw materials | 28 | 1 | 27 |
| Work in progress | 7 | – | 7 |
| Inventories | 2,563 | 81 | 2,482 |

Merchandise and finished goods are valued at the lower of cost or net realizable value, which is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale. Costs are determined using a standard valuation method: the "average cost method." . . . The net realizable value allowances are computed consistently throughout the Group based on the age and expected future sales of the items on hand.



## Analyzing Financial Statements

Owners, managers, and investors use ratios to evaluate a business. Two ratios relate directly to inventory: gross profit percentage and the rate of inventory turnover.

**OBJECTIVE**

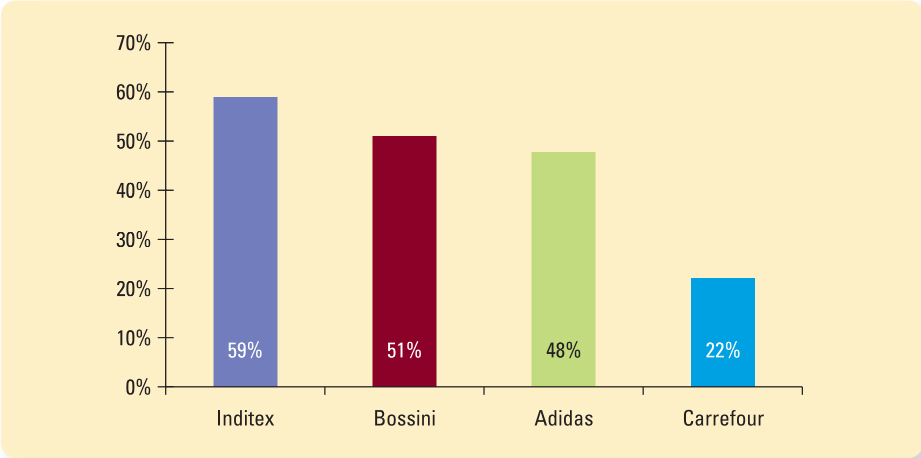
**4 Use** gross profit percentage and inventory turnover to evaluate operations

**Gross Profit Percentage.** Gross profit—sales minus cost of goods sold—is a key indicator of a company's ability to sell inventory at a profit. Merchandisers strive to increase **gross profit percentage**, also called the **gross margin percentage**. Gross profit percentage is mark-up stated as a percentage of sales. Gross profit percentage is computed as follows for Inditex. Data (in millions of Euro) for 2011 was taken from Inditex's financial statements at the start of this chapter.

| Gross profit margin | Inditex 2011 | Inditex 2010 |
|---|---|---|
| $\frac{\text{Gross profit}}{\text{Sales}}$ | $\frac{7{,}422.0}{12{,}526.6} = 59\%$ | $\frac{6{,}328.0}{11{,}083.5} = 57\%$ |

The gross profit percentage is watched carefully by managers and investors. A 59% gross margin means that each dollar of sales generates almost 60 cents of gross profit. In other words, cost of goods sold consumes 40 cents of each sales dollar for Inditex. Inditex has actually increased its gross profit margin from 57% in 2010 to 59% in 2011, despite the economic slowdown. Many firms do not enjoy such a high gross profit margin as Inditex. Bossini and Adidas, for example, have gross profit margins of about 51% and 48%, respectively. You may also find that fashion retailers generally have higher gross profit margins than, say, supermarkets and department stores. Carrefour, for example, usually has gross profit margins of around 22%. For most merchandising firms, the gross profit percentage changes little from year to year, but a small change may have a big impact on the bottom line. Exhibit 6-9 graphs the gross profit percentages for these companies. We will further discuss how to evaluate a company's performance in comparison with its peers later (in Chapter 12).

**EXHIBIT 6-9 | Gross Profit Percentages of Selected Retailers**




**Inventory Turnover and Resident Period.** Inditex strives to sell its inventory as quickly as possible because the goods generate no profit until they're sold. The faster the sales, the higher the income, and on the other hand, slow-moving goods generate fewer sales and lower income. Ideally, a business should operate with as little inventory as possible, but most businesses, especially retailers, must keep some goods on hand. **Inventory turnover**, the ratio of cost of goods sold to average inventory, indicates how rapidly inventory is sold. The 2011 computation for Inditex follows (data in millions of Euro) from Inditex's financial statements at the start of this chapter:

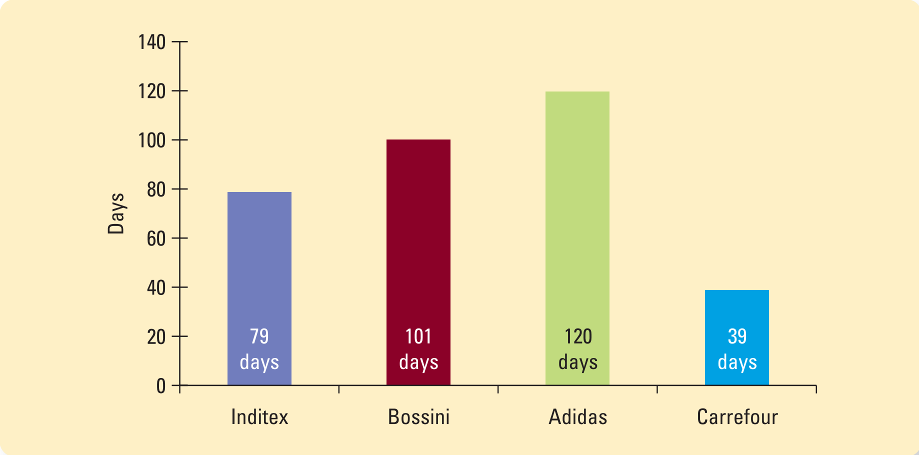
| Inventory turnover and resident period | Inditex 2011 | Inditex 2010 |
|---|---|---|
| $\dfrac{\text{Cost of goods sold}}{\text{Average inventory*}}$ | $\dfrac{5{,}104.6}{1{,}103.6} = 4.63$ times | $\dfrac{4{,}755.5}{1{,}023.7} = 4.65$ times |
| 365 / Inventory turnover | 365 / 4.63 = 79 days | 365 / 4.65 = 78 days |

**Average = (beginning + ending balance)/2, which is (1,214.6 + 992.6)/2 for 2011*

The inventory turnover ratio shows how many times the company sold (or turned over) its average level of inventory during the year. The turnover can also be expressed in days, called **inventory resident period** or days inventory on hand, by dividing 365 by the turnover (365/4.63 = 79 days). Inventory turnover varies from industry to industry.

Exhibit 6-10 graphs the rates of inventory turnover for the companies we saw in this chapter. Let's compare Inditex's turnover with that of Bossini (3.61 times per year, or 101 days), Adidas (3.04 times per year, or 120 days) and Carrefour (9.38 times per year, or 39 days). As a supermarket, you would expect Carrefour to turn over its inventory much faster than fashion retailers. You can see that amongst the fashion retailers, Inditex's inventory turnover is significantly higher (i.e. faster) than the other two fashion retailers. Inditex has stated that managing inventory is one of its key competitive advantages, and its financial statements clearly demonstrate its leading position.

**EXHIBIT 6-10 | Inventory Resident Period of Selected Retailers**




## Using the Cost-of-Goods-Sold Model

Exhibit 6-11 presents the **cost-of-goods-sold model**. Some may view this model as related to the **periodic inventory system** (see Appendix 6A). But the cost-of-goods-sold model is used by all companies, regardless of their accounting system. The model is extremely powerful because it captures all the inventory information for an entire accounting period. Study this model carefully (note that all amounts are assumed).

**EXHIBIT 6-11 | The Cost-Of-Goods-Sold Model**

| Cost of goods sold: | |
|---|---|
| Beginning inventory .............. | $1,200 |
| + Purchases .............................. | 6,300 |
| = Goods available...................... | 7,500 |
| − Ending inventory.................... | (1,500) |
| = Cost of goods sold................. | $6,000 |

Whilst the model above show cost of goods sold as the last line, you can rework it to figure out any missing figure from the model. For example, if we know that we have $1,500 ending inventory, purchases of $6,300 and cost of sales of $6,000, we should be able to work out what our original beginning inventory was using this model.

Inditex uses a perpetual inventory accounting system. Let's see how they can use the cost-of-goods-sold model to manage the business effectively.

1. What's the single most important question for Inditex to address?
   - What merchandise should it offer to its customers? This is a *marketing* question that requires market research. If Inditex continually produces or stocks up on the wrong merchandise, sales will suffer and profits will drop.

**2.** What's the second most important question for Inditex?

- How much inventory should it buy or produce? This is an *accounting* question faced by all merchandisers. If Inditex buys or produces too much merchandise, it will have to lower prices, the gross profit percentage will suffer, and the company may lose money. Buying or making the right quantity of inventory is critical for success. This question can be answered with the cost-of-goods-sold model. Let's see how it works.

We must rearrange the cost-of-goods-sold formula. Then we can help a Zara store manager know how much inventory to buy or order, as follows (using amounts from Exhibit 6-11):

| | | | |
|---|---|---|---|
| 1 | | Cost of goods sold (based on the plan for the next period) | $6,000 |
| 2 | + | Ending inventory (based on the plan for the next period) | 1,500 |
| 3 | = | Goods available as planned | 7,500 |
| 4 | − | Beginning inventory (actual amount left over from the prior period) | (1,200) |
| 5 | = | Purchases (how much inventory the manager needs to buy) | $6,300 |

In this case, the manager should buy or order $6,300 of merchandise in order to plan for the upcoming period.

## Estimating Inventory by the Gross Profit Method

Often a business must *estimate* the value of its goods. A fire may destroy inventory, and the insurance company requires an estimate of the loss. In this case, the business must estimate the cost of ending inventory because it was destroyed.

The **gross profit method**, also known as the **gross margin method**, is widely used to estimate ending inventory. This method uses the cost-of-goods-sold model (amounts are assumed):

| | | |
|---|---|---|
| | Beginning inventory | $ 4,000 |
| + | Purchases | 16,000 |
| = | Goods available | 20,000 |
| − | Ending inventory | (5,000) |
| = | Cost of goods sold | $15,000 |

For the gross-profit method, we rearrange *ending inventory* and *cost of goods sold* as follows:

| | | |
|---|---|---|
| | Beginning inventory | $ 4,000 |
| + | Purchases | 16,000 |
| = | Goods available | 20,000 |
| − | Cost of goods sold | (15,000) |
| = | Ending inventory | $ 5,000 |

Suppose a fire destroys some of Inditex's inventory. To collect insurance, the company must estimate the cost of the ending inventory lost. Using its *actual gross profit rate* of 60%, you can estimate the cost of goods sold. Then subtract cost of goods sold from goods available to estimate the amount of ending inventory. Exhibit 6-12 shows the calculations for the gross profit method, with new amounts assumed for the illustration.

**EXHIBIT 6-12 | Gross Profit Method of Estimating Inventory**

| | | |
|---|---|---|
| Beginning inventory | | $ 38,000 |
| Purchases | | 72,000 |
| Goods available | | 110,000 |
| Estimated cost of goods sold: | | |
| Net sales revenue | $100,000 | |
| Less estimated gross profit of 60% | (60,000) | |
| Estimated cost of goods sold | | 40,000 |
| Estimated cost of *ending inventory* lost | | $70,000 |

You can also use the gross profit method to test the overall reasonableness of an ending inventory amount. This method also helps to detect large errors.

## STOP & THINK . . .

Beginning inventory is $70,000, net purchases total $365,000, and net sales are $500,000. With a normal gross profit rate of 40% of sales (cost of goods sold = 60%), how much is ending inventory?

***Answer:***

$135,000 = [$70,000 + $365,000 – (0.60 × $500,000)]

## Detailed Income Statement

Exhibit 6-13 provides an example of a detailed income statement, complete with all the discounts and expenses in their proper places. Study it carefully.

**EXHIBIT 6-13 | Detailed Income Statement**

**Nightsky Technology, Inc.**
**Income Statement**
Year Ended December 31, 2011

| | | |
|---|---|---|
| Sales revenue | $100,000 | |
| Less: Sales discounts | (2,000) | |
| Sales returns and allowances | (3,000) | |
| Net sales | | $95,000[a] |
| Beginning inventory | | |
| Add Purchases | 40,000 | |
| Freight-in | 34,000 | |
| Less Purchase returns and allowances | 3,000 | |
| Settlement Discount | (5,000) | |
| Net Purchases | (2,000) | |
| Goods available for sale | 30,000 | |
| Less ending inventory | 70,000 | |
| Cost of goods sold | (25,000) | |
| Gross profit | | |
| Operating expenses: | | 45,000[b] |
| Selling: | | 50,000 |
| Sales commission expense | $5,000 | |
| Freight-out | 1,000 | |
| Other expenses | 6,000 | 12,000 |
| Administrative: | | |
| Salary expense | $2,000 | |
| Depreciation expense | 2,000 | |
| Other expenses | 4,000 | 8,000 |
| Income before income tax | | 30,000 |
| Income tax expense (40%) | | 12,000 |
| Net income | | $18,000 |

[a]Most companies report only the net sales figure, $95,000.
[b]Most companies report only the cost of goods sold, $45,000.

## Effects of Inventory Errors

**OBJECTIVE**

**5** **Show** how inventory errors affect the financial statements

Inventory errors sometimes occur. An error in ending inventory creates errors for two accounting periods. For example, if ending inventory has been *overstated* by $5,000, cost of goods sold will thus be *understated* by the same amount, resulting in an *overstated* gross profit. In addition, the error in ending inventory in period 1 will also impact the beginning inventory in period 2. In the absence of any further errors, inventory errors counterbalance in two consecutive periods. Why? Period 1's ending inventory becomes period 2's beginning amount. Thus, the period 1 error carries over into period 2, resulting in an *overstated* cost of goods sold, and an *understated* gross profit in period 2.

In Exhibit 6-14, we show the effect of the above inventory errors over a three-year period, with constant sales and purchases. Had there been no error in period 1, the figures under period 3 are the correct ones. You can compare the figures in period 1 and 2 to those in period 3 for a better understanding of the impact of the inventory errors.

**EXHIBIT 6-14 | Inventory Errors: An Example**

| | Period 1 Ending Inventory Overstated by $5,000 | | Period 2 Beginning Inventory Overstated by $5,000 | | Period 3 Correct | |
|---|---|---|---|---|---|---|
| Sales revenue | | $100,000 | | $100,000 | | $100,000 |
| Cost of goods sold: | | | | | | |
| Beginning inventory | $10,000 | | $15,000 | | $10,000 | |
| Purchases | 50,000 | | 50,000 | | 50,000 | |
| Cost of goods available | 60,000 | | 65,000 | | 60,000 | |
| Ending inventory | (15,000) | | (10,000) | | (10,000) | |
| Cost of goods sold | | 45,000 | | 55,000 | | 50,000 |
| Gross profit | | $ 55,000 | | $ 45,000 | | $ 50,000 |
| | | $\underbrace{\qquad}_{100,000}$ | | | | |

The authors thank Professor Carl High for this example.

Beginning inventory and ending inventory have opposite effects on cost of goods sold (beginning inventory is added; ending inventory is subtracted). Therefore, after two periods, an inventory error washes out (counterbalances). Notice that total gross profit is correct for periods 1 and 2 combined ($100,000) even though each year's gross profit is off by $5,000. The correct gross profit is $50,000 for each period, as shown in period 3.

We must have accurate information for all periods. Exhibit 6-15 summarizes the effects of inventory accounting errors.

**EXHIBIT 6-15 | Effects of Inventory Errors**

| Inventory Error | Period 1 Cost of Goods Sold | Period 1 Gross Profit and Net Income | Period 2 Cost of Goods Sold | Period 2 Gross Profit and Net Income |
|---|---|---|---|---|
| Period 1 | | | | |
| Ending inventory **overstated** | Understated | Overstated | Overstated | Understated |
| Period 1 | | | | |
| Ending inventory **understated** | Overstated | Understated | Understated | Overstated |

**COOKING THE BOOKS with Inventory**

**Crazy Eddie**

It is one thing to make honest mistakes in accounting for inventory, but quite another to use inventory to commit fraud. The two most common ways to "cook the books" with inventory are:

1. inserting fictitious inventory, thus overstating quantities; and
2. deliberately overstating unit prices used in the computation of ending inventory amounts.

Either one of these tricks has exactly the same effect on income as inventory errors, discussed in the previous section. The difference is that honest inventory errors are often corrected as soon as they are detected, thus minimizing their impact on income. In contrast, deliberate overstatement of inventories tends to be repeated over and over again throughout the course of months, or even years, thus causing the misstatement to grow ever higher until it is discovered. By that time, it can be too late for the company.

**Crazy Eddie, Inc.**[1] was a retail consumer electronics store in 1987, operating 43 retail outlets in the New York City area, with $350 million in reported sales and reported profits of $10.5 million. Its stock was a Wall Street "darling," with a collective market value of $600 million. The only problem was that the company's reported profits had been grossly overstated since 1984, the year that the company went public.

Eddie Antar, the company's founder and major shareholder, became preoccupied with the price of his company's shares in 1984. Antar realized that the company, in an extremely competitive retail market in the largest city in the United States, had to keep posting impressive operating profits in order to maintain the upward trend in the company's share price.

Within the first six months, Antar ordered a subordinate to double count about $2 million of inventory in the company's stores and warehouses. Using Exhibits 6-14 and 6-15, you can see that the impact of this inventory overstatement went straight to the "bottom line," overstating profits by the same amount. Unfortunately, the company's auditors failed to detect the inventory overstatement. The following year, emboldened by the audit error, Antar ordered subordinates (now accomplices) to bump the overstatement to $9 million. In addition, he ordered employees to destroy incriminating documents to conceal the inventory shortage. When auditors asked for these documents, employees told them they had been lost. Antar also ordered that the company scrap its sophisticated computerized perpetual inventory system and return to an outdated manual system that was easier to manipulate. The auditors made the mistake of telling Antar which company stores and warehouses they were going to visit in order to observe the year-end physical count of inventory. Antar shifted sufficient inventory to those locations just before the counts to conceal the shortages. By 1988, when the fraud was discovered, the inventory shortage (overstatement) was larger than the total profits the company had reported since it went public in 1984.

In June 1989, Crazy Eddie, Inc., filed for Chapter 11 bankruptcy protection. Later that year, the company closed its stores and sold off its assets. Eddie Antar became a fugitive from justice, moved to Israel, and took an assumed name. He was arrested in 1992, extradited to the United States, and convicted on 17 counts of fraudulent financial reporting in 1993. He was ordered to pay $121 million in restitution to former shareholders and creditors.

A series of missteps by the courts led to a plea bargain agreement in 1996, a condition of which Antar admitted, for the first time, that he had defrauded investors by manipulating the company's accounting records. One of the prosecuting attorneys was quoted as saying, "Crazy Eddie wasn't crazy, just crooked."

The following Decision Guidelines summarize the situations that call for (a) a particular inventory system and (b) the motivation for using each costing method.

[1] Michael C. Knapp, *Contemporary Auditing: Real Issues and Cases*, 6th edition, Mason, Ohio: Thomson Southwestern, 2009.

# DECISION GUIDELINES

## ACCOUNTING FOR INVENTORY

Suppose **Franc Franc**, a furniture store, stocks two basic categories of merchandise:

- furniture pieces, such as tables and chairs;
- small items of low value, near the checkout stations, such as cupholders and coasters.

Jacob Stiles, the store manager, is considering how accounting will affect the business. Let's examine several decisions Stiles must make to properly account for the store's inventory.

| Decision | Guidelines | System or Method |
|---|---|---|
| Which inventory system to use? | ■ Expensive merchandise<br>■ Cannot control inventory by visual inspection | → Perpetual system for the furniture |
| | ■ Can control inventory by visual inspection | → Periodic system for the small, low value items |
| Which costing method to use? | ■ Unique inventory items | → Specific unit cost for designer furniture because they are unique |
| | ■ Most current cost of ending inventory<br>■ Maximizes reported income when costs are rising | → FIFO |
| | ■ Most current measure of cost of goods sold and net income<br>■ Minimizes income tax when costs are rising | → LIFO (not allowed under IFRS) |
| | ■ Middle-of-the-road approach for income tax and reported income | → Average |

# END-OF-CHAPTER SUMMARY PROBLEM

Town & Country Gift Ideas began 20X6 with 60,000 units of inventory that cost $36,000. During 20X6, Town & Country purchased merchandise on account for $352,500 as follows:

| | | |
|---|---|---|
| Purchase 1 | (100,000 units costing) | $ 65,000 |
| Purchase 2 | (270,000 units costing) | 175,500 |
| Purchase 3 | (160,000 units costing) | 112,000 |

Cash payments on account totaled $326,000 during the year.

Town & Country's sales during 20X6 consisted of 520,000 units of inventory for $660,000, all on account. The company uses the FIFO inventory method.

Cash collections from customers were $630,000. Operating expenses totaled $240,500, of which Town & Country paid $211,000 in cash. Town & Country credited Accrued Liabilities for the remainder. At December 31, Town & Country accrued income tax expense at the rate of 35% of income before tax.

### *Requirements*

1. Make summary journal entries to record Town & Country's transactions for the year, assuming the company uses a perpetual inventory system.
2. Determine the FIFO cost of Town & Country's ending inventory at December 31, 20X6 in two ways:
   **a.** Use a T-account.
   **b.** Multiply the number of units on hand by the unit cost.
3. Show how Town & Country would compute cost of goods sold for 20X6. Follow the FIFO example earlier in the chapter.
4. Prepare Town & Country's income statement for 20X6. Show totals for the gross profit and income before tax.
5. Determine Town & Country's gross profit percentage, rate of inventory turnover, and net income as a percentage of sales for the year. In Town & Country's industry, a gross profit percentage of 40%, an inventory turnover of six times per year, and a net income percentage of 7% are considered excellent. How well does Town & Country compare to these industry averages?

## Answers

### *Requirement 1*

| | | |
|---|---|---|
| Inventory ($65,000 + $175,500 + $112,000) | $352,500 | |
| Accounts Payable | | 352,500 |
| | | |
| Accounts Payable | 326,000 | |
| Cash | | 326,000 |
| | | |
| Accounts Receivable | 660,000 | |
| Sales Revenue | | 660,000 |
| | | |
| Cost of Goods Sold (see Requirement 3) | 339,500 | |
| Inventory | | 339,500 |
| | | |
| Cash | 630,000 | |
| Accounts Receivable | | 630,000 |
| | | |
| Operating Expenses | 240,500 | |
| Cash | | 211,000 |
| Accrued Liabilities | | 29,500 |
| | | |
| Income Tax Expense (see Requirement 4) | 28,000 | |
| Income Tax Payable | | 28,000 |

### *Requirement 2*

**Inventory**

| | | | |
|---|---|---|---|
| Beg bal | 36,000 | | |
| Purchases | 352,500 | Cost of goods sold | 339,500 |
| End bal | 49,000 | | |

| | | |
|---|---|---|
| Number of units in ending inventory (60,000 + 100,000 + 270,000 + 160,000 − 520,000) ............. | | 70,000 |
| Unit cost of ending inventory at FIFO ($112,000 ÷ 160,000 from Purchase 3)..... | × | $ 0.70 |
| FIFO cost of ending inventory...................... | | $49,000 |

## Requirement 3

| | |
|---|---|
| Cost of goods sold (520,000 units): | |
| 60,000 units costing.................................................... | $ 36,000 |
| 100,000 units costing.................................................. | 65,000 |
| 270,000 units costing.................................................. | 175,500 |
| 90,000 units costing $0.70 each* ................................ | 63,000 |
| Cost of goods sold........................................................... | $339,500 |

*From Purchase 3: $112,000/160,000 units = $0.70 per unit.

## Requirement 4

**Town & Country Gift Ideas**
**Income Statement**
Year Ended December 31, 20X6

| | |
|---|---|
| Sales revenue ................................................................. | $660,000 |
| Cost of goods sold........................................................... | 339,500 |
| Gross profit ...................................................................... | 320,500 |
| Operating expenses ........................................................ | 240,500 |
| Income before tax ........................................................... | 80,000 |
| Income tax expense (35%) ............................................. | 28,000 |
| Net income........................................................................ | $ 52,000 |

## Requirement 5

| | | Industry Average |
|---|---|---|
| Gross profit percentage: | $320,500 ÷ $660,000 = 48.6% | 40% |
| Inventory turnover: | $\frac{\$339,500}{(\$36,000 + \$49,000)/2}$ = 8 times | 6 times |
| Net income as a percent of sales: | $52,000 ÷ $660,000 = 7.9% | 7% |

Town & Country's statistics are better than the industry averages.

# REVIEW INVENTORY AND MERCHANDIZING OPERATIONS

## Quick Check (Answers are given at the end of the chapter.)

1. Which statement is true?
   **a.** The invoice is the purchaser's request for collection from the customer.
   **b.** Gross profit is the excess of sales revenue over cost of goods sold.
   **c.** The Sales account is used to record only sales on account.
   **d.** A service company purchases products from suppliers and then sells them.
2. Sales discounts should appear in the financial statements
   **a.** as a deduction from sales.
   **b.** among the current liabilities.
   **c.** as an addition to inventory.
   **d.** as an addition to sales.
   **e.** as an operating expense.
3. How is inventory classified in the financial statements?
   **a.** As a contra account to Cost of Goods Sold
   **b.** As an expense
   **c.** As a liability
   **d.** As a revenue
   **e.** As an asset

**Questions 4–6 use the following data of Dana Inc.**

| | Units | Unit Cost | Total Cost | Units Sold |
|---|---|---|---|---|
| Beginning inventory | 15 | $5 | $ 75 | |
| Purchase on Apr 25 | 40 | 8 | 320 | |
| Purchase on Nov 13 | 10 | 9 | 90 | |
| Sales | 40 | ? | ? | |

4. Dana uses a FIFO inventory system. Cost of goods sold for the period is
   **a.** $360.
   **b.** $298.
   **c.** $275.
   **d.** $330.
5. Dana's LIFO cost of ending inventory would be
   **a.** $187.
   **b.** $155.
   **c.** $210.
   **d.** $200.
6. Dana's average cost of ending inventory is
   **a.** $210.
   **b.** $155.
   **c.** $187.
   **d.** $200.
7. When applying the lower of cost or net realizable value, NRV means
   **a.** original cost less physical deterioration.
   **b.** original cost plus profit margin.
   **c.** selling price less cost to sell.
   **d.** selling price less discounts.
8. During a period of rising prices, the inventory method that will yield the highest net income and asset value is
   **a.** FIFO.
   **b.** LIFO.
   **c.** average cost.
   **d.** specific identification.
9. Which statement is true?
   **a.** When prices are rising, the inventory method that results in the lowest ending inventory value is FIFO.
   **b.** The inventory method that best matches current expense with current revenue is FIFO.
   **c.** Application of inventory valuation rule may result in a lower inventory value than the cost of inventory.
   **d.** An error overstating ending inventory in 2010 will understate 2010 net income.

10. The ending inventory of Misty Harbor Co. is $57,000. If beginning inventory was $68,000 and goods available totaled $117,000, the cost of goods sold is
    **a.** $60,000.
    **b.** $128,000.
    **c.** $68,000.
    **d.** $49,000.
    **e.** none of the above.
11. Lantern Company had cost of goods sold of $145,000. The beginning and ending inventories were $15,000 and $25,000, respectively. Purchases for the period must have been
    **a.** $136,000.
    **b.** $160,000.
    **c.** $155,000.
    **d.** $170,000.
    **e.** $185,000.

**Use the following information for questions 12–14.**
Fairway Company had a $28,000 beginning inventory and a $35,000 ending inventory. Net sales were $184,000; purchases, $93,000; purchase returns and allowances, $7,000; and freight-in, $3,000.

12. Cost of goods sold for the period is
    **a.** $98,000.
    **b.** $82,000.
    **c.** $96,000.
    **d.** $81,000.
    **e.** none of the above.
13. What is Fairway's gross profit percentage (rounded to the nearest percentage)?
    **a.** 55%
    **b.** 15%
    **c.** 45%
    **d.** None of the above
14. What is Fairway's rate of inventory turnover?
    **a.** 5.3 times
    **b.** 2.6 times
    **c.** 2.3 times
    **d.** 3.0 times
15. Beginning inventory is $110,000, purchases are $260,000 and sales total $470,000. The normal gross profit is 40%. Using the gross profit method, how much is ending inventory?
    **a.** $210,000
    **b.** $132,000
    **c.** $188,000
    **d.** $88,000
    **e.** None of the above
16. An overstatement of ending inventory in one period results in
    **a.** an understatement of net income of the next period.
    **b.** no effect on net income of the next period.
    **c.** an understatement of the beginning inventory of the next period.
    **d.** an overstatement of net income of the next period.

## Accounting Vocabulary

**average-cost method** (p. 369) Inventory costing method based on the average cost of inventory during the period. Average cost is determined by dividing the cost of goods available by the number of units available. Also called the *weighted-average method*.

**consignment** (p. 357) An inventory arrangement where the seller sells inventory that belongs to another party. The seller does not include consigned merchandise on hand in its balance sheet, because the seller does not own this inventory.

**comparability** (p. 370) A business must use the same accounting methods and procedures from period to period. Comparability is an enhancing qualitative characteristic of financial statements.

**cost formulas** (p. 362) Cost assumptions (e.g. LIFO, FIFO, or weighted-average) used in the measurement of inventory and cost of goods sold when goods are ordinarily interchangeable. Also called *inventory costing method*.

**cost of goods sold** (p. 356) Cost of the inventory the business has sold to customers.

**cost-of-goods-sold model** (p. 375) Formula that brings together all the inventory data for the entire accounting period: Beginning inventory + Purchases = Goods available. Then, Goods available − Ending inventory = Cost of goods sold.

**debit memorandum** (p. 360) A document issued to the seller (vendor) when an item of inventory that is unwanted or damaged is returned. This document authorizes a reduction (debit) to accounts payable for the amount of the goods returned.

**first-in, first-out (FIFO) cost (method)** (p. 362) Inventory costing method by which the first costs into inventory are the first costs out to cost of goods sold. Ending inventory is based on the costs of the most recent purchases.

**FOB** (p. 357) Stands for *free on board* (or *freight on board*), a legal term that designates the point at which title passes for goods sold. FOB shipping point means that the buyer owns, and therefore is legally obligated to pay for, goods at the point of shipment, including transportation costs. In this case, the buyer owns the goods while they are in transit from the seller and must include their costs, including freight, in inventory at that point. FOB destination means that the seller pays the transportation costs, so the goods do not belong to the buyer until they reach the buyer's place of business.

**gross margin** (p. 357) Another name for *gross profit*.

**gross margin method** (p. 376) Another name for the *gross profit method*.

**gross margin percentage** (p. 373) Another name for the *gross profit percentage*.

**gross profit** (p. 357) Sales revenue minus cost of goods sold. Also called *gross margin*.

**gross profit method** (p. 376) A way to estimate inventory based on a rearrangement of the cost-of-goods-sold model: Beginning inventory + Net purchases = Goods available − Cost of goods sold = Ending inventory. Also called the *gross margin method*.

**gross profit percentage** (p. 373) Gross profit divided by net sales revenue. Also called the *gross margin percentage*.

**inventory** (p. 356) The merchandise that a company sells to customers.

**inventory costing method** (p. 362) Cost assumptions (e.g. LIFO, FIFO or weighted-average) used in the measurement of inventory and cost of goods sold when goods are ordinarily interchangeable. Also called *cost formulas*.

**inventory resident period** (p. 374) The average number of days to sell inventory to customers, calculated by dividing 365 by inventory turnover. Also called *days inventory on hand*.

**inventory turnover** (p. 374) the number of times inventories are sold during the year, approximated by taking total cost of goods sold divided by average inventory. Used in calculating *inventory resident period*.

**last-in, first-out (LIFO) cost (method)** (p. 362) Inventory costing method by which the last costs into inventory are the first costs out to cost of goods sold. This method leaves the oldest costs—those of beginning inventory and the earliest purchases of the period—in ending inventory.

**net realizable value (NRV)** (p. 371) The estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

**periodic inventory system** (p. 358) An inventory system in which the business does not keep a continuous record of the inventory on hand. Instead, at the end of the period, the business makes a physical count of the inventory on hand and applies the appropriate unit costs to determine the cost of the ending inventory.

**perpetual inventory system** (p. 359) An inventory system in which the business keeps a continuous record for each inventory item to show the inventory on hand at all times.

**purchase allowance** (p. 360) A decrease in the cost of purchases because the seller has granted the buyer a subtraction (an allowance) from the amount owed.

**purchase discount** (p. 359) A decrease in the cost of purchases earned by making an early payment to the vendor.

**purchase return** (p. 360) A decrease in the cost of purchases because the buyer returned the goods to the seller.

**specific identification** (p. 362) When goods are ordinarily not interchangeable, cost of goods sold and on-hand are determined by specifically identifying which units have been sold and which units remain on-hand, respectively.

**weighted-average method** (p. 362) Another name for the *average-cost method*.

# ASSESS YOUR PROGRESS

## Short Exercises

**S6-1** ***(Learning Objective 2: Accounting for inventory transactions)*** Journalize the following assumed transactions for The Pepson Company. Show amounts in billions.

- **a.** Cash purchases of inventory, \$3.8 billion
- **b.** Sales on account, \$19.7 billion
- **c.** Cost of goods sold (perpetual inventory system), \$4.5 billion
- **d.** Collections on account, \$18.8 billion

**S6-2** ***(Learning Objective 2: Accounting for inventory transactions)*** Summer Kluxon, Inc., purchased inventory costing $120,000 and sold 75% of the goods for $150,000. All purchases and sales were on account. Kluxon later collected 30% of the accounts receivable.

1. Journalize these transactions for Kluxon, which uses the perpetual inventory system.
2. For these transactions, show what Kluxon will report for inventory, revenues, and expenses on its financial statements. Report gross profit on the appropriate statement.

**S6-3** ***(Learning Objective 3: Applying the average, FIFO, and LIFO methods)*** Continental Sporting Goods started April with an inventory of nine sets of golf clubs that cost a total of $1,260. During April Continental purchased 25 sets of clubs for $4,000. At the end of the month, Continental had eight sets of golf clubs on hand. The store manager must select an inventory costing method, and he asks you to tell him both cost of goods sold and ending inventory under these three accounting methods:

**a.** Average cost (round average unit cost to the nearest cent)
**b.** FIFO
**c.** LIFO

**S6-4** ***(Learning Objective 2: Applying the average, FIFO, and LIFO methods)*** Jefferson's Copy Center uses laser printers. Assume Jefferson started the year with 92 containers of ink (average cost of $9.00 each, FIFO cost of $8.90 each, LIFO cost of $8.05 each). During the year, Jefferson purchased 680 containers of ink at $9.80 and sold 580 units for $20.25 each. Jefferson paid operating expenses throughout the year, a total of $3,750. Jefferson is not subject to income tax.

Prepare Jefferson's income statement for the current year ended December 31 under the average, FIFO, and LIFO inventory costing methods. Include a complete statement heading.

**S6-5** ***(Learning Objective 3: Computing income tax effects of the inventory costing methods)*** This exercise should be used in conjunction with Short Exercise 6-4. Jefferson is a corporation subject to a 30% income tax. Compute Jefferson's income tax expense under the average, FIFO, and LIFO inventory costing methods. Which method would you select to (a) maximize income before tax and (b) minimize income tax expense?

**S6-6** ***(Learning Objective 3: Computing income and income tax effects of LIFO)*** Microdata.com uses the LIFO method to account for inventory. Microdata is having an unusually good year, with net income well above expectations. The company's inventory costs are rising rapidly. What can Microdata do immediately before the end of the year to decrease net income? Explain how this action decreases reported income, and also why Microdata might want to decrease its net income.

■ **writing assignment**

**S6-7** ***(Learning Objective 3: Applying the Net Realizable Value to inventory)*** It is December 31, end of the year, and the controller of Reed Corporation is applying the Net Realizable Value (NRV) to inventories. Before any year-end adjustments Reed reports the following data:

| | |
|---|---|
| Cost of goods sold.......................................... | $440,000 |
| Historical cost of ending inventory, | |
| as determined by a physical count.............. | 57,000 |

Reed determines that the NRV of ending inventory is $42,000. Show what Reed should report for ending inventory and for cost of goods sold. Identify the financial statement where each item appears.

**S6-8** ***(Learning Objective 3: Managing income taxes under the LIFO method)*** Smith Saxophone Company is nearing the end of its worst year ever. With two weeks until year-end, it appears that net income for the year will have decreased by 25% from last year. Joe Smith, the president and principal shareholder, is distressed with the year's results. Smith asks you, the financial vice president, to come up with a way to increase the business's net income. Inventory quantities

■ **writing assignment**

are a little higher than normal because sales have been slow during the last few months. Smith uses the LIFO inventory method, and inventory costs have risen dramatically during the latter part of the year.

Complete the memorandum to Joe Smith to explain how the company can increase its net income for the year. Explain your reasoning in detail. Smith is a man of integrity, so your plan must be completely ethical.

**S6-9** ***(Learning Objective 3: Identifying income, tax, and other effects of the inventory methods)*** This exercise tests your understanding of the four inventory methods. List the name of the inventory method that best fits the description. Assume that the cost of inventory is rising.

1. Generally associated with saving income taxes.
2. Results in a cost of ending inventory that is close to the current cost of replacing the inventory.
3. Used to account for automobiles, jewelry, and art objects.
4. Provides a middle-ground measure of ending inventory and cost of goods sold.
5. Maximizes reported income.
6. Matches the most current cost of goods sold against sales revenue.
7. Results in an old measure of the cost of ending inventory.
8. Writes inventory down when replacement cost drops below historical cost.
9. Enables a company to buy high-cost inventory at year-end and thereby decrease reported income and income tax.
10. Enables a company to keep reported income from dropping lower by liquidating older layers of inventory.

**S6-10** ***(Learning Objective 4: Using ratio data to evaluate operations)*** Mountain Company made sales of $35,482 million during 20X6. Cost of goods sold for the year totaled $15,333 million. At the end of 20X5, Mountain's inventory stood at $1,641 million, and Mountain ended 20X6 with inventory of $1,945 million.

Compute Mountain's gross profit percentage and rate of inventory turnover for 20X6.

**S6-11** ***(Learning Objective 4: Estimating ending inventory by the gross profit method)*** City Technology began the year with inventory of $244,000 and purchased $1,540,000 of goods during the year. Sales for the year are $4,000,000, and City's gross profit percentage is 60% of sales. Compute City's estimated cost of ending inventory by using the gross profit method.

**S6-12** ***(Learning Objective 5: Assessing the effect of an inventory error—one year only)*** ABC, Inc., reported these figures for its fiscal year (amounts in millions):

| | |
|---|---|
| Net sales.............................. | $ 1,900 |
| Cost of goods sold............... | 1,130 |
| Ending inventory................. | 450 |

Suppose ABC later learns that ending inventory was overstated by $14 million. What are the correct amounts for (a) net sales, (b) ending inventory, (c) cost of goods sold, and (d) gross profit?

**S6-13** ***(Learning Objective 5: Assessing the effect of an inventory error on 2 years)*** Binder's $5.8 million cost of inventory at the end of last year was understated by $1.7 million.

1. Was last year's reported gross profit of $3.8 million overstated, understated, or correct? What was the correct amount of gross profit last year?
2. Is this year's gross profit of $5.5 million overstated, understated, or correct? What is the correct amount of gross profit for the current year?

**S6-14** ***(Learning Objectives 2, 4: Considering ethical implications of inventory actions)*** Determine whether each of the following actions in buying, selling, and accounting for inventories is ethical or unethical. Give your reason for each answer.

1. In applying the net realizable value to inventories, Tewksbury Financial Industries recorded an excessively low market value for ending inventory. This allowed the company to pay less income tax for the year.
2. Livingston Pharmaceuticals purchased lots of inventory shortly before year-end to increase the LIFO cost of goods sold and decrease reported income for the year.
3. Mulberry, Inc., delayed the purchase of inventory until after December 31, 20X6, to keep 20X6's cost of goods sold from growing too large. The delay in purchasing inventory helped net income of 20X6 to reach the level of profit demanded by the company's investors.
4. Dunn Sales Company deliberately overstated ending inventory in order to report higher profits (net income).
5. Burke Corporation deliberately overstated purchases to produce a high figure for cost of goods sold (low amount of net income). The real reason was to decrease the company's income tax payments to the government.

## Exercises

All of the A and B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

MyAccountingLab

### (Group A)

**E6-15A** *(Learning Objectives 1, 2: Accounting for inventory transactions under FIFO costing)* Accounting records for Richmond Corporation yield the following data for the year ended December 31, 20X6:

| | |
|---|---|
| Inventory, December 31, 20X5 | $ 8,000 |
| Purchases of inventory (on account) | 47,000 |
| Sales of inventory—79% on account; 21% for cash (cost $41,000) | 79,000 |
| Inventory at FIFO, December 31, 20X6 | 14,000 |

***Requirements***

1. Journalize Richmond's inventory transactions for the year under the perpetual system.
2. Report ending inventory, sales, cost of goods sold, and gross profit on the appropriate financial statement.

**E6-16A** *(Learning Objectives 2, 3: Analyzing inventory transactions under FIFO costing)* Ken's, Inc.'s inventory records for a particular development program show the following at December 31:

**spreadsheet**

| | | | | | |
|---|---|---|---|---|---|
| Dec 1 | Beginning inventory | 5 units @ $150 | = | $ 750 |
| 15 | Purchase | 4 units @ $150 | = | $ 600 |
| 26 | Purchase | 12 units @ $160 | = | $1,920 |

At December 31, nine of these programs are on hand. Journalize for Ken's:

1. Total December purchases in one summary entry. All purchases were on credit.
2. Total December sales and cost of goods sold in two summary entries. The selling price was $550 per unit, and all sales were on credit. Assume that Ken's uses the FIFO inventory method and the sale took place on December 28.
3. Under FIFO, how much gross profit would Ken's earn on these transactions? What is the FIFO cost of Ken's ending inventory?

**E6-17A** ***(Learning Objective 2, 3: Determining ending inventory and cost of goods sold by four methods)*** Use the data for Ken's in Exercise 6-16A to answer the following:

### *Requirements*

1. Compute cost of goods sold and ending inventory, using each of the following methods:
   a. Specific unit cost, with three $150 units and six $160 units still on hand at the end.
   b. Average cost.
   c. First-in, first-out.
   d. Last-in, first-out.
2. Which method produces the highest cost of goods sold? Which method produces the lowest cost of goods sold? What causes the difference in cost of goods sold?

**E6-18A** ***(Learning Objective 2, 3: Computing the tax advantage of LIFO over FIFO)*** Use the data for Ken's in Exercise 6-16A to illustrate Ken's income tax advantage from using LIFO over FIFO. Sales revenue is $6,600, operating expenses are $1,500, and the income tax rate is 35%. How much in taxes would Ken's save by using the LIFO method versus FIFO?

**E6-19A** ***(Learning Objective 2, 3: Determining ending inventory and cost of goods sold—FIFO vs. LIFO)*** MusicPlace.net specializes in sound equipment. Because each inventory item is expensive, MusicPlace uses a perpetual inventory system. Company records indicate the following data for a line of speakers:

| Date | Item | Quantity | Unit Cost | Sale Price |
|---|---|---|---|---|
| Apr 1 | Balance.................. | 16 | $32 | |
| Apr 2 | Purchase................ | 5 | 63 | |
| Apr 7 | Sale ........................ | 7 | | $112 |
| Apr 13 | Sale ........................ | 5 | | 112 |

### *Requirements*

1. Determine the amounts that MusicPlace should report for cost of goods sold and ending inventory in two ways:
   a. FIFO
   b. LIFO
2. MusicPlace uses the FIFO method. Prepare MusicPlace's income statement for the month ended April 30, reporting gross profit. Operating expenses totaled $260, and the income tax rate was 35%.

**E6-20A** ***(Learning Objective 3: Measuring gross profit—FIFO vs. LIFO; Falling prices)*** Suppose a Waldorf store in Atlanta, Georgia, ended November 20X6 with 900,000 units of merchandise that cost an average of $5 each. Suppose the store then sold 800,000 units for $4.8 million during December. Further, assume the store made two large purchases during December as follows:

| | | | |
|---|---|---|---|
| Dec 11 | 200,000 units @ $4.00 | = | $ 800,000 |
| 24 | 500,000 units @ $3.00 | = | $1,500,000 |

### *Requirements*

1. At December 31, the store manager needs to know the store's gross profit under both FIFO and LIFO. Supply this information.
2. What caused the FIFO and LIFO gross profit figures to differ?
3. Assume that the store uses FIFO to value inventories, and that the store manager, whose bonus is based on profits, decides to change the unit cost on inventory to $5 for all units. What impact will this have on gross profit and net income? Should this be allowed?

**E6-21A** ***(Learning Objective 3: Applying the net realizable value to inventories)*** Thames Garden Supplies uses a perpetual inventory system. Thames Garden Supplies has these account balances at July 31, 20X6, prior to making the year-end adjustments:

| Inventory | | Cost of Goods Sold | | Sales Revenue | |
|---|---|---|---|---|---|
| Beg bal 11,500 | | | | | |
| End bal 15,000 | | Bal 67,000 | | | Bal 116,000 |

A year ago, the NRV cost of ending inventory was $12,000, which exceeded cost of $11,500. Thames Garden Supplies has determined that the NRV cost of the July 31, 20X6, ending inventory is $10,800.

### *Requirement*

1. Prepare Thames Garden Supplies' 20X6 income statement through gross profit to show how the company would apply the net realizable value to its inventories.

**E6-22A** ***(Learning Objective 4: Using the cost-of-goods-sold model)*** Supply the missing income statement amounts for each of the following companies:

| Company | Net Sales | Beginning Inventory | Net Purchases | Ending Inventory | Cost of Goods Sold | Gross Profit |
|---|---|---|---|---|---|---|
| Crane | $105,000 | $19,000 | $65,000 | $18,000 | (a) | (b) |
| Foster | 138,000 | 27,000 | (c) | 28,000 | (d) | 45,000 |
| Allen | (e) | (f) | 56,000 | 21,000 | 60,000 | 32,000 |
| Matthews | 84,000 | 11,000 | 30,000 | (g) | 36,000 | (h) |

### *Requirement*

1. Prepare the income statement for Crane Company, for the year ended December 31. Use the cost-of-goods-sold model to compute cost of goods sold. Crane's operating and other expenses, as adapted, for the year were $41,000. Ignore income tax.

**E6-23A** ***(Learning Objective 4: Measuring profitability)*** Refer to the data in Exercise 6-22A. Compute all ratio values to answer the following questions:

- Which company has the highest, and which company has the lowest, gross profit percentage?
- Which company has the highest, and the lowest rate of inventory turnover?

Based on your figures, which company appears to be the most profitable?

**E6-24A** ***(Learning Objective 4: Computing gross profit percentage and inventory turnover)*** Thurston & Talty, a partnership, had the following inventory data:

| | 20X5 | 20X6 |
|---|---|---|
| Ending inventory at: | | |
| FIFO Cost .............. | $21,000 | $ 23,000 |
| LIFO Cost .............. | 8,000 | 17,000 |
| Cost of goods sold at: | | |
| FIFO Cost .............. | | $ 85,200 |
| LIFO Cost .............. | | 92,800 |
| Sales revenue .............. | | 144,000 |

Thurston & Talty need to know the company's gross profit percentage and rate of inventory turnover for 20X6 under:

1. FIFO
2. LIFO

Which method makes the business look better on:

3. Gross profit percentage?
4. Inventory turnover?

**E6-25A** ***(Learning Objective 4: Budgeting inventory purchases)*** Toys Plus prepares budgets to help manage the company. Toys Plus is budgeting for the fiscal year ended January 31, 20X6. During the preceding year ended January 31, 20X5, sales totaled $9,300 million and cost of goods sold was $6,500 million. At January 31, 20X5, inventory stood at $2,100 million. During the upcoming 20X6 year, suppose Toys Plus expects cost of goods sold to increase by 10%. The company budgets next year's ending inventory at $2,400 million.

### *Requirement*

1. One of the most important decisions a manager makes is how much inventory to buy. How much inventory should Toys Plus purchase during the upcoming year to reach its budgeted figures?

■ spreadsheet

**E6-26A** ***(Learning Objective 4: Estimating inventory by the gross profit method)*** J R Company began May with inventory of $47,500. The business made net purchases of $30,900 and had net sales of $62,100 before a fire destroyed the company's inventory. For the past several years, J R's gross profit percentage has been 35%. Estimate the cost of the inventory destroyed by the fire. Identify another reason owners and managers use the gross profit method to estimate inventory.

**E6-27A** ***(Learning Objective 5: Correcting an inventory error)*** Big Blue Sea Marine Supply reported the following comparative income statement for the years ended September 30, 20X6, and 20X5:

**Big Blue Sea Marine Supply**
**Income Statements**
For the Years Ended September 30, 20X6, and 20X5

| | 20X6 | | 20X5 | |
|---|---|---|---|---|
| Sales revenue | | $143,000 | | $120,000 |
| Cost of goods sold: | | | | |
| Beginning inventory | $ 14,500 | | $ 9,000 | |
| Net purchases | 74,000 | | 67,000 | |
| Cost of goods available | 88,500 | | 76,000 | |
| Ending inventory | (19,000) | | (14,500) | |
| Cost of goods sold | | 69,500 | | 61,500 |
| Gross profit | | 73,500 | | 58,500 |
| Operating expenses | | 28,000 | | 24,000 |
| Net income | | $ 45,500 | | $ 34,500 |

Big Blue Sea's president and shareholders are thrilled by the company's boost in sales and net income during 20X6. Then the accountants for the company discover that ending 20X5 inventory was understated by $6,500. Prepare the corrected comparative income statement for the two-year period, complete with a heading for the statement. How well did Big Blue Sea really perform in 20X6, as compared with 20X5?

## (Group B)

**E6-28B** ***(Learning Objectives 1, 2: Accounting for inventory transactions under FIFO costing)*** Accounting records for Rockford Corporation yield the following data for the year ended December 31, 20X6:

| | |
|---|---|
| Inventory, December 31, 20X5 | € 8,000 |
| Purchases of inventory (on account) | 49,000 |
| Sales of inventory—76% on account; 24% for cash (cost $40,000) | 74,000 |
| Inventory at FIFO, December 31, 20X6 | 17,000 |

### *Requirements*

1. Journalize Rockford's inventory transactions for the year under the perpetual system.
2. Report ending inventory, sales, cost of goods sold, and gross profit on the appropriate financial statement.

**E6-29B** ***(Learning Objectives 2, 3: Analyzing inventory transactions under FIFO costing)*** Ron's, Inc.'s inventory records for a particular development program show the following at May 31:

| | | | | | |
|---|---|---|---|---|---|
| May | 1 | Beginning inventory | 7 units @ €160 | = | €1,120 |
| | 15 | Purchase | 6 units @ €160 | = | 960 |
| | 26 | Purchase | 11 units @ €170 | = | 1,870 |

At May 31, 10 of these programs are on hand. Journalize for Ron's:

1. Total May purchases in one summary entry. All purchases were on credit.
2. Total May sales and cost of goods sold in two summary entries. The selling price was €625 per unit and all sales were on credit. Assume that Ron's uses the FIFO inventory method and the sale took place on May 28.
3. Under FIFO, how much gross profit would Ron's earn on these transactions? What is the FIFO cost of Ron's, Inc.'s ending inventory?

**E6-30B** ***(Learning Objective 2, 3: Determining ending inventory and cost of goods sold by four methods)*** Use the data for Ron's, Inc., in Exercise 6-29B to answer the following.

■ spreadsheet

### *Requirements*

1. Compute cost of goods sold and ending inventory using each of the following methods:
   **a.** Specific unit cost, with five €160 units and five €170 units still on hand at the end.
   **b.** Average cost.
   **c.** FIFO.
   **d.** LIFO.
2. Which method produces the highest cost of goods sold? Which method produces the lowest cost of goods sold? What causes the difference in cost of goods sold?

**E6-31B** ***(Learning Objective 2, 3: Computing the tax advantage of LIFO over FIFO)*** Use the data for Ron's, Inc., in Exercise 6-29B to illustrate Ron's income tax advantage from using LIFO over FIFO. Sales revenue is €8,750, operating expenses are €2,000, and the income tax rate is 32%. How much in taxes would Ron's save by using the LIFO method versus FIFO?

**E6-32B** ***(Learning Objective 2, 3: Determining ending inventory and cost of goods sold—FIFO vs. LIFO)*** MusicLife.net specializes in sound equipment. Because each inventory item is expensive, MusicLife uses a perpetual inventory system. Company records indicate the following data for a line of speakers:

| Date | | Item | Quantity | Unit Cost | Sale Price |
|---|---|---|---|---|---|
| Apr | 1 | Balance.................. | 16 | €39 | |
| Apr | 2 | Purchase................ | 6 | 66 | |
| Apr | 7 | Sale ........................ | 7 | | €105 |
| Apr | 13 | Sale ........................ | 6 | | 96 |

**Requirements**

1. Determine the amounts that MusicLife should report for cost of goods sold and ending inventory two ways:
   **a.** FIFO
   **b.** LIFO
2. MusicLife uses the FIFO method. Prepare MusicLife's income statement for the month ended April 30, reporting gross profit. Operating expenses totaled €340, and the income tax rate was 30%.

**E6-33B** ***(Learning Objective 2: Measuring gross profit—FIFO vs. LIFO; falling prices)*** Suppose a store in Paris, ended September with 1,100,000 units of merchandise that cost an average of €9.00 each. Suppose the store then sold 1,000,000 units for €9.7 million during October. Further, assume the store made two large purchases during October as follows:

| | | | |
|---|---|---|---|
| Oct 12 | 100,000 units @ $8.00 | = | € 800,000 |
| 24 | 600,000 units @ $7.00 | = | €4,200,000 |

**Requirements**

1. At October 31, the store manager needs to know the store's gross profit under both FIFO and LIFO. Supply this information.
2. What caused the FIFO and LIFO gross profit figures to differ?
3. Assume that the store uses FIFO, and that the store manager, whose bonus is based on profits, decides to value all units in ending inventory at €9 per unit. What impact will this action have on gross profit and net income? Should this be allowed?

**E6-34B** ***(Learning Objective 3: Applying the net realizable value to inventories)*** Green Garden Supplies uses a perpetual inventory system. Green Garden Supplies has these account balances at May 31, 20X6, prior to making the year-end adjustments:

| Inventory | | Cost of Goods Sold | | Sales Revenue | |
|---|---|---|---|---|---|
| Beg bal 12,500 | | | | | |
| End bal 13,500 | | Bal 73,000 | | | Bal 115,000 |

A year ago, the NRV cost of ending inventory was €13,400, which exceeded the cost of €12,500. Ontario Garden Supplies has determined that the NRV cost of the May 31, 20X6, ending inventory is €13,000.

**Requirement**

1. Prepare Green Garden Supplies' 20X6 income statement through gross profit to show how the company would apply the net realizable value to its inventories.

**E6-35B** ***(Learning Objective 4: Using the cost-of-goods-sold model)*** Supply the missing amounts for each of the following companies:

| Company | Net Sales | Beginning Inventory | Net Purchases | Ending Inventory | Cost of Goods Sold | Gross Profit |
|---|---|---|---|---|---|---|
| Fisher | €101,000 | €22,000 | €61,000 | €17,000 | (a) | (b) |
| Hults | 132,000 | 26,000 | (c) | 27,000 | (d) | 40,000 |
| Franklin | (e) | (f) | 56,000 | 20,000 | 65,000 | 30,000 |
| Ogden | 86,000 | 8,000 | 37,000 | (g) | 39,000 | (h) |

## *Requirement*

1. Prepare the income statement for Fisher Company, for the year ended December 31. Use the cost-of-goods-sold model to compute cost of goods sold. Fisher's operating and other expenses for the year were €46,000. Ignore income tax.

**E6-36B** ***(Learning Objective 3: Measuring profitability)*** Refer to the data in Exercise 6-35B. Compute all ratio values to answer the following questions:

- Which company has the highest, and which company has the lowest, gross profit percentage?
- Which company has the highest, and the lowest rate of inventory turnover?

  Based on your figures, which company appears to be the most profitable?

**E6-37B** ***(Learning Objective 3: Computing gross profit percentage and inventory turnover)*** Durkin & Davis, a partnership, had these inventory data:

| | 20X5 | 20X6 |
|---|---|---|
| Ending inventory at: | | |
| FIFO Cost .............. | €17,000 | € 21,000 |
| LIFO Cost .............. | 15,000 | 23,000 |
| Cost of goods sold at: | | |
| FIFO Cost .............. | | € 85,700 |
| LIFO Cost .............. | | 92,500 |
| Sales revenue .............. | | 141,000 |

Durkin & Davis need to know the company's gross profit percentage and rate of inventory turnover for 20X6 under

1. FIFO
2. LIFO

Which method makes the business look better on

3. Gross profit percentage?
4. Inventory turnover?

**E6-38B** ***(Learning Objective 4: Budgeting inventory purchases)*** Toyland prepares budgets to help manage the company. Toyland is budgeting for the fiscal year ended January 31, 20X6. During the preceding year ended January 31, 20X5, sales totaled €9,700 million and cost of goods sold was €6,200 million. At January 31, 20X5, inventory stood at €1,800 million. During the upcoming 20X6 year, suppose Toyland expects cost of goods sold to increase by 10%. The company budgets next year's inventory at €2,100 million.

## *Requirement*

1. One of the most important decisions a manager makes is how much inventory to buy. How much inventory should Toyland purchase during the upcoming year to reach its budgeted figures?

■ spreadsheet

**E6-39B** ***(Learning Objective 4: Estimating inventory by the gross profit method)*** R B Company began June with inventory of €45,800. The business made net purchases of €31,900 and had net sales of €64,500 before a fire destroyed the company's inventory. For the past several years, R B's gross profit percentage has been 45%. Estimate the cost of the inventory destroyed by the fire. Identify another reason owners and managers use the gross profit method to estimate inventory.

**E6-40B** ***(Learning Objective 5: Correcting an inventory error)*** Harbour Master Marine Supply reported the following comparative income statement for the years ended September 30, 20X6, and 20X5:

**Harbour Master Marine Supply**
**Income Statements**
For the Years Ended September 30, 20X6 and 20X5

| | 20X6 | | 20X5 | |
|---|---|---|---|---|
| Sales revenue | | €139,000 | | €121,000 |
| Cost of goods sold: | | | | |
| Beginning inventory | € 13,000 | | € 12,000 | |
| Net purchases | 74,000 | | 69,000 | |
| Cost of goods available | 87,000 | | 81,000 | |
| Ending inventory | (18,500) | | (13,000) | |
| Cost of goods sold | | 68,500 | | 68,000 |
| Gross profit | | 70,500 | | 53,000 |
| Operating expenses | | 26,000 | | 19,000 |
| Net income | | € 44,500 | | € 34,000 |

Harbour Master's president and shareholders are thrilled by the company's boost in sales and net income during 20X6. Then the accountants for the company discover that ending 20X5 inventory was understated by €7,000. Prepare the corrected comparative income statement for the two-year period, complete with a heading for the statement. How well did Harbour Master really perform in 20X6, as compared with 20X5?

## Challenge Exercises

**E6-41** ***(Learning Objective 1, 3: Making inventory policy decisions)*** For each of the following situations, identify the inventory method that you would use or, given the use of a particular method, state the strategy that you would follow to accomplish your goal:

**a.** Inventory costs are increasing. Your company uses LIFO and is having an unexpectedly good year. It is near year-end, and you need to keep net income from increasing too much in order to save on income tax.
**b.** Suppliers of your inventory are threatening a labor strike, and it may be difficult for your company to obtain inventory. This situation could increase your income taxes.
**c.** Company management, like that of IBM and Pier 1 Imports, prefers a middle-of-the-road inventory policy that avoids extremes.
**d.** Inventory costs are *decreasing*, and your company's board of directors wants to minimize income taxes.
**e.** Inventory costs are *increasing*, and the company prefers to report high income.
**f.** Inventory costs have been stable for several years, and you expect costs to remain stable for the indefinite future. (Give the reason for your choice of method.)

**E6-42** ***(Learning Objective 3: Evaluating a company's profitability)*** T Mart, Inc., declared bankruptcy. Let's see why. T Mart reported these figures:

**T Mart, Inc.**
**Statement of Income**
Years Ended December 31

| Millions | 20X6 | 20X5 | 20X4 | 20X3 |
|---|---|---|---|---|
| Sales | $36.1 | $36.0 | $34.6 | |
| Cost of sales | 28.7 | 27.9 | 26.9 | |
| Selling expenses | 7.6 | 6.7 | 6.1 | |
| Other expenses | 0.1 | 0.9 | 0.7 | |
| Net income (net loss) | $ (0.3) | $ 0.5 | $ 0.9 | |
| Additional data: | | | | |
| Ending inventory | $ 8.8 | $ 7.4 | $ 7.6 | $ 6.6 |

### *Requirement*

1. Evaluate the trend of T Mart's results of operations during 20X4 through 20X6. Consider the trends of sales, gross profit, and net income. Track the gross profit percentage (to three decimal places) and the rate of inventory turnover (to one decimal place) in each year. Also discuss the role that selling expenses must have played in T Mart's difficulties.

## Quiz

*Test your understanding of accounting for inventory by answering the following questions. Select the best choice from among the possible answers given.*

**Q6-43** Oceanview Software began January with $3,200 of merchandise inventory. During January, Oceanview made the following entries for its inventory transactions:

| | | | |
|---|---|---|---|
| | Inventory | 6,400 | |
| | Accounts Payable | | 6,400 |
| | | | |
| | Accounts Receivable | 7,400 | |
| | Sales Revenue | | 7,400 |
| | | | |
| | Cost of Goods Sold | 5,400 | |
| | Inventory | | 5,400 |

How much was Oceanview's inventory at the end of January?

**a.** $5,200
**b.** Zero
**c.** $4,200
**d.** $4,700

**Q6-44** What is Oceanview's gross profit for January?

**a.** Zero
**b.** $7,400
**c.** $5,400
**d.** $2,000

**Q6-45** When does the cost of inventory become an expense?

**a.** When inventory is purchased from the supplier.
**b.** When cash is collected from the customer.
**c.** When payment is made to the supplier.
**d.** When inventory is delivered to a customer.

The next two questions use the following facts. Perfect Corner Frame Shop wants to know the effect of different inventory costing methods on its financial statements. Inventory and purchases data for April follow:

| | | Units | Unit Cost | Total Cost |
|---|---|---|---|---|
| Apr 1 | Beginning inventory | 2,700 | $14.00 | $37,800 |
| 4 | Purchase | 1,500 | $14.40 | 21,600 |
| 9 | Sale | (1,600) | | |

**Q6-46** If Perfect Corner uses the FIFO method, the cost of the ending inventory will be
**a.** $37,000.
**b.** $22,700.
**c.** $22,400.
**d.** $21,600.

**Q6-47** If Perfect Corner uses the LIFO method, cost of goods sold will be
**a.** $22,700.
**b.** $23,000.
**c.** $22,400.
**d.** $21,600.

**Q6-48** In a period of rising prices,
**a.** Net income under LIFO will be higher than under FIFO.
**b.** Gross profit under FIFO will be higher than under LIFO.
**c.** LIFO inventory will be greater than FIFO inventory.
**d.** Cost of goods sold under LIFO will be less than under FIFO.

**Q6-49** The income statement for Feel Good Health Foods shows gross profit of $151,000, operating expenses of $126,000, and cost of goods sold of $215,000. What is the amount of net sales revenue?
**a.** $277,000
**b.** $366,000
**c.** $492,000
**d.** $341,000

**Q6-50** When the inventory cost is lower than NRV, the inventory should be reported at:
**a.** Market price of inventory.
**b.** Selling price of inventory.
**c.** Replacement price of inventory.
**d.** Selling price of inventory less cost to sell.

**Q6-51** The sum of (a) ending inventory and (b) cost of goods sold is
**a.** beginning inventory.
**b.** goods available.
**c.** net purchases.
**d.** gross profit.

**Q6-52** The following data come from the inventory records of Draper Company:

| | |
|---|---|
| Net sales revenue | $623,000 |
| Beginning inventory | 64,000 |
| Ending inventory | 45,000 |
| Net purchases | 460,000 |

Based on these facts, the gross profit for Draper Company is
**a.** $130,000.
**b.** $163,000.
**c.** $134,000.
**d.** Some other amount.

**Q6-53** Eleanor Barker Cosmetics ended the month of May with inventory of $25,000. Eleanor Barker expects to end June with inventory of $12,000 after cost of goods sold of $102,000. How much inventory must Eleanor Barker purchase during June in order to accomplish these results?

**a.** $89,000
**b.** $114,000
**c.** $115,000
**d.** Cannot be determined from the data given

**Q6-54** Two financial ratios that clearly distinguish a discount chain such as Kmart from a high-end retailer such as Saks Fifth Avenue are the gross profit percentage and the rate of inventory turnover. Which set of relationships is most likely for Saks Fifth Avenue?

| Gross profit percentage | Inventory turnover |
|---|---|
| **a.** High | Low |
| **b.** High | High |
| **c.** Low | Low |
| **d.** Low | High |

**Q6-55** Sales are $540,000 and cost of goods sold is $330,000. Beginning and ending inventories are $29,000 and $34,000, respectively. How many times did the company turn its inventory over during this period?

**a.** 17.1 times
**b.** 6.7 times
**c.** 7.2 times
**d.** 10.5 times

**Q6-56** Trigger, Inc., reported the following data:

| | | | |
|---|---|---|---|
| Freight in | $ 25,000 | Sales returns | $ 7,000 |
| Purchases | 208,000 | Purchase returns | 6,200 |
| Beginning inventory | 57,000 | Sales revenue | 450,000 |
| Purchase discounts | 4,300 | Ending inventory | 46,000 |

Trigger's gross profit percentage is

**a.** 46.3.
**b.** 52.7.
**c.** 47.3.
**d.** 57.4.

**Q6-57** Shipley Tank Company had the following beginning inventory, net purchases, net sales, and gross profit percentage for the first quarter of 20X6:

| | |
|---|---|
| Beginning inventory, $52,000 | Net purchases, $73,000 |
| Net sales revenue, $94,000 | Gross profit rate, 50% |

By the gross profit method, the ending inventory should be

**a.** $80,000.
**b.** $78,000.
**c.** $81,000.
**d.** $79,000.

**Q6-58** An error understated Regan Corporation's December 31, 20X6, ending inventory by $42,000. What effect will this error have on total assets and net income for 20X6?

| Assets | Net income |
|---|---|
| **a.** Understate | No effect |
| **b.** No effect | No effect |
| **c.** Understate | Understate |
| **d.** No effect | Overstate |

**Q6-59** An error understated Regan Corporation's December 31, 20X6, ending inventory by $42,000. What effect will this error have on net income for 20X7?

**a.** Overstate
**b.** Understate
**c.** No effect

## Problems

MyAccountingLab

All of the A and B problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab

### (Group A)

**P6-60A** ***(Learning Objectives 1, 2: Accounting for inventory in a perpetual system using average costing method)*** Nice Buy purchases inventory in crates of merchandise; each crate of inventory is a unit. The fiscal year of Nice Buy ends each February 28. Assume you are dealing with a single Nice Buy store in Taipei, Taiwan. The Taiwan store began 20X6 with an inventory of 21,000 units that cost a total of $1,050,000. During the year, the store purchased merchandise on account as follows:

| | |
|---|---|
| April (31,000 units at $51).................................. | $1,581,000 |
| August (51,000 units at $55)................................ | 2,805,000 |
| November (61,000 units at $61) .......................... | 3,721,000 |
| Total purchases .................................................... | $8,107,000 |

Cash payments on account totaled $7,707,000. During fiscal year 20X6, the store sold 148,000 units of merchandise for $14,208,000, of which $4,900,000 was for cash and the balance was on account. Nice Buy uses the average cost method for inventories. Operating expenses for the year were $3,750,000. Nice Buy paid 70% in cash and accrued the rest as accrued liabilities. The store accrued income tax at the rate of 30%.

#### *Requirements*

1. Make summary journal entries to record the store's transactions for the year ended February 28, 20X6. Nice Buy uses a perpetual inventory system.
2. Prepare a T-account to show the activity in the Inventory account.
3. Prepare the store's income statement for the year ended February 28, 20X6. Show totals for gross profit, income before tax, and net income.

**P6-61A** ***(Learning Objective 1, 2: Measuring cost of goods sold and ending inventory—perpetual system)*** Assume a Tiger Sports outlet store began October 20X6 with 48 pairs of running shoes that cost the store $34 each. The sale price of these shoes was $69. During October, the store completed these inventory transactions:

| | | Units | Unit Cost | Units Sales Price |
|---|---|---|---|---|
| Oct 3 | Sale ............ | 11 | $34 | $69 |
| 8 | Purchase...... | 83 | 35 | |
| 11 | Sale ............ | 37 | 34 | 69 |
| 19 | Sale ............ | 6 | 35 | 71 |
| 24 | Sale ............ | 38 | 35 | 71 |
| 30 | Purchase...... | 25 | 36 | |

#### *Requirements*

1. The preceding data are taken from the store's perpetual inventory records. Which cost method does the store use? Explain how you arrived at your answer.
2. Determine the store's cost of goods sold for October. Also compute gross profit for October.
3. What is the cost of the store's October 31 inventory of running shoes?

**P6-62A** ***(Learning Objective 2, 3: Computing inventory by three methods—perpetual system)*** Fatigues Surplus began October with 72 tents that cost $17 each. During the month, Fatigues Surplus made the following purchases at cost:

| | | |
|---|---|---|
| Oct 4 | 103 tents @ $19 = | $1,957 |
| 19 | 158 tents @ $21 = | 3,318 |
| 25 | 43 tents @ $22 = | 946 |

Fatigues Surplus sold 324 tents and at October 31 the ending inventory consists of 52 tents. The sale price of each tent was $51.

***Requirements***

1. Determine the cost of goods sold and ending inventory amounts for October under the average cost, FIFO cost, and LIFO cost. Round average cost per unit to four decimal places, and round all other amounts to the nearest dollar.
2. Explain why cost of goods sold is highest under LIFO. Be specific.
3. Prepare Fatigues Surplus' income statement for October. Report gross profit. Operating expenses totaled $5,000. Fatigues Surplus uses average costing for inventory. The income tax rate is 40%.

**P6-63A** ***(Learning Objective 2, 3: Applying the different inventory costing methods—perpetual system)*** The records of Bell Aviation include the following accounts for inventory of aviation fuel at December 31 of the current year: ■ **writing assignment**

**Inventory**

| | | | | | |
|---|---|---|---|---|---|
| Jan 1 | Balance | 790 units @ $7.70 | $ 6,083 | | |
| Mar 6 | Purchase | 320 units @ $7.80 | 2,496 | | |
| Jun 22 | Purchase | 8,350 units @ $8.20 | 68,470 | | |
| Oct 4 | Purchase | 530 units @ $9.20 | 4,876 | | |

**Sales Revenue**

| | | | | | |
|---|---|---|---|---|---|
| | | | Dec 31 | 9,010 units | $132,447 |

***Requirements***

1. Prepare a partial income statement through gross profit under the average, FIFO, and LIFO methods. Round average cost per unit to four decimal places and all other amounts to the nearest dollar.
2. Which inventory method would you use to minimize income tax? Explain why this method causes income tax to be the lowest.

**P6-64A** ***(Learning Objective 3: Applying the net realizable value to inventories—perpetual system)*** ELV Trade Mart has recently had lackluster sales. The rate of inventory turnover has dropped, and the merchandise is gathering dust. It is now December 31, 20X6, and the current NRV cost of ELV's ending inventory is $75,000 below what ELV actually paid for the goods, which was $220,000. Before any adjustments at the end of the period, the Cost of Goods Sold account has a balance of $770,000. ■ **writing assignment**

a. What accounting action should ELV take in this situation?
b. Give any journal entry required.
c. At what amount should ELV report Inventory on the balance sheet?
d. At what amount should the company report Cost of Goods Sold on the income statement?
e. Discuss the accounting principle or concept that is most relevant to this situation.

**P6-65A** ***(Learning Objective 4: Using gross profit percentage and inventory turnover to evaluate two companies)*** Sprinkle Top and Coffee Shop are both specialty food chains. The two companies reported these figures, in millions:

**Sprinkle Top, Inc.**
**Income Statement (Adapted)**
Years Ended December 31

| (Amounts in millions) | 20X6 | 20X5 |
|---|---|---|
| **Revenues:** | | |
| Net sales | $544 | $707 |
| **Costs and Expenses:** | | |
| Cost of goods sold | 478 | 594 |
| Selling, general, and administrative expenses | 60 | 55 |

**Sprinkle Top, Inc.**
**Balance Sheet (Adapted)**
December 31

| (Amounts in millions) | 20X6 | 20X5 |
|---|---|---|
| **Assets** | | |
| Current assets: | | |
| Cash and cash equivalents | $12 | $27 |
| Receivables | 28 | 40 |
| Inventories | 26 | 36 |

**Coffee Shop Corporation**
**Income Statement (Adapted)**
Years Ended December 31

| (Amounts in millions) | 20X6 | 20X5 |
|---|---|---|
| Net sales | $7,700 | $6,300 |
| Cost of goods sold | 3,160 | 2,604 |
| Selling, general, and administrative expenses | 2,950 | 2,390 |

**Coffee Shop Corporation**
**Balance Sheet (Adapted)**
December 31

| (Amounts in millions) | 20X6 | 20X5 |
|---|---|---|
| **Assets** | | |
| Current assets: | | |
| Cash and temporary investments | $313 | $172 |
| Receivables, net | 230 | 188 |
| Inventories | 627 | 544 |

### Requirements

1. Compute the gross profit percentage and the rate of inventory turnover for Sprinkle Top and Coffee Shop for 20X6.
2. Based on these statistics, which company looks more profitable? Why? What other expense category should we consider in evaluating these two companies?

**P6-66A** ***(Learning Objectives 1, 4: Estimating inventory by the gross profit method; preparing the income statement)*** Assume Thompson Company, a copy center, lost some inventory in a fire. To file an insurance claim, Thompson Company must estimate its inventory by the gross profit method. Assume that for the past two years Thompson Company's gross profit has averaged 41% of net sales. Suppose the Thompson Company's inventory records reveal the following data:

■ spreadsheet

| | |
|---|---|
| Inventory, October 1 | $ 57,100 |
| Transactions during October: | |
| Purchases | 490,200 |
| Purchase discounts | 11,000 |
| Purchase returns | 70,900 |
| Sales | 667,000 |
| Sales returns | 11,000 |

### Requirements

1. Estimate the cost of the lost inventory, using the gross profit method.
2. Prepare the October income statement for this product through gross profit. Show the detailed computations of cost of goods sold in a separate schedule.

**P6-67A** ***(Learning Objective 3: Determining the amount of inventory to purchase)*** Maroney's Convenience Store's income statement and balance sheet reported the following.

**Maroney's Convenience Stores**
**Income Statement**
Year Ended December 31, 20X5

| | |
|---|---|
| Sales | $957,000 |
| Cost of sales | 720,000 |
| Gross profit | 237,000 |
| Operating expenses | 114,000 |
| Net income | $123,000 |

**Maroney's Convenience Stores**
**Balance Sheet**
December 31, 20X5

| Assets | | Liabilities | |
|---|---|---|---|
| Cash | $ 44,000 | Accounts payable | $ 31,000 |
| Inventories | 68,000 | Note payable | 187,000 |
| Land and | | Total liabilities | 218,000 |
| buildings, net | 273,000 | Owner, capital | 167,000 |
| | | Total liabilities | |
| Total assets | $385,000 | and capital | $385,000 |

The business is organized as a proprietorship, so it pays no corporate income tax. The owner is budgeting for 20X6. He expects sales and cost of goods sold to increase by 6%. To meet customer demand, ending inventory will need to be $76,000 at December 31, 20X6. The owner hopes to earn a net income of $154,000 next year.

### Requirements

1. One of the most important decisions a manager makes is the amount of inventory to purchase. Show how to determine the amount of inventory to purchase in 20X6.
2. Prepare the store's budgeted income statement for 20X6 to reach the target net income of $154,000. To reach this goal, operating expenses must decrease by $16,780.

**P6-68A** ***(Learning Objective 5: Correcting inventory errors over a three-year period)*** The accounting records of R.B. Video Sales show the data betow (in millions). The shareholders are very happy with R.B.'s steady increase in net income.

Auditors discovered that the ending inventory for 20X4 was understated by $3 million and that the ending inventory for 20X5 was also understated by $3 million. The ending inventory at December 31, 20X6, was correct.

| | 20X6 | | 20X5 | | 20X4 | |
|---|---|---|---|---|---|---|
| Net sales revenue | | $39 | | $36 | | $33 |
| Cost of goods sold: | | | | | | |
| Beginning inventory | $ 5 | | $ 4 | | $ 3 | |
| Net purchases | 27 | | 25 | | 23 | |
| Cost of goods available | 32 | | 29 | | 26 | |
| Less ending inventory | (6) | | (5) | | (4) | |
| Cost of goods sold | | 26 | | 24 | | 22 |
| Gross profit | | 13 | | 12 | | 11 |
| Operating expenses | | 6 | | 6 | | 6 |
| Net income | | $ 7 | | $ 6 | | $ 5 |

## *Requirements*

1. Show corrected income statements for each of the three years.
2. How much did these assumed corrections add to or take away from R.B.'s total net income over the three-year period? How did the corrections affect the trend of net income?
3. Will R.B.'s shareholders still be happy with the company's trend of net income? Give the reason for your answer.

## (Group B)

**P6-69B** ***(Learning Objectives 1, 2: Accounting for inventory in a perpetual system using average costing method)*** Best Guy purchases inventory in crates of merchandise; each crate of inventory is a unit. The fiscal year of Best Guy ends each February 28. Assume you are dealing with a single Best Guy store in Paris, France. The Paris store began 20X6 with an inventory of 17,000 units that cost a total of €850,000. During the year, the store purchased merchandise on account as follows:

| | |
|---|---|
| April (33,000 units at €60) | €1,980,000 |
| August (53,000 units at €64) | 3,392,000 |
| November (63,000 units at €70) | 4,410,000 |
| Total purchases | €9,782,000 |

Cash payments on account totaled €9,382,000. During fiscal 20X6, the store sold 152,000 units of merchandise for €14,592,000, of which €4,500,000 was for cash and the balance was on account. Best Guy uses the average cost method for inventories. Operating expenses for the year were €2,750,000. Best Guy paid 60% in cash and accrued the rest as accrued liabilities. The store accrued income tax at the rate of 35%.

## *Requirements*

1. Make summary journal entries to record the store's transactions for the year ended February 28, 20X6. Best Guy uses a perpetual inventory system.
2. Prepare a T-account to show the activity in the Inventory account.
3. Prepare the store's income statement for the year ended February 28, 20X6. Show totals for gross profit, income before tax, and net income.

**P6-70B** ***(Learning Objective 1, 2: Measuring cost of goods sold and ending inventory—perpetual system)*** Assume a Championship Sports outlet store began March with 46 pairs of running shoes that cost the store €39 each. The sale price of these shoes was €65. During March the store completed these inventory transactions:

| | | | Units | Unit Cost | Units Sale Price |
|---|---|---|---|---|---|
| Mar | 3 | Sale ............ | 17 | €39 | €65 |
| | 8 | Purchase...... | 78 | 40 | |
| | 11 | Sale ............ | 29 | 39 | 65 |
| | 19 | Sale ............ | 11 | 40 | 67 |
| | 24 | Sale ............ | 36 | 40 | 67 |
| | 30 | Purchase...... | 19 | 41 | |

### *Requirements*

1. The preceding data are taken from the store's perpetual inventory records. Which cost method does the store use? Explain how you arrived at your answer.
2. Determine the store's cost of goods sold for March. Also compute gross profit for March.
3. What is the cost of the store's March 31 inventory of running shoes?

**P6-71B** ***(Learning Objective 2, 3: Computing inventory by three methods—perpetual system)*** SWAT Team Surplus began July with 66 tents that cost €23 each. During the month, SWAT Team Surplus made the following purchases at cost:

| | | |
|---|---|---|
| Jul | 4 | 105 tents @ €25 = €2,625 |
| | 19 | 157 tents @ €27 = 4,239 |
| | 25 | 37 tents @ €28 = 1,036 |

SWAT Team Surplus sold 310 tents, and at July 31 the ending inventory consists of 55 tents. The sale price of each tent was €53.

### *Requirements*

1. Determine the cost of goods sold and ending inventory amounts for July under the average cost, FIFO cost, and LIFO cost. Round average cost per unit four decimal places, and round all other amounts to the nearest dollar.
2. Explain why cost of goods sold is highest under LIFO. Be specific.
3. Prepare SWAT Team Surplus income statement for July. Report gross profit. Operating expenses totaled €3,000. SWAT Team Surplus uses average costing for inventory. The income tax rate is 32%.

**P6-72B** ***(Learning Objective 2, 3: Applying the different inventory costing methods—perpetual system)*** The records of Buzz Aviation include the following accounts for inventory of aviation fuel at December 31 of the current year:

**writing assignment**

**Inventory**

| | | | | | |
|---|---|---|---|---|---|
| Jan | 1 | Balance | 730 units @ €7.60 | € 5,548 | |
| Mar | 6 | Purchase | 310 units @ €7.70 | 2,387 | |
| Jun | 22 | Purchase | 8,370 units @ €8.10 | 67,797 | |
| Oct | 4 | Purchase | 520 units @ €9.10 | 4,732 | |

**Sales Revenue**

| | | | |
|---|---|---|---|
| | Dec 31 | 9,030 units | €128,226 |

***Requirements***

1. Prepare a partial income statement through gross profit under the average, FIFO, and LIFO methods. Round average cost per unit to four decimal places and all other amounts to the nearest whole dollar.
2. Which inventory method would you use to minimize income tax? Explain why this method causes income tax to be the lowest.

**writing assignment**

**P6-73B** ***(Learning Objective 3: Applying the net realizable value to inventories—perpetual system)*** Aquarium Trade Mart has recently had lackluster sales. The rate of inventory turnover has dropped, and the merchandise is gathering dust. It is now December 31, 20X6, and the current NRV cost of Aquarium's ending inventory is €70,000 below what Aquarium actually paid for the goods, which was €280,000. Before any adjustments at the end of the period, the Cost of Goods Sold account has a balance of €800,000.

**a.** What accounting action should Aquarium take in this situation?
**b.** Give any journal entry required.
**c.** At what amount should Aquarium report Inventory on the balance sheet?
**d.** At what amount should the company report Cost of Goods Sold on the income statement?
**e.** Discuss the accounting principle or concept that is most relevant to this situation.

**P6-74B** ***(Learning Objective 4: Using gross profit percentage and inventory turnover to evaluate two companies)*** Pastry People and Coffee Grind are both specialty food chains. The two companies reported these figures, in millions:

**Pastry People, Inc.**
**Income Statement (Adapted)**
Years Ended December 31

| (Amounts in millions) | 20X6 | 20X5 |
|---|---|---|
| **Revenues:** | | |
| Net sales | €548 | €701 |
| **Costs and Expenses:** | | |
| Cost of goods sold | 477 | 593 |
| Selling, general, and administrative expenses | 61 | 51 |

**Pastry People, Inc.**
**Balance Sheet (Adapted)**
December 31

| (Amounts in millions) | 20X6 | 20X5 |
|---|---|---|
| Assets | | |
| Current assets: | | |
| Cash and cash equivalents | €17 | €22 |
| Receivables | 21 | 34 |
| Inventories | 17 | 33 |

| Coffee Grind Corporation<br>Income Statement (Adapted)<br>Years Ended December 31 | | |
|---|---|---|
| (Amounts in millions) | 20X6 | 20X5 |
| Net sales | €7,171 | €6,369 |
| Cost of goods sold | 3,190 | 2,603 |
| Selling, general, and administrative expenses | 2,955 | 2,360 |

| Coffee Grind Corporation<br>Balance Sheet (Adapted)<br>December 31 | | |
|---|---|---|
| (Amounts in millions) | 20X6 | 20X5 |
| **Assets** | | |
| Current assets: | | |
| Cash and temporary investments | €310 | €171 |
| Receivables, net | 227 | 193 |
| Inventories | 631 | 546 |

### *Requirements*

1. Compute the gross profit percentage and the rate of inventory turnover for Pastry People and Coffee Grind for 20X6.
2. Based on these statistics, which company looks more profitable? Why? What other expense category should we consider in evaluating these two companies?

■ **spreadsheet**

**P6-75B** ***(Learning Objectives 1, 4: Estimating inventory by the gross profit method; preparing the income statement)*** Assume Ross Company, a sporting goods store, lost some inventory in a fire. To file an insurance claim, Ross Company must estimate its ending inventory by the gross profit method. Assume that for the past two years, Ross Company's gross profit has averaged 43% of net sales. Suppose Ross Company's inventory records reveal the following data:

| | |
|---|---|
| Inventory, January 1 | € 57,500 |
| Transactions during January: | |
| Purchases | 490,500 |
| Purchase discounts | 12,000 |
| Purchase returns | 70,300 |
| Sales | 664,000 |
| Sales returns | 16,000 |

### *Requirements*

1. Estimate the cost of the lost inventory, using the gross profit method.
2. Prepare the January income statement for this product through gross profit. Show the detailed computation of cost of goods sold in a separate schedule.

**P6-76B** ***(Learning Objective 3: Determining the amount of inventory to purchase)*** Dave's Convenience Store's income statement and balance sheet reported the following. The business is organized as a proprietorship, so it pays no corporate income tax. The owner is budgeting for 20X6. He expects sales and cost of goods sold to increase by 9%. To meet customer demand, ending inventory will need to be €78,000 at December 31, 20X6. The owner hopes to earn a net income of €156,000 next year.

**Dave's Convenience Stores**
**Income Statement**
Year Ended December 31, 20X5

| | |
|---|---|
| Sales | €964,000 |
| Cost of sales | 722,000 |
| Gross profit | 242,000 |
| Operating expenses | 110,000 |
| Net income | €132,000 |

**Dave's Convenience Stores**
**Balance Sheet**
December 31, 20X5

| Assets | | Liabilities | |
|---|---|---|---|
| Cash | € 35,000 | Accounts payable | € 28,000 |
| Inventories | 65,000 | Note payable | 193,000 |
| Land and | | Total liabilities | 221,000 |
| buildings, net | 268,000 | Owner, capital | 147,000 |
| | | Total liabilities | |
| Total assets | €368,000 | and capital | €368,000 |

## *Requirements*

1. One of the most important decisions a manager makes is the amount of inventory to purchase. Show how to determine the amount of inventory to purchase in 20X6.
2. Prepare the store's budgeted income statement for 20X6 to reach the target net income of €156,000. To reach this goal, operating expenses must decrease by €2,220.

**P6-77B** ***(Learning Objective 5: Correcting inventory errors over a three-year period)*** The accounting records of Waterville Video Sales show the data betow (in millions). The shareholders are very happy with Waterville's steady increase in net income.

| | 20X6 | | 20X5 | | 20X4 | |
|---|---|---|---|---|---|---|
| Net sales revenue | | €42 | | €39 | | €36 |
| Cost of goods sold: | | | | | | |
| Beginning inventory | € 10 | | € 9 | | € 8 | |
| Net purchases | 33 | | 31 | | 29 | |
| Cost of goods available | 43 | | 40 | | 37 | |
| Less ending inventory | (11) | | (10) | | (9) | |
| Cost of goods sold | | 32 | | 30 | | 28 |
| Gross profit | | 10 | | 9 | | 8 |
| Operating expenses | | 5 | | 5 | | 5 |
| Net income | | $ 5 | | $ 4 | | $ 3 |

Auditors discovered that the ending inventory for 20X4 was understated by €2 million and that the ending inventory for 20X5 was also understated by €2 million. The ending inventory at December 31, 20X6 was correct.

## *Requirements*

1. Show corrected income statements for each of the three years.
2. How much did these assumed corrections add to or take away from Waterville's total net income over the three-year period? How did the corrections affect the trend of net income?
3. Will Waterville's shareholders still be happy with the company's trend of net income? Give the reason for your answer.

# APPLY YOUR KNOWLEDGE

## Decision Cases

**Case 1.** *(Learning Objectives 1, 2: Assessing the impact of a year-end purchase of inventory)* Duracraft Corporation is nearing the end of its first year of operations. Duracraft made inventory purchases of $745,000 during the year, as follows:

■ **writing assignment**

| | | | |
|---|---|---|---|
| January | 1,000 units @ | $100.00 = | $100,000 |
| July | 4,000 | 121.25 | 485,000 |
| November | 1,000 | 160.00 | 160,000 |
| Totals | 6,000 | | $745,000 |

Sales for the year are 5,000 units for $1,200,000 of revenue. Expenses other than cost of goods sold and income taxes total $200,000. The president of the company is undecided about whether to adopt the FIFO method or the LIFO method for inventories. The income tax rate is 40%.

### *Requirements*

1. To aid company decision making, prepare income statements under FIFO and under LIFO.
2. Compare the net income under FIFO with net income under LIFO. Which method produces the higher net income? What causes this difference? Be specific.

**Case 2.** *(Learning Objective 3: Assessing the impact of the inventory costing method on the financial statements)* The inventory costing method a company chooses can affect the financial statements and thus the decisions of the people who use those statements.

■ **writing assignment**

### *Requirements*

1. Company A uses the LIFO inventory method and discloses its use of the LIFO method in notes to the financial statements. Company B uses the FIFO method to account for its inventory. Company B does *not* disclose which inventory method it uses. Company B reports a higher net income than Company A. In which company would you prefer to invest? Give your reason.
2. Conservatism is an accepted accounting concept. Would you want management to be conservative in accounting for inventory if you were a shareholder or a creditor of a company? Give your reason.

## Ethical Issue

During 20X6, Vanguard, Inc., changed to the LIFO method of accounting for inventory. Suppose that during 20X7, Vanguard changes back to the FIFO method and the following year Vanguard switches back to LIFO again.

### *Requirements*

1. What would you think of a company's ethics if it changed accounting methods every year?
2. What accounting principle would changing methods every year violate?
3. Who can be harmed when a company changes its accounting methods too often? How?

## Focus on Financials: ■ Vodafone Corporation

This case spans all 12 chapters and is based on the consolidated financial statements of **Vodafone Corporation**. As you work with Vodafone throughout this course, you will develop the confidence and ability to use the financial statements of other companies as well. Refer to Vodafone's financial statements in Appendix A. Alternatively, you may choose to obtain the full annual report from Vodafone's website at www.vodafone.com.

**Requirements**

1. What method does Vodafone use to measure its inventories?
2. What would be the effect of Vodafone adopting say, FIFO, assuming rising inventory prices?
3. Three important pieces of inventory information are (a) the cost of inventory on hand, (b) the cost of sales, and (c) the cost of inventory purchases. Identify or compute each of these items for Vodafone at the end of 2011.
4. Did Vodafone's gross profit percentage on company sales improve or deteriorate in the year ended March 31, 2011, compared to the previous year?
5. Calculate Vodafone's inventory turnover for the year ended March 31, 2010 and March 31, 2011. Did inventory turnover rise or fall? How does this affect your analysis of Vodafone? What else would you need to know in order to make a judgment? (Inventory at March 31, 2009 was £412 million.)

## Group Project

**writing assignment**

***(Learning Objective 4: Comparing companies' inventory turnover ratios)*** Obtain the annual reports of 10 companies, two from each of five different industries. Most companies' financial statements can be downloaded from their websites.

1. Compute each company's gross profit percentage and rate of inventory turnover for the most recent two years. If annual reports are unavailable or do not provide enough data for multiple-year computations, you can gather financial statement data from *Moody's Industrial Manual*.
2. How well does each of your companies compare to the other company in its industry? What insight about your companies can you glean from these ratios?
3. Write a memo to summarize your findings, stating whether your group would invest in each of the companies it has analyzed.

---

## Quick Check Answers

1. *b*
2. *a*
3. *e*
4. *c* [(15 × \$5) + (25 × \$8)]
5. *b* (15 × \$5) + (\$10 × \$8)
6. *c* 25 × [(\$75 + \$320 + \$90) ÷ 65]
7. *c*
8. *a*
9. *c*
10. *a* (\$117,000 – \$57,000)
11. *c* (\$145,000 + \$25,000 – \$15,000)
12. *b* (\$28,000 + \$93,000 + \$3,000 – \$7,000 – \$35,000)
13. *a* (\$184,000 – \$82,000)/\$184,000
14. *b* [\$82,000 ÷ (\$28,000 + \$35,000)/2]
15. *d* \$110,000 + \$260,000 – [\$470,000 × (1 – 0.40)]
16. *a*

# APPENDIX 6A

## Accounting for Inventory in the Periodic System

In the periodic inventory system, the business keeps no running record of the merchandise. Instead, at the end of the period, the business counts inventory on hand and applies the unit costs to determine the cost of ending inventory. This inventory figure appears on the balance sheet and is used directly to calculate cost of goods sold.

### Recording Transactions in the Periodic System

In the periodic system, throughout the period the Inventory account carries the beginning balance left over from the preceding period. During the period, the business records purchases of inventory in the *Purchases* account (an expense account). For inventory sales, only the revenue and considerations received (or receivable) are recorded.

At the end of the period, the purchases are added to the inventory account. A stocktake is then performed to determine the ending inventory balance. Any stock that is not present is *assumed* to be sold and charged to the cost of goods sold account. These end-of-period entries can be made during the closing process (see Chapter 3).

Exhibit 6A-1 illustrates the inventory accounting in a periodic system. Let's assume Jean-Luc Products (JLP) started the period with a beginning inventory balance of $100,000. During the year, JLP made purchases on credit, totaling $560,000. JLP's total sales for the year were $900,000, all on credit. A stocktake at the end of the period revealed that JLP has an inventory ending balance of $120,000.

**EXHIBIT 6-A1 | Recording and Reporting Inventories: Periodic System**

**PANEL A—Recording Transactions and the T-accounts**

| | | | |
|---|---|---|---|
| 1. | Purchases | 560,000 | |
| | Accounts Payable | | 560,000 |
| | *Purchased inventory on account.* | | |
| | | | |
| 2. | Accounts Receivable | 900,000 | |
| | Sales Revenue | | 900,000 |
| | *Sold inventory on account.* | | |
| | | | |
| 3. | End-of-period entries to update Inventory and record Cost of Goods Sold: | | |
| a. | Inventory | 560,000 | |
| | Purchases | | 560,000 |
| | *Transferred purchases to inventory.* | | |
| | | | |
| b. | Cost of Goods Sold | 540,000 | |
| | Inventory | | 540,000 |
| | *Set up ending inventory based on physical count.* | | |

**The T-accounts show the following:**

**Purchases**

| Debit | | Credit | |
|---|---|---|---|
| Purchases | 560,000 | Inventory | 560,000 |
| End Bal | 0 | | |

**Inventory**

| Debit | | Credit | |
|---|---|---|---|
| Beg. bal | 100,000 | COGS | 540,000 |
| Purchases | 560,000 | | |
| End Bal | 120,000 | | |

**Cost of Goods Sold**

| Debit | | Credit |
|---|---|---|
| Inventory | 540,000 | |

**EXHIBIT 6-A1 | continued**

**PANEL B—Reporting in the Financial Statements**

| Income Statement (Partial) | | |
|---|---|---|
| Sales revenue | | $900,000 |
| Cost of goods sold: | | |
| Beginning inventory | $ 100,000 | |
| Purchases | 560,000 | |
| Goods available | 660,000 | |
| Ending inventory | (120,000) | |
| Cost of goods sold | | 540,000 |
| Gross profit | | $360,000 |

| Ending Balance Sheet (Partial) | |
|---|---|
| Current assets: | |
| Cash | $ XXX |
| Short-term investments | XXX |
| Accounts receivable | XXX |
| Inventory | 120,000 |
| Prepaid expenses | XXX |

# Appendix Assignments

## Short Exercises

**S6A-1** ***(Recording inventory transactions in the periodic system)*** Saxton Technologies began the year with inventory of $480. During the year, Saxton purchased inventory costing $1,180 and sold goods for $3,200, with all transactions on account. Saxton ended the year with inventory of $610. Journalize all the necessary transactions under the periodic inventory system.

**S6A-2** ***(Computing cost of goods sold and preparing the income statement—periodic system)*** Use the data in Short Exercise 6A-1 to do the following for Saxton Technologies:

***Requirements***

1. Post to the Inventory and Cost of Goods Sold accounts.
2. Compute cost of goods sold by the cost-of-goods-sold model.
3. Prepare the income statement of Saxton Technologies through gross profit.

## Exercises

MyAccountingLab

All of these exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

### (Group A)

**E6A-3A** ***(Computing amounts for various inventory methods—periodic system)*** Suppose Halton Corporation's inventory records for a particular computer chip indicate the following at July 31:

| | | | |
|---|---|---|---|
| Jul | 1 | Beginning inventory | 5 units @ $59 = $295 |
| | 8 | Purchase | 3 units @ $59 = 177 |
| | 15 | Purchase | 13 units @ $69 = 897 |
| | 26 | Purchase | 1 units @ $79 = 79 |

The physical count of inventory at July 31 indicates that seven units of inventory are on hand.

**Requirements**

Compute ending inventory and cost of goods sold, using each of the following methods:

1. Specific unit cost, assuming two $59 units and five $69 units are on hand
2. Average cost (round average unit cost to the nearest cent)
3. First-in, first-out
4. Last-in, first-out

**E6A-4A** ***(Journalizing inventory transactions in the periodic system; computing cost of goods sold)*** Use the data in Exercise 6A-3A.

**Requirements**

Journalize the following for the periodic system:

1. Total July purchases in one summary entry. All purchases were on credit.
2. Total July sales in a summary entry. Assume that the selling price was $295 per unit and that all sales were on credit.
3. July 31 entries for inventory. Halton uses LIFO. Post to the Cost of Goods Sold T-account to show how this amount is determined. Label each item in the account.
4. Show the computation of cost of goods sold by the cost-of-goods-sold model.

## (Group B)

**E6A-5B** ***(Computing amounts for various inventory methods—periodic system)*** Suppose Saxton Corporation's inventory records for a particular computer chip indicate the following at December 31:

| | | | |
|---|---|---|---|
| Dec | 1 | Beginning inventory .............. | 6 units @ €60 = $360 |
| | 8 | Purchase................................ | 4 units @ €60 = 240 |
| | 15 | Purchase................................ | 13 units @ €70 = 910 |
| | 26 | Purchase................................ | 2 units @ €80 = 160 |

The physical count of inventory at December 31 indicates that nine units of inventory are on hand.

**Requirements**

Compute ending inventory and cost of goods sold, using each of the following methods:

1. Specific unit cost, assuming four €60 units and five €70 units are on hand
2. Average cost (round average unit cost to the nearest cent)
3. First-in, first-out
4. Last-in, first-out

**E6A-6B** ***(Journalizing inventory transactions in the periodic system; computing cost of goods sold)*** Use the data in Exercise 6A-5B.

**Requirements**

Journalize the following for the periodic system:

1. Total December purchases in one summary entry. All purchases were on credit.
2. Total December sales in a summary entry. Assume that the selling price was €315 per unit and that all sales were on credit.
3. December 31 entries for inventory. Saxton uses LIFO. Post to the Cost of Goods Sold T-account to show how this amount is determined. Label each item in the account.
4. Show the computation of cost of goods sold by the cost-of-goods-sold model.

## Problems

MyAccountingLab

All of these problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

### (Group A)

**P6A-7A** ***(Computing cost of goods sold and gross profit on sales—periodic system)*** Assume a Watercrest outlet store began July 20X6 with 48 units of inventory that cost $16 each. The sale price of these units was $69. During July, the store completed these inventory transactions:

| | | Units | Unit Cost | Units Sale Price |
|---|---|---|---|---|
| Jul 3 | Sale ............ | 19 | $16 | $69 |
| 8 | Purchase...... | 80 | 17 | 71 |
| 11 | Sale ............ | 29 | 16 | 69 |
| 19 | Sale ............ | 3 | 17 | 71 |
| 24 | Sale ............ | 35 | 17 | 71 |
| 30 | Purchase...... | 22 | 18 | 72 |
| 31 | Sale ............ | 4 | 17 | 71 |

***Requirements***

1. Determine the store's cost of goods sold for July under the periodic inventory system. Assume the FIFO method.
2. Compute gross profit for July.

**P6A-8A** ***(Recording transactions in the periodic system; reporting inventory items in the financial statements)*** Accounting records for Halton Desserts, Inc., yield the following data for the year ended December 31, 20X6 (amounts in thousands):

| | |
|---|---|
| Inventory, December 31, 20X5 ...................................................................... | $ 560 |
| Purchases of inventory (on account)............................................................. | 2,040 |
| Sales of inventory—70% on account; 30% for cash....................................... | 3,400 |
| Inventory at the lower of FIFO cost or NRV, December 31, 20X6 ................ | 680 |

***Requirements***

1. Journalize Halton Desserts' inventory transactions for the year under the periodic system. Show all amounts in thousands.
2. Report ending inventory, sales, cost of goods sold, and gross profit on the appropriate financial statement (amounts in thousands). Show the computation of cost of goods sold.

### (Group B)

**P6A-9B** ***(Computing cost of goods sold and gross profit on sales—periodic system)*** Assume a Championship outlet store began January 20X6 with 50 units of inventory that cost €19 each. The sale price of these units was €71. During January the store completed these inventory transactions:

| | | Units | Unit Cost | Units Sale Price |
|---|---|---|---|---|
| Jan 3 | Sale ............ | 17 | €19 | €71 |
| 8 | Purchase...... | 77 | 20 | 73 |
| 11 | Sale ............ | 33 | 19 | 71 |
| 19 | Sale ............ | 2 | 20 | 73 |
| 24 | Sale ............ | 39 | 20 | 73 |
| 30 | Purchase...... | 19 | 21 | 74 |
| 31 | Sale ............ | 5 | 20 | 73 |

### *Requirements*

1. Determine the store's cost of goods sold for January under the periodic inventory system. Assume the FIFO method.
2. Compute gross profit for January.

**P6A-10B** ***(Recording transactions in the periodic system; reporting inventory items in the financial statements)*** Accounting records for Just Desserts, Inc., yield the following data for the year ended December 31, 20X6 (amounts in thousands):

| | |
|---|---|
| Inventory, December 31, 20X5 ..................................................................... | € 530 |
| Purchases of inventory (on account)............................................................. | 2,000 |
| Sales of inventory—75% on account, 25% for cash...................................... | 3,800 |
| Inventory at the lower of FIFO cost or market, December 31, 20X6.............. | 650 |

### *Requirements*

1. Journalize Just Desserts' inventory transactions for the year under the periodic system. Show all amounts in thousands.
2. Report ending inventory, sales, cost of goods sold, and gross profit on the appropriate financial statement (amounts in thousands). Show the computation of cost of goods sold.

# 7 PPE and Intangibles


*Source*: Dairy Farm Group

**SPOTLIGHT: Dairy Farm** **www.dairyfarmgroup.com**

Dairy Farm may sound a little unusual as a company name, but its roots can actually be traced back to a dairy farm established by Sir Patrick Manson and five Hong Kong businessmen in 1886. Dairy Farm is now a retail power house with over 5,400 outlets across Asia. It operates supermarkets (such as Wellcome, Cold Storage, Giant, Shop N Save, Marketplace, Hero, and many others), convenience stores (7-Eleven, Starmart), and other retail businesses (Guardian health and beauty stores, IKEA in Hong Kong and Taiwan, and Maxim's cake shops and restaurants).

To be able to operate on such a scale, Dairy Farm has invested in many types of assets, from cash and receivables (Chapter 5) and inventory (Chapter 6) to long-term assets such as Property, Plant and Equipment (PPE), as well as intangible assets. Dairy Farm's consolidated balance sheet and extracts of its PPE and intangible assets are shown below. Dairy Farm has 35% of its total assets in the form of PPE and intangible assets.

**Dairy Farm International Holdings Limited**
**Consolidated Balance Sheet (Adapted) and Notes to the Accounts**
As at December 31

| (In millions $, USD) | | 2011 | 2010 |
|---|---|---|---|
| **Assets** | | | |
| 1 Current assets | | 1,944.9 | 1,659.4 |
| 2 Property, Plant and Equipment (net) | | 896.0 | 920.8 |
| 3 Intangible assets (net) | | 352.4 | 343.9 |
| 4 All other non-current assets | | 345.7 | 333.7 |
| 5 Total assets | | 3,539.0 | 3,257.8 |
| **Liabilities and Equity** | | | |
| 6 Total liabilities | | 2,608.7 | 2,523.6 |
| 7 Total equity | | 930.3 | 734.2 |
| 8 Total liabilities and equity | | 3,539.0 | 3,257.8 |
| **Property, Plant and Equipment (line 2)** | Cost | ADI* | Carrying Amount |
| 9 Freehold properties | 97.1 | (2.3) | 94.8 |
| 10 Leasehold properties | 298.4 | (58.9) | 239.5 |
| 11 Leasehold improvements | 506.0 | (349.2) | 156.8 |
| 12 Plant and machinery | 483.8 | (324.0) | 159.8 |
| 13 Furniture, equipment and motor vehicles | 706.1 | (461.0) | 245.1 |
| 14 Total | 2,091.4 | (1,195.4) | 896.0 |
| **Intangible Assets (line 3)** | Cost | AAI* | Carrying Amount |
| 15 Goodwill | 287.0 | (0.4) | 286.6 |
| 16 Leasehold land | 40.3 | (2.8) | 37.5 |
| 17 Other | 52.2 | (23.9) | 28.3 |
| 18 Total | 379.5 | (27.1) | 352.4 |

ADI* = Accumulated Depreciation and Impairment; AAI* = Accumulated Amortization and Impairment

*Source*: Dairy Farm Group

PPE and intangibles are long-term assets because they provide economic benefits that extend beyond a single financial period. The allocation of their costs over their useful lives is called depreciation (for PPE) or amortization (for intangible assets). This chapter will start with an overview of various types of long-term assets that businesses have in their operations before proceeding to discuss the specific accounting treatments for long-term assets. As different companies have different types of long-term assets, we will use a few companies as illustrations during our discussions.

## LEARNING OBJECTIVES

1 **Determine** the cost of a PPE and account for depreciation

2 **Understand** additional issues related to accounting for PPE

3 **Analyze** the effects of a PPE disposal

4 **Account** for natural resources and depletion

5 **Account** for intangible assets and amortization

6 **Report** PPE transactions on the statement of cash flows

# Types of Non-current Assets

## Property, Plant and Equipment (PPE)

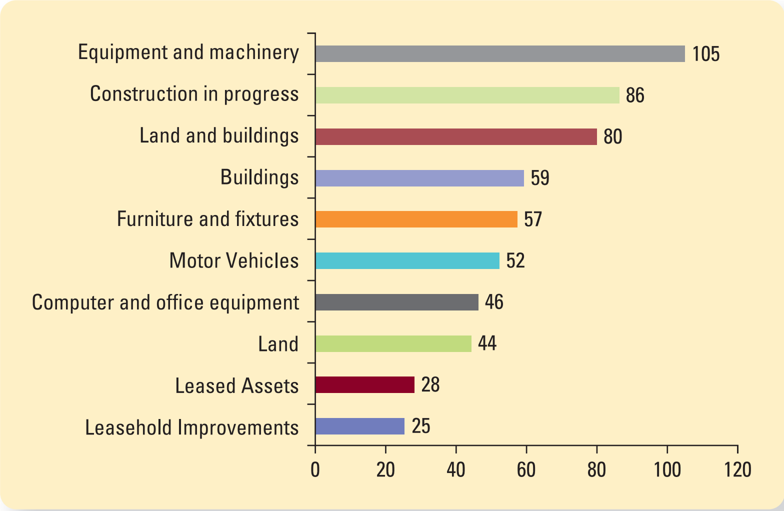
**PPE**, sometimes called *fixed assets*, are long-term, non-current or long-lived assets that are tangible—for instance, land, buildings, and equipment. They may be held for use in the production or supply of goods or services, for rental to others, or for administrative purposes; and are expected to be used during more than one period. The allocation of a PPE's cost over its useful life is called *depreciation*. The amount that has been allocated over the years is called *accumulated depreciation*. The primary source of guidance for accounting for PPE is *IAS 16—Property, Plant and Equipment*.

Businesses use several types of PPE, as shown in Dairy Farm's balance sheet. Dairy Farm has PPE totaling $896 million (lines 2), which is further detailed in its notes to the accounts (lines 9–13) into properties, leasehold improvements, plant and machinery, furniture equipment and motor vehicles, each with its own costs and accumulated depreciation and **impairment**. The difference between a PPE's cost and its accumulated depreciation is called the "carrying amount" (or net book value). Note that the carrying amount on the balance sheet tallies with the details provided in the notes to the accounts (line 2 and line 14).

Different entities may classify their PPE items into somewhat different categories that are suitable (and meaningful) for their business and financial statement users. For example, you saw earlier that Dairy Farm uses the PPE categories: (1) Freehold properties, (2) Leasehold properties, (3) Leasehold improvements, (4) Plant and machinery, and (5) Furniture, equipment and motor vehicles. An airline company, such as **Singapore Airlines**, would typically use additional PPE categories such as "Aircraft" and "Aircraft spares." **Hutchison Whampoa**, a Hong Kong-based diversified company with interests in the telecommunication industry amongst many others, uses a PPE category called "telecommunication network assets." **Sinopec** (China's largest oil producer and refiner) uses a PPE category "Oil depots, storage tanks and service stations".

A recent survey of 170 IFRS companies showed the following top 10 PPE headings reported by these companies (AICPA, 2010), as shown in Exhibit 7-1.

**EXHIBIT 7-1 | Top 10 PPE Categories**




*Source*: Exhibit created from source data found in IFRS Financial Statements – Best Practices in Presentation and Disclosure 2012/13, AICPA

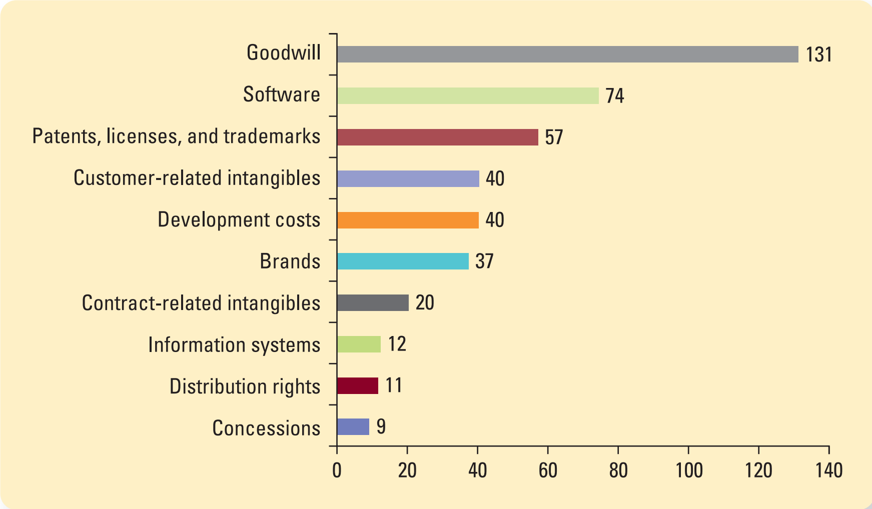
## Intangible Assets

**Intangible assets** are identifiable non-monetary assets without physical substance. Non-monetary simply means that the asset is not expressed in fixed or determinable amounts of money. These intangible assets are unique because they do not have any physical form. Dairy Farm reports a total of $352 million of net intangible assets (line 3), comprising goodwill, leasehold land, and other intangible assets (lines 15–17). Accounting for intangibles is similar in nature to accounting for PPE assets. With the exception of goodwill (and other intangible assets with indefinite useful lives), the costs of intangible assets are also allocated over the assets' respective useful lives. We usually refer to this as amortization. The primary source of guidance for intangible assets is *IAS 38—Intangible Assets*.

Similarly, the categories of intangible assets differ between entities depending on what an entity actually has. For example, **Lenovo**, the world's second largest computer vendor, categorizes its $2.1 billion intangible assets into goodwill, trademarks and trade names, internal use software, customer relationships, patent and technology, and marketing rights.

A recent survey of 170 IFRS companies showed that the majority of them (77%) have goodwill on their balance sheets (AICPA, 2010). Other intangibles assets reported include software, patents, licenses, trademarks, development costs, customer lists and relationships, and many others. Exhibit 7-2 shows the top 10 intangible assets reported by these companies.

**EXHIBIT 7-2 | Top 10 Intangible Asset Categories**




*Source*: Exhibit created from source data found in IFRS Financial Statements – Best Practices in Presentation and Disclosure 2012/13, AICPA

## Other Non-Current Assets

- Some entities, usually property developer and contract manufacturers, have a *construction in progress* non-current asset. You saw earlier in Exhibit 7-1 that construction in progress is quite common amongst the companies surveyed in the AICPA (2010) study. This account is a placeholder to hold the costs incurred for assets under construction. Once completed, the cost of the asset that has been accumulated in the Construction in Progress account is then moved to the PPE (or Intangible Asset, if appropriate) account if it is to be used internally. In cases where assets being constructed are meant for sale or delivery to customers, they will be transferred to inventory (and then subsequently to cost of sales). Accounting for long-term construction contracts is beyond the scope of this course, but you can refer to *IAS 11—Construction Contracts* if you want to find out more.
- Sometimes, you may also see entities, such as real estate companies or hotels, with *investment properties* as a non-current asset. These are a specially designated class of properties (land and/or buildings) held to earn rentals or for capital appreciation or both, rather than for usage associated with sales, production, or general administrative functions. Investment properties are beyond the scope of this course, but you can refer to *IAS 40—Investment Properties* for additional information.
- For certain companies in the agriculture industry, you may also see a category labeled "biological assets". For example, **Qian Hu** (a fish-breeder headquartered in Singapore) has biological assets that are for sale (as inventory) as well as biological assets that are for breeding purposes (and thus depreciated!). **Illovo**, Africa's biggest sugar producer, has cane roots and growing cane as their agriculture assets. **JBS Group** (the world's largest meat producer, headquartered in São Paulo, Brazil) has "cattle, hogs and lamb, poultry and plants for harvests" as its biological assets. Agriculture and biological assets are accounted for under *IAS 41—Agriculture*.

Both PPE and intangibles are subject to impairment tests (*IAS 36—Impairment of Assets*) to ensure that the values reported on the balance sheet do not exceed the fair value of the assets. Accounting for PPE and intangibles has its own terminology. Different names apply to the individual PPE categories and their corresponding expenses, as shown in Exhibit 7-3.

**EXHIBIT 7-3 | PPE and Intangibles Terminology**

| Asset Account (Balance Sheet) | Related Expense Account (Income Statement) |
|---|---|
| **Property, Plant and Equipment** | |
| Freehold Land | None |
| Leasehold Land | Depreciation |
| Buildings, Machinery and Equipment | Depreciation |
| Furniture and Fixtures | Depreciation |
| Land Improvements | Depreciation |
| Natural Resources | Depletion |
| **Intangibles** | |
| Intangibles with finite useful lives | Amortization |
| Intangibles with indefinite useful lives | None |

Now that you have been introduced to common types of PPE and intangibles, let's see how we can recognize and measure them.

# Initial Recognition and Measurement of PPE

## Recognition of PPE and Intangible Assets

**OBJECTIVE**

**1** **Determine** the cost of a PPE and account for depreciation

PPE and intangible assets are recognized in financial statements using the same way as other assets, when (a) it is probable that future economic benefits associated with the item will flow to the entity and (b) the cost of the item can be measured reliably. We will start our discussion with PPE for now and discuss intangible assets later on.

## Measurement of PPE on Initial Recognition

Here is a basic working rule for determining the cost of an asset: *The cost of any asset is the sum of all the costs incurred to bring the asset to its intended use.* Specifically, *IAS 16* requires that the cost of an item of PPE includes:

- its purchase price, including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates;
- any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.

## A CLOSER LOOK

There is an additional cost element in *IAS 16* that is seldom applicable to the majority of PPE items. *IAS 16* requires that the cost of an item of PPE also includes an initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located, the obligation for which an entity incurs either when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories during that period. Mining and oil exploration companies would typically have this type of environmental remediation obligation. The obligation component of the dismantling cost is accounted as per *IAS 37—Provisions, Contingent Liabilities and Contingent Assets*. Since this is rarely applicable for most assets, we will not discuss this cost component.

*IAS 16* provides some examples of "directly attributable cost:"

- costs of employee benefits arising directly from the construction or acquisition of the item of property, plant and equipment;
- costs of site preparation;
- initial delivery and handling costs;
- installation and assembly costs;
- costs of testing whether the asset is functioning properly, after deducting the net proceeds from selling any items produced while bringing the asset to that location and condition (such as samples produced when testing equipment); and
- professional fees.

Similarly, *IAS 16* also provided examples of what should *not* be included in cost of an item of PPE:

- costs of opening a new facility;
- costs of introducing a new product or service (including costs of advertising and promotional activities);
- costs of conducting business in a new location or with a new class of customer (including costs of staff training); and
- administration and other general overhead costs.

Let's apply this recognition and measurement criteria to a number of PPE items.

## Land and Land Improvements

The cost of land includes its purchase price (cash plus any note payable given), brokerage commission, survey fees, legal fees, and any property taxes that the purchaser pays. Land cost also includes expenditures for grading and clearing the land and for removing unwanted buildings.

The cost of land does not include the cost of fencing, paving, security systems, and lighting. These are separate PPE—called land improvements—and they are subject to depreciation. Dairy Farm's balance sheet included a "leasehold improvements" of about $156.8 million dollars (line 11). Recall earlier discussions that leasehold land simply means that the land title is not in perpetuity.

Suppose Dairy Farm signs a $300,000 note payable to purchase a parcel of land for a new logistic site. Dairy Farm also pays $10,000 for real estate commission, $8,000 of back property tax, $5,000 for removal of an old building, a $1,000 survey fee, and $260,000 to pave the parking lot—all in cash. What should Dairy Farm recognize as the cost of this land?

| | | |
|---|---|---|
| Purchase price of land .................... | | $300,000 |
| Add related costs: | | |
| Real estate commission .............. | $10,000 | |
| Back property tax....................... | 8,000 | |
| Removal of building................... | 5,000 | |
| Survey fee.................................. | 1,000 | |
| Total related costs....................... | | 24,000 |
| Total cost of land........................... | | $324,000 |

Note that the cost to pave the parking lot, $260,000, is *not* included in the land's cost, because the pavement is a land improvement. Dairy Farm would record the purchase of this land as follows:

| | | | |
|---|---|---|---|
| | Land | 324,000 | |
| | Note Payable | | 300,000 |
| | Cash | | 24,000 |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 324,000<br>− 24,000 | = | + 300,000 | + | 0 |

This purchase of land increases both assets and liabilities. There is no effect on equity.[1]

The cost to pave a parking lot ($260,000) would be recorded in a separate account entitled Land Improvements (or Leasehold Improvements if the land title is not in perpetuity). This account includes costs for such other items as driveways, signs, fences, and sprinkler systems. Although these assets are located on the land, they are subject to decay, and their cost should therefore be depreciated. The cost of leasehold improvements should be depreciated over the term of the lease. Most companies call the depreciation on leasehold improvements *amortization*, which is the same concept as *depreciation*.

## Buildings, Machinery, and Equipment

The cost of constructing a building includes architectural fees, building permits, contractors' charges, and payments for material, labor, and overhead. If the company constructs its own building, the cost will also include the cost of interest on money borrowed to finance the construction (if the recognition criteria in *IAS 23—Borrowing Costs* are met).

When an existing building (new or old) is purchased, its cost includes the purchase price, brokerage commission, sales and other taxes paid, and all expenditures to repair and renovate the building for its intended purpose.

[1] We show the accounting equation along with each journal entry—where the accounting equation aids your understanding of the transaction. Impact of revenue and expense transactions are taken directly to equity.

The cost of Dairy Farm's equipment includes its purchase price (less any discounts), plus transportation from the seller to Dairy Farm, insurance while in transit, sales and other taxes, purchase commission, installation costs, and any expenditures to test the asset before it's placed in service. The equipment cost may also include the cost of any special platform necessary to place the equipment or other necessary safety measures. After the asset is up and running, insurance, taxes, and regular maintenance costs are recorded as expenses, not as part of the asset's cost.

## A CLOSER LOOK

Is a building sitting on a piece of land one asset or two? *IAS 16* suggests that these are separate assets that are to be accounted for separately, even when they are acquired together. Buildings have limited useful life and are always depreciated. On the other hand, land may be "freehold" (an estate owned for perpetuity) and not depreciated because it has an infinite useful life.

In many countries, however, land titles are not issued in perpetuity and usually have a limited tenure (for example, 30 years, 99 years, or even 999 years!), after which the title is returned to the leaseholder. This type of land is usually called "leasehold land." Dairy Farm classified this as an intangible asset because it represents "land use rights," but some other entities may report it as PPE.

Even for leasehold properties, the useful life of the building is usually not the same as the length of the leasehold tenure. That's why we account for a building on a piece of land as two separate assets.

## Lump-Sum (or Basket) Purchases of Assets

Businesses often purchase several assets as a group, or a "basket," for a single lump-sum amount. For example, Dairy Farm may pay one price for land and a building but the company must first identify the cost of each asset. The total cost is then divided among the assets according to their relative sales (or market) values. This technique is called the *relative-sales-value method*.

Suppose Dairy Farm purchases land and a building in Bangkok, Thailand. The building sits on two acres of land, and the combined purchase price of land and building is 92 million Thai Baht or about $2,800,000 (for simplicity, we will use $ to account for this transaction). An appraisal indicates that the land's market value is $300,000 and the building's market value is $2,700,000.

Dairy Farm first figures the ratio of each asset's market value to the total market value. The total appraised value is $2,700,000 + $300,000 = $3,000,000. Thus, the land, valued at $300,000, is 10% of the total market value. The building's appraised value is 90% of the total. These percentages are then used to determine the cost of each asset, as follows:

| Asset | Market (Sales) Value | | Total Market Value | | Percentage of Total Market Value | | Total Cost | Cost of Each Asset |
|---|---|---|---|---|---|---|---|---|
| Land | $ 300,000 | ÷ | $3,000,000 | = | 10% | × | $2,800,000 | $ 280,000 |
| Building | 2,700,000 | ÷ | 3,000,000 | = | 90% | × | $2,800,000 | 2,520,000 |
| Total | $3,000,000 | | | | 100% | | | $2,800,000 |

If Dairy Farm pays cash, the entry to record the purchase of the land and building is

| | | | |
|---|---|---|---|
| | Land | 280,000 | |
| | Building | 2,520,000 | |
| | Cash | | 2,800,000 |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 280,000 | = | | | |
| + 2,520,000 | = | 0 | + | 0 |
| − 2,800,000 | = | | | |

Total assets don't change—only the makeup of Dairy Farm's assets will change.

## STOP & THINK . . .

How would Dairy Farm divide a $120,000 lump-sum purchase price for land, building, and equipment with estimated market values of $40,000, $95,000, and $15,000, respectively?

*Answer:*

| | Estimated Market Value | Percentage of Total Market Value | × | Total Cost | = | Cost of Each Asset |
|---|---|---|---|---|---|---|
| Land................. | $ 40,000 | 26.7%* | × | $120,000 | = | $ 32,040 |
| Building............ | 95,000 | 63.3% | × | $120,000 | = | 75,960 |
| Equipment......... | 15,000 | 10.0% | × | $120,000 | = | 12,000 |
| Total ................ | $150,000 | 100.0% | | | | $120,000 |

*$40,000/$150,000 = 0.267, and so on

## Subsequent Costs

The PPE recognition criteria in *IAS 16* helps us in determining whether an expenditure should be recognized as an asset in the balance sheet or expensed immediately to the income statement. The same criteria also help us with expenditures subsequent to the initial recognition. Specifically, *IAS 16* states that an entity should *not* recognize the costs of the day-to-day servicing (which typically comprises the costs of labor and consumables, or small parts of the item) in the carrying amount of an item of PPE. These costs are expensed or charged to the income statement as incurred. The purpose of these expenditures is often described as for the "repairs and maintenance" of the PPE. For example, Dairy Farm may perform regular maintenance of its motor vehicles. The costs of repainting a Dairy Farm delivery truck, repairing its dented bumper, or replacing worn tires are also expensed immediately.

On the other hand, expenditures that increase the asset's capacity or extend its useful life are called **capital expenditures**. For example, the cost of a major overhaul that extends the useful life of a Dairy Farm truck is a capital expenditure. Capital expenditures are said to be "capitalized," which means the cost is added to an asset account and not expensed immediately. Thus, a major decision in accounting for PPE is whether to capitalize or to expense a certain cost.

Continuing with our delivery truck example, Exhibit 7-4 shows the distinction between recognizing the capital expenditures as asset and immediate charging the expenditure as expense for the period.

**EXHIBIT 7-4 | Capital Expenditure or Immediate Expense for Costs Associated with a Delivery Truck**

| Record an Asset for Capital Expenditures | Record Repair and Maintenance Asset Expense |
|---|---|
| **Significant or Major repairs:** | **Ordinary repairs:** |
| Major engine overhaul | Repair of transmission or other mechanism |
| Addition to storage capacity of truck | Oil change, lubrication, and so on |
| Modification of body for new use of truck | Replacement of tires and windshield, or a paint job |

## A CLOSER LOOK

For certain industries, it is possible that certain "repairs and maintenance" may be a necessary precondition to continue to operate the asset. For example, you would want to be sure that any airline you fly with has complied with all the required safety and maintenance checks. These are probably regular major inspections at certain points of the asset's useful life or at preset usage intervals. *IAS 16* allows for the capitalization of these major inspections as part of the carrying amount of the item of property and allocated over the period (until the next inspection).

For example, **Air France-KLM**'s 2011 annual report states that: "Maintenance costs are recorded as expenses during the period when incurred, with the exception of programs that extend the useful life of the asset or increase its value, which are then capitalized (e.g. maintenance on airframes and engines, excluding parts with limited useful lives)." And similarly, **Qantas** states: "The standard cost of subsequent major airframe and engine maintenance checks is capitalized and depreciated over the shorter of the scheduled usage period to the next major inspection event or the remaining life of the aircraft. Manpower costs in relation to employees that are dedicated to major modifications to aircraft are capitalized as part of the cost of the modification to which they relate . . . All other maintenance costs are expensed . . . Modifications that enhance the operating performance or extend the useful lives of airframes or engines are capitalized and depreciated over the remaining estimated useful life of the asset."

The distinction between a capital expenditure and an expense requires judgment: Does the cost extend the asset's usefulness or its useful life? If so, record an asset. If the cost merely repairs the asset or returns it to its prior condition, then record an expense.

Most entities expense all expenditures below a certain threshold, say, below $1,000. Remember that there are always cost constraints in producing financial information. If the resulting information does not increase fundamental and enhancing qualitative characteristics, why incur unnecessary costs to produce the information? For higher costs, they follow the rule we gave above: capitalize costs that extend the asset's usefulness or its useful life, and allocate the capitalized amount over the expected useful life of the asset.

Accounting errors sometimes occur for PPE costs. For example, a company may:

- Expense a cost that should have been capitalized. This error overstates expenses and understates net income in the year of the error.
- Capitalize a cost that should have been expensed. This error understates expenses and overstates net income in the year of the error.

**COOKING THE BOOKS**
**by Improper Capitalization**
**WorldCom**

It is one thing to accidentally capitalize an expense as PPE but quite another to do it intentionally, thus deliberately overstating assets, understating expenses, and overstating net income. One well-known company committed one of the biggest financial statement frauds in US history in this way.

In 2002, WorldCom, Inc., was one of the largest telecommunications service providers in the world. The company had grown rapidly from a small, regional telephone company in 1983 to a giant corporation in 2002 by acquiring an ever-increasing number of other such companies. But 2002 was a bad year for WorldCom, as well as for many others in the "telecom" industry. The United States was reeling from the effects of a deep economic recession spawned by the "bursting dot-com bubble" in 2000 and intensified by the terrorist attacks on US soil in 2001. Wall Street was looking high and low for positive signs, pressuring public companies to keep profits trending upward in order to support share prices, without much success, at least for the honest companies.

Bernard J. ("Bernie") Ebbers, WorldCom's chief executive officer, was worried. He began to press his chief financial officer, Scott Sullivan, to find a way to make the company's income statement look healthier. After all legitimate attempts to improve earnings failed, Sullivan concocted a scheme to cook the books.

Like all telecommunications companies, WorldCom had signed contracts with other telephone companies, paying them fees so that WorldCom customers could use their lines for telephone calls and Internet usage. Accounting standards require such fees to be expensed as incurred, rather than capitalized. Overestimating the growth of its business, WorldCom had incurred billions of dollars in such costs, about 15% more than its customers would ever use.

In direct violation of accounting standards, Sullivan rationalized that the excessive amounts WorldCom had spent on line costs would eventually lead to the company's recognizing revenue in future years (thus extending their usefulness and justifying, in his mind, their classification as assets). Sullivan directed the accountants working under him to reclassify line costs as property, plant, and equipment assets, rather than as expenses, and to amortize (spread) the costs over several years rather than to expense them in the periods in which they were incurred. Over several quarters, Sullivan and his assistants transferred a total of $3.1 billion in such charges from operating expense accounts to property, plant and equipment, resulting in the transformation of what would have been a net loss for all of 2001 and the first quarter of 2002 into a sizeable profit. It was the largest single fraud in US history to that point.

Sullivan's fraudulent scheme was discovered by the company's internal audit staff during a routine spot-check of the company's records for capital expenditures. The staff members reported Sullivan's (and his staff's) fraudulent activities to the head of the company's audit committee and its external auditor, setting in motion a chain of events that resulted in Ebbers' and Sullivan's firing, and the company's eventual bankruptcy. Ebbers, Sullivan, and several of their assistants went to prison for their participation in this fraudulent scheme.

Shareholders of WorldCom lost billions of dollars in share value when the company went down, and more than 500,000 people lost their jobs.

The WorldCom scandal rocked the financial world, causing global stock markets to plummet from lack of confidence. This scandal (as well as others such as Enron) eventually led to the passage of the US Sarbanes-Oxley Act (see Chapter 5).

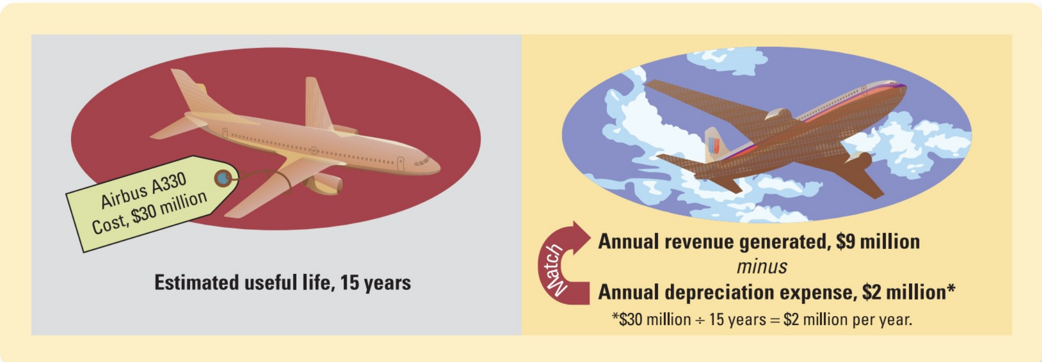
# Allocating Depreciation on PPE

As we've seen in previous chapters, PPE items are reported on the balance sheet at their carrying amounts or book values, which is:

Carrying amount of an item PPE = Cost – Accumulated Depreciation

**Depreciation** is the systematic allocation of the cost of an asset over its useful life. Whilst it may be tempting to think that depreciation is cost incurred to earn revenue, it is technically not correct. Remember that the measurement of profit starts with changes in assets and liabilities. As the cost of an item of PPE is allocated to their useful lives, it carrying amounts are reduced and this results in a reduction in equity. Exhibit 7-5 illustrates this concept with an example of an Airbus A330 owned by **Brussels Airlines**.

**EXHIBIT 7-5 | Allocating Cost of Assets Over Useful Life**




Recall that depreciation expense is charged periodically to the income statement. The cumulative amount of depreciation charged since the initial recognition and measurement of an asset is called **accumulated depreciation**, which you will find in the balance sheet (or in the notes to the accounts). At the start of this chapter, you saw the accumulated depreciation for all of Dairy Farm's PPE (second column of lines 9–14).

You've just seen what depreciation is. Let's see what depreciation is *not*.

1. ***Depreciation is not a process of valuation.*** Businesses do *not* record depreciation based on changes in the market value of their PPEs.
2. ***Depreciation does not mean setting aside cash to replace assets as they wear out.*** Any cash fund set aside to purchase new asset is entirely separate from depreciation.

## How to Allocate Depreciation

Before we move to the specific depreciation methods, let's make sure we understand the basic concepts and terminologies related to depreciation. To allocate depreciation for a PPE item, we must know three things about the asset:

1. Cost
2. Estimated useful life
3. Estimated residual value

We have discussed cost earlier, which is a known amount. The other two factors must be estimated.

The economic benefits from owning a PPE is consumed by an entity primarily through the use of the PPE in the ordinary course of business over the PPE's useful life. As the allocation of expenses is usually predetermined in advance (we will discuss method of depreciation in the next section), an entity such as Dairy Farm would have to make an estimate of the useful lives of its buildings, leasehold improvements, plant and machinery, furniture and fixtures, office equipment, and motor vehicles. *IAS 16* indicates that the following factors ought to be considered in determining an asset's useful life:

- expected usage of the asset;
- expected physical wear and tear, including the necessary repair and maintenance program;
- technical or commercial obsolescence, including a change in the market demand for the product or service output of the asset; and
- legal or similar limits on the use of the asset, such as the expiry dates of Dairy Farm's leasehold land.

**Estimated useful life** is thus the length of service expected from using the asset. Useful life may be expressed in years, units of output, miles, or some other measure. For example, the useful life of Dairy Farm's buildings, furniture and fixtures, and office equipment can be stated in years. Some of its specialized machinery may have its useful life expressed in number of units or usage or capacity. Occasionally, you may see this useful life expressed as a percentage, for example, a depreciation rate of 10% per year is equal to 10 years' useful life, 20% is equal to 5 years, etc. Companies base estimates on their experiences, and trade publications. Useful life is not necessarily the same as the physical or economic life of the asset. An airplane may physically last over 30 years, but if the management's intention is to use it over a shorter time period, its useful life may be shorter. **Singapore Airlines** and **Emirates Airline**, for example, depreciate their passenger airplanes over 15 years' useful life, whereas **Cathay Pacific** and **Thai Airways** use 20 years' useful life, and **British Airways** uses 18–25 years.

**Estimated residual value**—also sometimes called *scrap value* or *salvage value*—of an asset is the estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life. For example, Dairy Farm may believe that a package-handling machine will be useful for seven years. After that time, Dairy Farm may expect to sell the machine as scrap metal. The amount Dairy Farm believes it can get for the machine is the estimated residual value. In computing depreciation, the estimated residual value is not depreciated because Dairy Farm expects to receive this amount from selling the asset. If there's no expected residual value, the full cost of the asset is depreciated. The residual value may be expressed as an absolute amount or as a percentage of the asset's cost. For example, Singapore Airlines uses a "10% residual value" in its depreciation allocation. A PPE's depreciable amount or **depreciable cost** is therefore:

Depreciable Amount = Asset's cost − Estimated residual value

## Depreciation Methods

There are three main depreciation methods:

- constant allocation, i.e. straight-line;
- by actual usages, i.e. units-of-production;
- accelerated allocation, i.e. double-declining-balance.

These methods allocate different amounts of depreciation to each period. However, they all result in the same total amount of depreciation, which is the asset's depreciable amount, over the life of the asset. Exhibit 7-6 presents the data we use to illustrate depreciation computations for a Dairy Farm delivery truck.

**EXHIBIT 7-6 | Data for Depreciation Computations: Example**

| Data Item | Amount |
|---|---|
| Cost of truck | $41,000 |
| Less: Estimated residual value | (1,000) |
| Depreciable cost | $40,000 |
| Estimated useful life: | |
| Years | 5 years |
| Units of production | 100,000 units [miles] |

**Straight-Line Method.** In the **straight-line (SL) method**, an equal amount of depreciation is assigned to each year (or period) of asset use. Depreciable cost is divided by useful life in years to determine the annual depreciation expense. Applied to the truck data from Exhibit 7-6, SL depreciation is

$$\text{Straight-line depreciation per year} = \frac{\text{Cost} - \text{Residual value}}{\text{Useful life, in years}}$$

$$= \frac{\$41{,}000 - \$1{,}000}{5}$$

$$= \$8{,}000$$

The entry to record depreciation is:

| | | | |
|---|---|---|---|
| | Depreciation Expense | 8,000 | |
| | Accumulated Depreciation | | 8,000 |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| − 8,000 | = | 0 | + | − 8,000 | (depreciation expense) |

Observe that depreciation decreases the asset (through Accumulated Depreciation) and also decreases equity (through Depreciation Expense). Let's assume that Dairy Farm purchased this truck on January 1, 20X5. Exhibit 7-7 gives a *straight-line depreciation schedule* for the truck. The final column of the exhibit shows the asset's *carrying amount* or *net book value*, which is cost less accumulated depreciation. Note that we can develop this depreciation schedule before we have even bought the truck! Such schedules help us understand the impact of our purchase decisions on financial statements over the years.

**EXHIBIT 7-7 | Straight-Line Depreciation Schedule**

| | | Depreciation for the Year | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Date | Asset Cost | Depreciation Rate* | | Depreciable Amount | | Depreciation Expense | Accumulated Depreciation | Asset Carrying Amount |
| 1- 1-20X5 | $41,000 | | | | | | | $41,000 |
| 12-31-20X5 | | 0.20 | × | $40,000 | = | $8,000 | $ 8,000 | 33,000 |
| 12-31-20X6 | | 0.20 | × | 40,000 | = | 8,000 | 16,000 | 25,000 |
| 12-31-20X7 | | 0.20 | × | 40,000 | = | 8,000 | 24,000 | 17,000 |
| 12-31-20X8 | | 0.20 | × | 40,000 | = | 8,000 | 32,000 | 9,000 |
| 12-31-20X9 | | 0.20 | × | 40,000 | = | 8,000 | 40,000 | 1,000 |

*5 years' useful life = 20% (0.2) depreciation rate per year.

As an asset is used in operations:

- the accumulated depreciation increases; and
- the carrying amount of the asset decreases.

An asset's final book value is its *residual value* ($1,000 in Exhibit 7-7). At the end of its useful life, the asset is said to be *fully depreciated*.

## STOP & THINK . . .

An item of Dairy Farm office equipment that cost $10,000, has a useful life of five years, and residual value of $2,000, was purchased on January 1. What is SL depreciation for each year?

***Answer:***

$1,600 = ($10,000 – $2,000)/5

**Units-of-Production Method.** In the **units-of-production (UOP) method**, a fixed amount of depreciation is assigned to each unit of output or service produced by the asset. Depreciable cost is divided by useful life—in units of production—to determine this amount. This per-unit depreciation expense is then multiplied by the number of units produced each period to compute depreciation. Obviously, the Dairy Farm delivery truck will not stop working just because it has been driven to 100,000 miles. We continue with the same delivery truck as an illustration, but in real life, this method is more likely to be used with assets with technical capacity or unit limitations rather than a delivery truck. The UOP depreciation for the Dairy Farm truck data in Exhibit 7-6 is

$$\text{Units-of-production depreciation per unit of output} = \frac{\text{Cost} - \text{Residual value}}{\text{Useful life, in units of production}}$$

$$= \frac{\$41{,}000 - \$1{,}000}{100{,}000 \text{ miles}} = \$0.40 \text{ per mile}$$

Assume that Dairy Farm expects to drive the truck 20,000 miles during the first year, 30,000 during the second, 25,000 during the third, 15,000 during the fourth, and 10,000 during the fifth. Exhibit 7-8 shows the UOP depreciation schedule.

**EXHIBIT 7-8 | Units-of-Production Depreciation Schedule**

| | | Depreciation for the Year | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Date | Asset Cost | Depreciation Per Unit* | | Number of Units | | Depreciation Expense | Accumulated Depreciation | Asset Carrying Amount |
| 1- 1-20X5 | $41,000 | | | | | | | $41,000 |
| 12-31-20X5 | | $0.40* | × | 20,000 | = | $ 8,000 | $ 8,000 | 33,000 |
| 12-31-20X6 | | 0.40 | × | 30,000 | = | 12,000 | 20,000 | 21,000 |
| 12-31-20X7 | | 0.40 | × | 25,000 | = | 10,000 | 30,000 | 11,000 |
| 12-31-20X8 | | 0.40 | × | 15,000 | = | 6,000 | 36,000 | 5,000 |
| 12-31-20X9 | | 0.40 | × | 10,000 | = | 4,000 | 40,000 | 1,000 |

*($41,000 – $1,000)/100,000 miles = $0.40 per mile.

The amount of UOP depreciation varies with the number of units the asset produces in a year. In our example above, we have estimated the usage pattern, but the actual depreciation charge each year will be based on the actual outputs for the year. For example, if the actual miles driven in 20X5 were 21,000, the depreciation charge for the year would have been $0.40 × 21,000 = $8,400. UOP depreciation does not depend directly on passage of time, as do the other methods.

**Double-Declining-Balance Method.** An **accelerated depreciation method** (or using *IAS 16*'s terminology, "diminishing balance method") writes off a larger amount of the asset's cost near the start of its useful life than the straight-line method does. **Double-declining-balance (DDB)** is the main accelerated depreciation method and computes annual depreciation by multiplying the asset's declining book value by a constant percentage, which is double (or two times) the straight-line depreciation rate. DDB amounts are computed as follows:

- *First*, compute the straight-line depreciation rate per year. A five-year truck has a straight-line depreciation rate of 1/5, or 20% each year. A 10-year asset has a straight-line rate of 1/10, or 10%, and so on.
- *Second*, multiply the straight-line rate by 2 to compute the DDB rate. For a five-year asset, the DDB rate is 40% (20% × 2). A 10-year asset has a DDB rate of 20% (10% × 2). The DDB rate for the delivery truck in Exhibit 7-6 is:

$$\text{DDB depreciation rate per year} = \frac{1}{\text{Useful life, in years}} \times 2$$

$$= \frac{1}{5 \text{ years}} \times 2$$

$$= 20\% \times 2 = 40\%$$

- *Third*, multiply the DDB rate by the period's beginning asset book value (cost less accumulated depreciation). Under the DDB method, ignore the residual value of the asset in computing depreciation, except during the last year.
- *Fourth*, determine the final year's depreciation amount—that is, the amount needed to reduce asset book value to its residual value. In Exhibit 7-9, the fifth and final year's DDB depreciation is $4,314—book value of $5,314 less the $1,000 residual value. *The residual value should not be depreciated* but should remain on the books until the asset is disposed of.

**EXHIBIT 7-9 | Double-Declining-Balance Depreciation Schedule**

| | | Depreciation for the Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Date | Asset Cost | DDB Rate | | Asset Carrying Amount | | Depreciation Expense | Accumulated Depreciation | Asset Carrying Amount |
| 1- 1-20X5 | $41,000 | | | | | | | $41,000 |
| 12-31-20X5 | | 0.40 | × | $41,000 | = | $16,400 | $16,400 | 24,600 |
| 12-31-20X6 | | 0.40 | × | 24,600 | = | 9,840 | 26,240 | 14,760 |
| 12-31-20X7 | | 0.40 | × | 14,760 | = | 5,904 | 32,144 | 8,856 |
| 12-31-20X8 | | 0.40 | × | 8,856 | = | 3,542 | 35,686 | 5,314 |
| 12-31-20X9 | | | | | | 4,314* | 40,000 | 1,000 |

*Last-year depreciation is the "plug" amount needed to reduce asset book value (far right column) to the residual amount ($5,314 – $1,000 = $4,314).

The DDB method differs from the other methods in three ways:

1. It is an accelerated depreciation method, so depreciation expenses in the early years are significantly more than in later years.
2. Residual value is ignored initially; first-year depreciation is computed on the asset's full cost.
3. Depreciation expense in the final year is the "plug" amount needed to reduce the asset's book value to the residual amount.

## STOP & THINK. . .

What is the DDB depreciation each year for the asset in the Stop & Think on page 432?

*Answers:*

Yr. 1: $4,000 ($10,000 × 40%)
Yr. 2: $2,400 ($6,000 × 40%)
Yr. 3: $1,440 ($3,600 × 40%)
Yr. 4: $160 ($10,000 – $4,000 – $2,400 – $1,440 – $2,000 = $160)*
Yr. 5: $0

*The asset is not depreciated below residual value of $2,000.

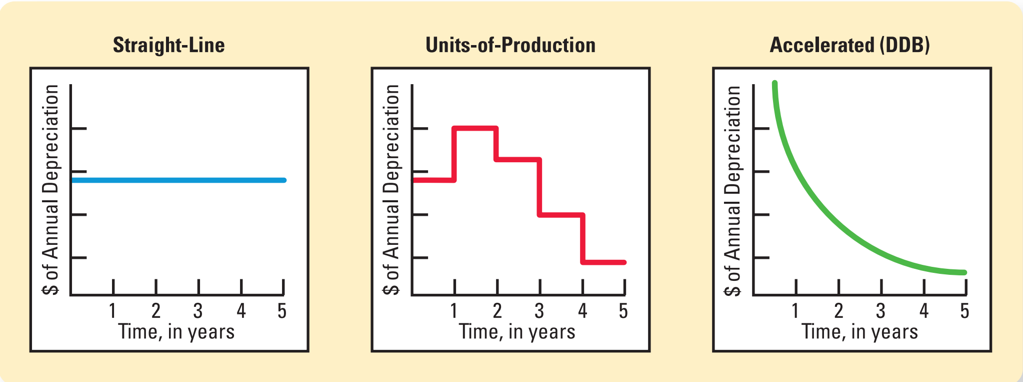
## Comparing Depreciation Methods

Let's compare the three methods in terms of the yearly amount of depreciation. The yearly amount varies by method, but the total $40,000 depreciable cost is the same under all methods.

| | *Amount of Depreciation Expense per Year* | | |
|---|---|---|---|
| Year | Straight-Line | Units-of-Production | Accelerated Method Double-Declining Balance |
| 1 | $ 8,000 | $ 8,000 | $16,400 |
| 2 | 8,000 | 12,000 | 9,840 |
| 3 | 8,000 | 10,000 | 5,904 |
| 4 | 8,000 | 6,000 | 3,542 |
| 5 | 8,000 | 4,000 | 4,314 |
| Total | $40,000 | $40,000 | $40,000 |

Exhibit 7-10 graphs annual depreciation amounts for the straight-line, units-of-production, and accelerated depreciation (DDB) methods. The graph of straight-line depreciation is flat through time because annual depreciation is the same in all periods. Units-of-production depreciation follows no particular pattern because annual depreciation depends on the actual use of the asset during the year. Accelerated depreciation is greatest in the first year and less in the later years.

**EXHIBIT 7-10 | Depreciation Patterns Through Time**



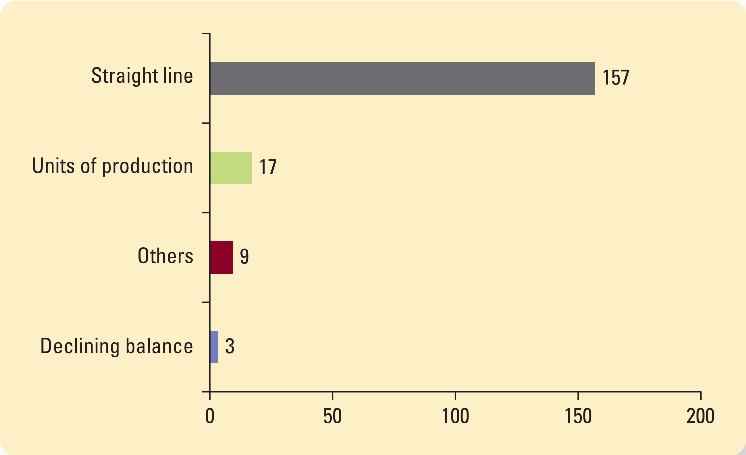
## Choosing a Depreciation Method

Clearly, the choice of a depreciation method will impact the profit of any entity. How should an entity choose the "right" depreciation method? *IAS 16* requires that the depreciation method chosen ought to reflect the *pattern of consumption* of the economic benefits embodied in the asset. At every financial year-end, an entity should review the depreciation method, and unless there is a significant change in the pattern of consumption, it should continue to apply the method consistently from period to period.

For PPE assets with a reasonably constant pattern of consumption, the allocation basis should be done using the straight-line method. The units-of-production method best fits those assets that wear out because of physical use rather than obsolescence. An accelerated method (such as DDB) applies best to assets that generate more revenue earlier in their useful lives and less in later years.

Exhibit 7.11 shows a recent study of 170 IFRS companies and their depreciation method (AICPA, 2010). It is clear that a very significant majority of the survey companies use the straight-line method of depreciation. About 20 companies in the survey use more than one method of depreciation.

**EXHIBIT 7-11 | Depreciation Methods Used by 170 Companies**




*Source*: Exhibit created from source data found in IFRS Financial Statements – Best Practices in Presentation and Disclosure 2012/13, AICPA

## MID-CHAPTER SUMMARY PROBLEM

Suppose Dairy Farm purchased equipment on January 1, 20X6, for $44,000. The expected useful life of the equipment is 10 years or 100,000 units of production, and its residual value is $4,000. Under three depreciation methods, the annual depreciation expense and the balance of accumulated depreciation at the end of 20X6 and 20X7 are as follows:

| | *Method A* | | *Method B* | | *Method C* | |
|---|---|---|---|---|---|---|
| Year | Annual Depreciation Expense | Accumulated Depreciation | Annual Depreciation Expense | Accumulated Depreciation | Annual Depreciation Expense | Accumulated Depreciation |
| 20X6 | $4,000 | $4,000 | $8,800 | $ 8,800 | $1,200 | $1,200 |
| 20X7 | 4,000 | 8,000 | 7,040 | 15,840 | 5,600 | 6,800 |

### *Requirements*

1. Identify the depreciation method used in each instance, and show the equation and computation for each. (Round to the nearest dollar.)
2. Assume continued use of the same method through year 20X8. Determine the annual depreciation expense, accumulated depreciation, and carrying amount (or book value) of the equipment for 20X6 through 20X8 under each method, assuming 12,000 units of production in 20X8.

## Answers

### *Requirement 1*

*Method A: Straight-Line*

Depreciable amount = \$40,000 (\$44,000 – \$4,000)

Each year: \$40,000/10 years = \$4,000

*Method B: Double-Declining-Balance*

$$\text{Rate} = \frac{1}{10\text{ years}} \times 2 = 10\% \times 2 = 20\%$$

2010: $0.20 \times \$44,000 = \$8,800$

2011: $0.20 \times (\$44,000 - \$8,800) = \$7,040$

*Method C: Units-of-Production*

$$\text{Depreciation per unit} = \frac{\$44,000 - \$4,000}{100,000\text{ units}} = \$0.40$$

20X6: $\$0.40 \times 3,000\text{ units} = \$1,200$

20X7: $\$0.40 \times 14,000\text{ units} = \$5,600$

### *Requirement 2*

*Method A: Straight-Line*

| Year | Annual Depreciation Expense | Accumulated Depreciation | Book Value |
|---|---|---|---|
| Start | | | \$44,000 |
| 20X6 | \$4,000 | \$ 4,000 | 40,000 |
| 20X7 | 4,000 | 8,000 | 36,000 |
| 20X8 | 4,000 | 12,000 | 32,000 |

*Method B: Double-Declining-Balance*

| Year | Annual Depreciation Expense | Accumulated Depreciation | Book Value |
|---|---|---|---|
| Start | | | \$44,000 |
| 20X6 | \$8,800 | \$ 8,800 | 35,200 |
| 20X7 | 7,040 | 15,840 | 28,160 |
| 20X8 | 5,632 | 21,472 | 22,528 |

*Method C: Units-of-Production*

| Year | Annual Depreciation Expense | Accumulated Depreciation | Book Value |
|---|---|---|---|
| Start | | | \$44,000 |
| 20X6 | \$1,200 | \$ 1,200 | 42,800 |
| 20X7 | 5,600 | 6,800 | 37,200 |
| 20X8 | 4,800 | 11,600 | 32,400 |

*Computations for 20X8*

| | |
|---|---|
| Straight-line | \$40,000/10 years = \$4,000 |
| Double-declining-balance | \$28,160 × 0.20 = \$5,632 |
| Units-of-production | 12,000 units × \$0.40 = \$4,800 |

# Other Issues in Accounting for PPE

**OBJECTIVE**

**2** **Understand** additional issues related to accounting for PPE

Accounting for PPE may also need to handle additional issues related to:

- choice of depreciation method may affect income taxes; a different depreciation method may be used for financial reporting versus tax purposes;
- the fact that PPE have long lives, and subsequent better information may change estimates of useful life of assets and residual values;
- alternative models for measurement of PPE subsequent to initial recognition;
- companies that have gains or losses when they sell PPE.

Let's take a brief look at some of these issues.

## Depreciation for Tax Purposes

Dairy Farm and most other companies use straight-line depreciation for reporting to shareholders and creditors on their financial statements. But for tax purposes, they may keep a separate set of depreciation records, depending on the specific tax regulations in various jurisdictions. There are two primary reasons why this is the case.

First, certain jurisdictions may mandate a specific treatment for specific assets. For example, in Singapore, the depreciation of Dairy Farm's commercial vehicles, such as its delivery trucks, may be used to claim capital allowances (i.e. deductions from taxable income), but the depreciation of non-commercial vehicles, such as motor vehicles for its senior management staff, would not be allowed as a deduction. In other countries, there may be a maximum cap on the depreciable amount allowed for certain assets. Clearly, in order to comply with taxation rules, a different set of depreciation records will be required.

Second, tax regulations could provide alternative depreciation methods or schedules that are more favorable than what is being used for financial reporting. For example, investment in "green technologies" may be granted a double tax deduction to encourage businesses to make headway in the fight against climate change. You may have spent $1 million on such equipment, but you are entitled to claim $2 million as deductions in your tax forms. In other instances, you may be using the straight-line method for financial reporting, but the tax regulations may allow you to use an accelerated method such as DDB for tax reporting.

Suppose you are a Dairy Farm country manager, and your local tax authority allows an accelerated depreciation method. Why would you prefer accelerated over straight-line depreciation for income tax purposes? This choice is easy. Accelerated depreciation provides the fastest tax deductions, thus decreasing immediate tax payments. Dairy Farm can reinvest the tax savings back into the business or pay off interest-bearing debts (see Exhibit 7.12).

To understand the relationships between cash flow, depreciation, and income tax, recall our depreciation example of a Dairy Farm delivery truck:

- First-year depreciation is $8,000 under straight-line and $16,400 under double-declining-balance (DDB).
- DDB is permitted for income tax purposes and headline corporate tax rate is 30%.

**EXHIBIT 7-12 | The Cash-Flow Advantage of Accelerated Depreciation Over Straight-Line Depreciation For Income Tax Purposes**

| | | SL | Accelerated |
|---|---|---|---|
| 1 | Cash revenue | $400,000 | $400,000 |
| 2 | Cash operating expenses | 300,000 | 300,000 |
| 3 | Cash provided by operations before income tax | 100,000 | 100,000 |
| 4 | Depreciation expense (a noncash expense) | 8,000 | 16,400 |
| 5 | Income before income tax | $ 92,000 | $ 83,600 |
| 6 | Income tax expense (30%) | $ 27,600 | $ 25,080 |
| | Cash-flow analysis: | | |
| 7 | Cash provided by operations before tax | $100,000 | $100,000 |
| 8 | Income tax expense | 27,600 | 25,080 |
| 9 | Cash provided by operations | $ 72,400 | $ 74,920 |
| 10 | Extra cash available for investment or debt repayment if DDB is used ($74,920 – $72,400) | | $ 2,520 |

You can see that, for income tax purposes, accelerated depreciation helps conserve cash for the business. That's why virtually all companies will choose accelerated depreciation to compute their income tax, if allowed.

## A CLOSER LOOK

Remember that there are two different "profits": one is the net profit in your financial statements which are prepared in accordance with the applicable financial standards, and the other is taxable income on your tax filings which are prepared in accordance with the applicable taxation rules. To understand more about taxation for accounting purposes, you may cover *IAS 12—Income Taxes* in your future courses, but if your interest is on the tax reporting side, you will need to read the various taxation rules and regulations. *IAS 12* is beyond our course coverage, but it results in some accounts that you may encounter in many companies: *deferred tax assets* and *deferred tax liabilities*. These accounts arise due to the difference between net profit (in financial reporting) and taxable income (in tax reporting).

This does not mean that we are "keeping two set of books," which is usually associated with unscrupulous behavior and cheating. We need to maintain two separate schedules because the rules are different, not because we are trying to hide income from the tax authorities!

## Depreciation for Partial Years

Companies purchase PPE whenever they need them, not just at the beginning of the year. Therefore, companies must compute depreciation for partial years or whenever they need to report to shareholders (e.g. quarterly or half-yearly reports). Suppose Dairy Farm purchases a warehouse building on April 1 for $500,000. The building's estimated life is 20 years, and its estimated residual value is $80,000. Dairy Farm's financial year-end is December 31. Let's consider how Dairy Farm computes depreciation for April through December:

- First, compute depreciation for a full year.
- Second, multiply full-year depreciation by the fraction of the year that you held the asset—in this case, 9/12. Assuming the straight-line method, the year's depreciation for this Dairy Farm building is $15,750, as follows:

| | | |
|---|---|---|
| Full-year depreciation | $\dfrac{\$500{,}000 - \$80{,}000}{20}$ | = $21,000 |
| Partial year depreciation | $21,000 × 9/12 | = $15,750 |

What if Dairy Farm bought the asset on April 18? Many businesses record no monthly depreciation on assets purchased after the 15th of the month, and they record a full month's depreciation on an asset bought on or before the 15th. Actual practices may vary from company to company, but in the overall scheme of things, a difference of a few days is not likely to be material for long-lived assets.

Most companies use computerized systems to account for fixed assets. Each depreciable asset has a unique identification number, and the system will automatically calculate the asset's depreciation expense. Accumulated Depreciation will then be automatically updated.

## Changes in Estimates of Useful Lives or Residual Values

After an asset is in use, managers may change its useful life on the basis of experience and new information. This is not something that would happen often. Here's an example from Lenovo in 2008:

**EXCERPTS (ADAPTED) FROM LENOVO'S 2008 NOTES TO THE FINANCIAL STATEMENTS**

During the year, the estimated useful life of tooling equipment was reviewed and changed from 10–20 years to two years as it reflects the current product life cycle. This change has resulted in an accelerated depreciation charge of approximately $37 million.



As you can see from the disclosure above, the change to a shorter useful life increased the depreciation charge for the year. This is called a change in accounting estimates (*IAS 8—Accounting Policies, Changes in Accounting Estimates and Errors*). Changes in estimates are accounted for *prospectively*, which means "from now on." Lenovo recalculated depreciation on the basis of revised useful lives of its tooling equipment. Changes in estimates may also occur for residual values and are accounted for similarly.

Assume that Lenovo bought equipment costing $50,000 and that the company originally believed the asset had a 10-year useful life with no residual value. Using the straight-line method, the company would record $5,000 depreciation each year ($50,000/10 years = $5,000). Suppose Lenovo used the asset for four years. Accumulated depreciation reached $20,000, leaving a remaining depreciable book value (cost less accumulated depreciation less residual value) of $30,000 ($50,000 − $20,000). Based on the asset's conditions at the end of year four, management believes the asset will remain useful for eight more years. The company would spread the remaining depreciable book value over the asset's remaining life as follows:

| Asset's remaining depreciable book value | ÷ | (New) Estimated useful life remaining | = | (New) Annual depreciation |
|---|---|---|---|---|
| $30,000 | ÷ | 8 years | = | $3,750 |

The yearly depreciation entry based on the new estimated useful life is

| | | | |
|---|---|---|---|
| | Depreciation Expense—Equipment | 3,750 | |
| | Accumulated Depreciation—Equipment | | 3,750 |

Depreciation decreases both assets and equity.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| − 3,750 | = | 0 | + | − 3,750 | (depreciation expense) |

**COOKING THE BOOKS**
**Through Depreciation**

**Waste Management**

Since PPEs usually involve relatively large amounts and relatively large numbers of assets, sometimes a seemingly subtle change in the way they are accounted for can have a tremendous impact on the financial statements. When these changes are made in order to cook the books, the results can be devastating.

Waste Management, Inc., is North America's largest integrated waste service company, providing collection, transfer, recycling, disposal, and waste-to-energy services for commercial, industrial, municipal, and residential customers from coast to coast.

Starting in 1992, six top executives of the company, including its founder and chairman of the board, its chief financial officer, its corporate controller, its top lawyer, and its vice president of finance, decided that the company's profits were not growing fast enough to meet "earnings targets," which were tied to their executive bonuses. Among several fraudulent financial tactics these top executives employed to cook the books were: (1) assigning unsupported and inflated salvage values to garbage trucks; (2) unjustifiably extending the estimated useful lives of their garbage trucks; and (3) assigning arbitrary salvage values to other fixed assets that previously had no salvage values. All of these tactics had the effect of decreasing the amount of depreciation expense in the income statements and increasing net income by a corresponding amount. While practices like this might seem relatively subtle and even insignificant when performed on an individual asset, remember that there were thousands of trash trucks and dumpsters involved, so the dollar amount grew huge in a short time. In addition, the company continued these practices for five years, overstating earnings by $1.7 billion.

The Waste Management fraud was the largest of its kind in history until the WorldCom scandal, discussed earlier in this chapter. In 1997, the company fired the officers involved and hired a new CEO who ordered a review of these practices, which uncovered the fraud. In the meantime, these dishonest executives had profited handsomely, receiving performance-based bonuses based on the company's inflated earnings, retaining their high-paying jobs, and receiving enhanced retirement benefits. One of the executives took the fraud to another level. Just 10 days before the fraud was disclosed, he enriched himself with a tax benefit by donating inflated company shares to his alma mater to fund a building in his name! Although the men involved were sued for monetary damages, none of them ever went to jail.

When the fraud was disclosed, Waste Management shareholders lost over \$6 billion in the market value of their investments when the share price plummeted by more than 33%. The company and these officers eventually settled civil lawsuits for approximately \$700 million because of the fraud.

You might ask, "Where were the auditors while this was occurring?" The company's auditor was Arthur Andersen, LLP, whose partners involved on the audit engagement were eventually found to be complicit in the scheme. In fact, a few of the Waste Management officers who perpetrated the scheme had been ex-partners of the audit firm. As it turns out, the auditors actually identified many of the improper accounting practices of Waste Management. However, rather than insisting that the company fix the errors, or risk exposure, they merely "persuaded" management to agree not to repeat these practices in the future, and entered into an agreement with them to write off the accumulated balance sheet overstatement over a period of 10 years. In June 2001, the SEC fined Arthur Andersen \$7 million for "knowingly and recklessly issuing false and misleading audit reports" for Waste Management from 1993 through 1996.

In October 2001, immediately on the heels of these disclosures, the notorious Enron scandal broke. Enron, as well as WorldCom, were Arthur Andersen clients at the time. The Enron scandal (discussed in Chapter 10) finally put the firm out of business. Many people felt that, had it not been for Andersen's involvement in the Waste Management affair, the SEC might have been more lenient toward the company in the Enron scandal.

## Impairment of PPE

As you probably know, the fight for the next generation format was won by **Sony**'s Blu-ray when **Toshiba** abandoned the HD DVD format in February 2008. Prior to this, Toshiba had experienced significant difficulties over a period of time. **Warner Brothers**, **Wal-Mart**, **Best-Buy** and many others had started to stop the sales of HD DVD, causing a severe drop in demand for it. Suppose that at the start of the format war, Toshiba had a dedicated factory costing \$1 billion that produced HD DVD, which was being depreciated over its estimated useful life of 10 years on a straight-line basis. After three years, the carrying amount of the equipment would have been \$700 million. In this scenario, should Toshiba have continued depreciating the factory over 10 years, in light of the significant changes in the market for the outputs of its factory?

This is an example of how an asset may be impaired. *IAS 36—Impairment of Assets* provides guidance on this matter. An asset is impaired when its carrying amount is higher than its recoverable amount. **Recoverable amount** is the higher of fair value less cost to sell and value-in-use. The exact determination of recoverable amount, and many other aspects of impairment of assets, is beyond an introductory accounting course. However, it is important for you to know the basic concepts of impairment. Many companies in the financial crisis have reported billions of impairment losses.

Suppose that when the carrying amount of the factory was $700 million, the fair value less cost to sell was $300 and the value-in-use was $100 million. First, we determine that recoverable amount was $300 million (higher of the two amounts). Toshiba would then recognize an impairment loss of $400 million (from $700 to $300 million) with the following journal entry:

| | | | |
|---|---|---|---|
| Year 3 | Impairment Loss on Factory ($700 – $300) | 400 | |
| | Accumulated Depreciation and Impairment Loss | | 400 |

Both assets (Factory) and equity decrease (through the Loss account). Under IFRS, reversal of impairment losses may be permitted under certain limited circumstances.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| – 400 | = | 0 | + | – 400 | (impairment loss) |

## Measurement Subsequent to Initial Recognition

Under *IAS 16*, an entity elects one out of two measurement models for each class of property, which is defined as a grouping of assets of similar nature and use in an entity's operations. For example, Dairy Farm uses five classes of PPE: Freehold properties, Leasehold properties, Leasehold improvements, Plant and machinery, and Furniture, equipment and motor vehicles.

- **Cost model:** an item of PPE shall be carried at its cost, less any accumulated depreciation and any accumulated impairment losses. This is similar to what we have discussed in this chapter thus far.
- **Revaluation model:** an item of PPE whose fair value can be measured reliably shall be carried at a revalued amount, being its fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Revaluations shall be made with sufficient regularity to ensure that the carrying amount does not differ materially from that which would be determined using fair value at the balance sheet dates.

### A CLOSER LOOK

The revaluation model is a little more complicated than the cost model. *IAS 16* provides additional guidelines on the determination of fair values, the frequency of revaluations, the treatment of revaluation gains and losses, and adjustments to accumulated depreciation. Your instructor may refer you to *IAS 16* if additional coverage of the operations of revaluation model is required for your course.

Suppose you have a PPE item with a carrying amount of $100,000 (cost of $150,000 less $50,000 accumulated depreciation) and elected to use the revaluation model for this class of PPE. The fair value amount is reliably determined to be $120,000. One common way to handle the revaluation is to "restate" the asset at the new amount with zero depreciation. Using this approach, the following journal entry is entered.

| | | | |
|---|---|---|---|
| Jan XX | Accumulated depreciation | 50,000 | |
| 20X1 | PPE revalued (150,000 – 120,000) | | 30,000 |
| | Revaluation adjustment | | 20,000 |
| | *Revalued PPE from $150,000–$50,000 to $120,000* | | |

After posting this entry, the accumulated depreciation is now zero and the PPE is carried at the new fair value of $120,000. The revaluation adjustment is an equity account and will be shown as under other comprehensive income in the Statement of Comprehensive Income.

## Using Fully Depreciated Assets

A *fully depreciated asset* is one that has reached the end of its estimated useful life. Suppose Dairy Farm has fully depreciated equipment with zero residual value (cost was $60,000). Dairy Farm's accounts will appear as follows:

| Equipment | | | Accumulated Depreciation | | | |
|---|---|---|---|---|---|---|
| 60,000 | | – | | 60,000 | = | Book value $0 |

The equipment's book value is zero, but that doesn't mean the equipment is worthless. Dairy Farm may use the equipment for a few more years, but Dairy Farm will not record any more depreciation on a fully depreciated asset.

When Dairy Farm disposes of the equipment, Dairy Farm will remove both the asset's cost ($60,000) and its accumulated depreciation ($60,000) from the books. The next section shows how PPE disposals are accounted.

# Accounting for Disposal of PPE

**OBJECTIVE**

**3** **Analyze** the effects of a PPE disposal

Eventually, a PPE will cease to serve a company's needs. The asset may wear out or become obsolete. Before accounting for the disposal of the asset, the business should bring depreciation up to date to:

- update the asset's final book value; and
- record the expense up to the date of sale.

To account for disposal, remove the asset and its related accumulated depreciation from the books. Suppose the final year's depreciation expense has just been recorded for a machine that cost $60,000 and is estimated to have zero residual value. The machine's accumulated depreciation thus totals $60,000. Assuming that this asset is junked or scrapped, the entry to record its disposal is:

| | | | |
|---|---|---|---|
| | Accumulated Depreciation—Machinery | 60,000 | |
| | Machinery | | 60,000 |
| | *To dispose of a fully depreciated machine.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 60,000<br>− 60,000 | = | 0 | + | 0 |

There is no gain or loss on this disposal, and there's no effect on total assets, liabilities, or equity.

If assets are junked, scrapped or disposed of before being fully depreciated, the company incurs a loss on the disposal. Suppose Dairy Farm disposes of equipment that cost $60,000. This asset's accumulated depreciation is $50,000, and its book value is, therefore, $10,000. Scrapping this equipment results in a loss equal to the carrying amount of the asset, as follows:

| | | | |
|---|---|---|---|
| | Accumulated Depreciation—Equipment | 50,000 | |
| | Loss on Disposal of Equipment | 10,000 | |
| | Equipment | | 60,000 |
| | *To dispose of equipment.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 50,000<br>− 60,000 | = | 0 | + | − 10,000 | (loss on disposal of PPE) |

Dairy Farm disposed of an asset with $10,000 book value and received nothing. The result is a $10,000 loss, which decreases both total assets and equity.

The (gain) loss on disposal of equipment is typically reported as other income (expense) on the income statement. Losses decrease net income exactly as expenses do. Gains increase net income in the same way as revenues.

**Selling a PPE.** Suppose Dairy Farm sells equipment on September 30, 20X8, for $7,300 cash. The equipment cost $10,000 when purchased on January 1, 20X5, and has been depreciated straight-line. Dairy Farm estimated a 10-year useful life and no residual value. Prior to recording the sale, Dairy Farm's accountants must update the asset's depreciation. Partial-year depreciation must be recorded for the asset's depreciation from January 1, 20X8 to the sale date. The straight-line depreciation entry at September 30, 20X8, is

| | | | |
|---|---|---|---|
| Sep 30 | Depreciation Expense ($10,000/10 years × 9/12) | 750 | |
| | Accumulated Depreciation—Equipment | | 750 |
| | *To update depreciation.* | | |

The Equipment account and the Accumulated Depreciation account appear as follows. Observe that the equipment's book value is $6,250 ($10,000 − $3,750).

| Equipment | | | | − | Accumulated Depreciation | | | | = | |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan 1, 20X5 | 10,000 | | | | | | Dec 31, 20X5 | 1,000 | | |
| | | | | − | | | Dec 31, 20X6 | 1,000 | = | Book value $6,250 |
| | | | | | | | Dec 31, 20X7 | 1,000 | | |
| | | | | | | | Sep 30, 20X8 | 750 | | |
| | | | | | | | Balance | 3,750 | | |

The gain on the sale of the equipment for $7,300 is $1,050, computed as follows:

| | | |
|---|---|---|
| Cash received from sale of the asset .............. | | $7,300 |
| Book value of asset sold: | | |
| Cost .......................................................... | $10,000 | |
| Less: Accumulated depreciation ................ | (3,750) | 6,250 |
| Gain on sale of the asset................................ | | $1,050 |

The entry to record sale of the equipment is:

| | | | |
|---|---|---|---|
| Sep 30 | Cash | 7,300 | |
| | Accumulated Depreciation—Equipment | 3,750 | |
| | Equipment | | 10,000 |
| | Gain on Sale of Equipment | | 1,050 |
| | *To sell equipment.* | | |

This shows that the total assets will increase along with equity—by the amount of the gain.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 7,300<br>+ 3,750<br>− 10,000 | = | 0 | + | 1,050 | (gain from sale of equipment) |

Gains are recorded as credits. Gains and losses on asset disposals appear on the income statement as Other income (expense), or Other gains (losses).

What if Dairy Farm sold the same asset on September 30, 20X8 for $5,000? Recall that the book value on the date of the sale was $6,250. Thus, a loss of $1,250 on disposal of PPE would be recognized.

| | | | |
|---|---|---|---|
| Sep 30 | Cash | 5,000 | |
| | Accumulated Depreciation—Equipment | 3,750 | |
| | Loss on Sale of PPE | 1,250 | |
| | Equipment | | 10,000 |
| | *To sell equipment.* | | |

Total assets decrease, and equity decreases—by the amount of the loss.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 5,000<br>+ 3,750<br>− 10,000 | = | 0 | + | − 1,250 | (loss on sale of equipment) |

**Exchanging PPE.** Managers often trade in old assets for new ones. This is called a *non-monetary exchange*. The accounting for non-monetary exchanges is based on the *fair values of the assets involved*. Thus, the cost of an asset like plant and equipment received in a non-monetary exchange is equal to the fair values of the assets given up (including the old asset and any cash paid). Any difference between the fair value of the old asset from its book value is recognized as gain (fair value of old asset exceeds book value) or loss (book value of old asset exceeds fair value) on the exchange.

For example, assume Dairy Farm has an old delivery car that cost $9,000 and has accumulated depreciation of $8,000. Thus, the old car's book value is $1,000. Dairy Farm trades in the old automobile for a new one with a fair market value of $15,000 and pays cash of $10,000. Thus, the implied fair value of the old car is $5,000 ($15,000 – $10,000). This amount is treated as cash paid by the seller for the old vehicle. The cost of the new delivery car is $15,000 (fair value of the old asset, $5,000, plus cash paid, $10,000).

Dairy Farm would record the exchange transaction as follows:

| | | | |
|---|---|---|---|
| | Delivery Auto (new) | 15,000 | |
| | Accumulated Depreciation (old) | 8,000 | |
| | Delivery Auto (old) | | 9,000 |
| | Cash | | 10,000 |
| | Gain on Exchange of Delivery Auto | | 4,000 |
| | *Traded in old delivery car for new auto.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| +15,000<br>+ 8,000<br>– 9,000<br>–10,000 | = | 0 | + | 4,000 | (gain on exchange of assets) |

There was a net increase in total assets of $4,000 and a corresponding increase in shareholders' equity, to reflect the gain on the exchange. Notice that this amount represents the excess of the fair value of the old asset over its book value. Some other special rules may apply here, but they are covered in more advanced courses.

## T-Accounts for Analyzing PPE Transactions

You can perform quite a bit of analysis if you know how transactions affect the PPE accounts. Here are the accounts with descriptions of the activity in each account.

| PPE | |
|---|---|
| Beg bal<br>Cost of assets purchased | Cost of assets disposed of |
| End bal | |

| Accumulated Depreciation | |
|---|---|
| Acc. depn. of assets disposed of | Beg bal<br>Depreciation expense for the current period |
| | End bal |

| Depreciation Expense | |
|---|---|
| Depreciation expense for the current period | |

| Gain on Sale of PPE | |
|---|---|
| | Gain on sale |

OR

| Loss on Sale of PPE | |
|---|---|
| Loss on sale | |

Example: Suppose you started the year with buildings that cost $100,000. During the year you bought another building for $150,000 and ended the year with buildings that cost $180,000. What was the cost of the building you sold?

| Building | | | |
|---|---|---|---|
| Beg bal | 100,000 | | |
| Cost of assets purchased | 150,000 | Cost of assets sold | ? = $70,000* |
| End bal | 180,000 | | |

*100,000 + 150,000 – $180,000

You can perform similar analyses to answer other interesting questions about what the business did during the period.

## Accounting for Natural Resources

**OBJECTIVE**

**4** **Account** for natural resources and depletion

*Natural resources* are PPE of a special type, such as iron ore, petroleum (oil), and timber. As PPE are expensed through depreciation, so natural resource assets are expensed through *depletion*. **Depletion expense** is that portion of the cost of a natural resource that is used up in a particular period. Depletion expense is computed in the same way as units-of-production depreciation.

An oil lease may cost **Royal Dutch Shell** $100,000 and contain an estimated 10,000 barrels of oil. The depletion rate would be $10 per barrel ($100,000/10,000 barrels). If 3,000 barrels are extracted, depletion expense is $30,000 (3,000 barrels × $10 per barrel). The depletion entry is:

| | | | |
|---|---|---|---|
| | Depletion Expense (3,000 barrels × $10) | 30,000 | |
| | Accumulated Depletion—Oil | | 30,000 |

This entry is almost identical to a depreciation entry using the units-of-production method.

If 4,500 barrels are removed the next year, that period's depletion is $45,000 (4,500 barrels × $10 per barrel). Accumulated Depletion is a contra account similar to Accumulated Depreciation.

Natural resource assets can be reported on Shell's balance sheet as follows (amounts assumed):

| | | |
|---|---|---|
| Property, Plant and Equipment: | | |
| Equipment | $960,000 | |
| Less: Accumulated depreciation | (410,000) | $550,000 |
| Oil | $340,000 | |
| Less: Accumulated depletion | (140,000) | 200,000 |
| Total property, plant and equipment | | $750,000 |

# Accounting for Intangible Assets

**OBJECTIVE**

**5** **Account** for intangible assets and amortization

As we have discussed at the start of this chapter, *intangible assets* are identifiable, long-lived assets without physical substance. Intangibles are valuable because they carry special rights from patents, copyrights, trademarks, franchises, leaseholds, and goodwill. If you look back at Dairy Farm's balance sheet at the start of this chapter, you may notice that its intangible assets (line 3) amounted to $345.7 million, about 22% of total non-current assets. Intangibles are the most valuable assets for high-tech companies and those that depend on research and development. For example, many companies are now fighting over patents and copyrights over various smartphone and mobile technologies.

Like buildings and equipment, an intangible asset is recorded at its acquisition cost. However, unlike PPE, *IAS 38—Intangible Assets* states that it is unlikely that any subsequent expenditure will be recognized in the carrying amount of an intangible asset.

The choice of cost model or revaluation model is also available for intangible assets, but *IAS 38* made it clear that it will be very rare for an entity to be able to use the revaluation model. In our discussions, we will assume that the intangibles will be measured at cost subsequent to acquisition.

The accounting for intangible assets can be a little more abstract. After all, it's definitely harder to account for things that have no physical form than those with physical form! We will cover the basics here, but you will likely revisit this topic in greater detail in more advanced accounting course. Let's see what *IAS 38* says.

Intangible assets fall into two categories:

- Intangibles with *finite lives* that can be measured reliably—we record **amortization** for these intangibles. Amortization works like depreciation and is usually computed on a straight-line basis. The residual value of most intangibles is zero. Intangibles with finite lives are also subjected to impairment tests.
- Intangibles with *indefinite lives*—because they have indefinite life, we will not able to allocate any amortization, so these intangibles are not amortized. Instead, they are tested for impairment for any loss in value, and if any, record a loss when it occurs. Goodwill is the most prominent example of an intangible asset with an indefinite life.

As far as intangible assets are concerned, remember that the opposite of *finite lives* is *indefinite lives*, and not *infinite lives*! Both categories of intangibles are subject to impairment test. Impairment was previously explained in relation to PPE, but the same principles apply. For more details, if required by your course coverage, you instructor may refer you to *IAS 36—Impairment of Assets*.

In the following discussions, we illustrate the accounting for both categories of intangibles.

## Accounting for Specific Intangibles

Each type of intangible asset is unique, and the accounting can vary from one asset to another. How the asset is acquired, for example through purchase, a business combination (i.e. merger or acquisition of another company) or internally developed, may also impact how the intangible asset is recognized and measured.

**Patents.** **Patents** are granted by a government to give the holder the exclusive right for a certain number of years to produce and sell an invention. The invention may be a specific product or process—for example, **Apple**'s iPad and the Dolby noise-reduction process. Like any other asset, a patent may be purchased. Suppose **Yamaha** pays 15 million JPY (Japanese yen), or about $170,000 to acquire a patent on January 1, and the business believes the expected useful life of the patent is five years (not necessarily the entire legal enforceability of the patent). Amortization expense is $34,000 per year ($170,000/5 years). Yamaha records the acquisition and amortization for this patent as follows:

| | | | |
|---|---|---|---|
| Jan 1 | Patents | 170,000 | |
| | Cash | | 170,000 |
| | *To acquire a patent.* | | |

| | | | |
|---|---|---|---|
| Dec 31 | Amortization Expense—Patents ($170,000/5) | 34,000 | |
| | Accumulated Amortization—Patents | | 34,000 |
| | *To amortize the cost of a patent.* | | |

Alternatively, we can credit the patents account directly (not using an Accumulated Amortization account). Either way, the impact on the accounting equation is the same.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| − 34,000 | = | 0 | + | − 34,000 | (amortization expense) |

Amortization for an intangible decreases both assets and equity exactly as depreciation does for equipment or a building.

**Copyrights.** **Copyrights** are exclusive rights to reproduce and sell a book, musical composition, film, or other work of art. Copyrights also protect computer software programs, such as **Microsoft**'s Windows® and Excel. Issued by governments, copyrights in certain jurisdictions can extend up to 70 years beyond the author's (composer's, artist's, or programmer's) life. The cost of obtaining a copyright from the government is low, but a company may pay a large sum to purchase an existing copyright from the owner or to buy a company for its copyrights. For example, **Zynga** (one of the biggest social network game companies) has been buying game developers such as **Newtoy** (publisher of "Words with Friends") and **OMGPOP** (publisher of "Draw Something").

**Trademarks and Trade Names.** **Trademarks** and **trade names** (or *brand names*) are distinctive identification of a product or service. The "swoosh" symbol is the trademark of **Nike**, a symbol that has become synonymous with the company itself. Similarly, other logos such as **Coca-Cola**'s "Dynamic Ribbon," **McDonald's** golden arches and its *I'm lovin' it!* slogan are all registered trademarks. Often, you see distinctive identifications of products or services, marked with the symbol ™ or ®. Some trademarks may have a definite useful life set by contract. Again, useful life for the purpose of amortization may be shorter than the legal useful life.

**Franchises and Licenses.** **Franchises and licenses** are privileges granted by a private business or a government to sell a product or service in accordance with specified conditions. Many franchises are in the food or retail industry (**Subway**, **Pizza Hut**, **Dunkin' Donuts**, **7-Eleven** and thousands more), but there are also franchises in the service industry (**H&R Block**, **Kumon Maths & Reading Centers**, **Days Inn**, etc). The useful lives of many franchises and licenses are usually indefinite (as the management is able to continue renewing the agreement) and, therefore, are not amortized.

**Goodwill.** In accounting, **goodwill** has a very specific meaning. Goodwill is defined as the excess of the cost of purchasing another company over the sum of the fair values of the acquired company's net assets (assets minus liabilities). For example, a purchaser is willing to pay for goodwill when the purchaser buys another company that has abnormal earning power to bring about a comparative advantage in the market.

*IAS 38* prohibits the recognition of internally generated goodwill. Thus, the only goodwill you will see in financial statements is goodwill that results from business combinations or mergers and acquisitions as outlined in *IFRS 3—Business Combinations*.

Dairy Farm operates in many countries across Asia. Suppose Dairy Farm acquires Europa Company at a cost of $10 million. Europa's assets have a market value of $9 million, and its liabilities total $2 million so Europa's net assets total $7 million at current market value. Note that the assets and liabilities may include new identifiable intangible assets that were previously not recorded in Europa's books, for example brand names, trademarks, customer relationships, etc. In this case, Dairy Farm paid $3 million for goodwill, computed as follows:

| | | |
|---|---|---|
| Purchase price paid for Europa Company | | $10 million |
| Sum of the fair values of Europa Company's assets | $9 million | |
| Less: Europa Company's liabilities | (2 million) | |
| Market value of Europa Company's net assets | | 7 million |
| Excess is called *goodwill* | | $ 3 million |

Dairy Farm's entry to record the acquisition of Europa Company, including its goodwill, would be:

| | | | |
|---|---|---|---|
| | Assets (Cash, Receivables, Inventories, PPE, all at fair value) | 9,000,000 | |
| | Goodwill | 3,000,000 | |
| | Liabilities | | 2,000,000 |
| | Cash | | 10,000,000 |

Goodwill in accounting has special features, as follows:

1. Goodwill is recorded only when it is purchased in the acquisition of another company. A purchase transaction provides objective evidence of the value of goodwill as the excess of purchase consideration over the net fair value of identifiable assets and liabilities. Companies are not allowed to record internally generated goodwill that they create for their own business.
2. Unlike other intangibles with finite useful lives, goodwill is not amortized, and is subjected to strict impairment tests.

## A CLOSER LOOK

Is it possible to acquire a company for a consideration that is less than the fair value of its identifiable assets and liabilities? A "negative goodwill?" Yes! This is what *IFRS 3—Business Combinations* call "bargain purchase." Any resulting gain, subject to a number of caveats, may be recognized by the acquirer as a gain in the income statement on the acquisition date.

## Accounting for the Impairment of an Intangible Asset

Impairment testing applies to intangible assets as it does to PPE (as described earlier). Some intangibles—such as goodwill, licenses, and some trademarks—have indefinite lives and therefore are not subject to amortization. But all intangibles are subject to a write-down when their value decreases. Recall that such decline in value of an asset is called impairment.

Let's look at our hypothetical purchase of Europa Company by Dairy Farm. After a couple of years, market conditions indicate that the goodwill paid during the acquisition of Europa Company is impaired. The recoverable amount of the goodwill is calculated to be $1,000,000. Dairy Farm would then record a $2 million impairment loss and write down the book value of the goodwill, as follows:

| | | | |
|---|---|---|---|
| | Impairment Loss on Goodwill ($3 – $1 million) | 2 million | |
| | Goodwill | | 2 million |

Both assets (goodwill) and equity decrease (through the Loss account). Unlike tangible assets, once goodwill is impaired, IFRS prohibit any reversal of the impairment.

Dairy Farm's financial statements will report the following (in millions):

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| – 2 million | = | 0 | + | – 2 million | (impairment loss) |

## Accounting for Research and Development Costs

When in a company with significant research and development (R&D) activities, such as Lenovo or **Samsung**, should the expenditures be treated as assets or expenses? Under *IAS 38*, the accounting treatment for R&D expenditures is literally split in the middle between research and development. Under IFRS, costs associated with the creation of intangible assets are classified into *research phase* costs and *development phase* costs. Costs in the research phase are always expensed. However, costs in the development phase are capitalized if the company can demonstrate meeting all of the following six criteria:

- the technical feasibility of completing the intangible asset;
- the intention to complete the intangible asset;
- the ability to use or sell the intangible asset;

- the future economic benefits (e.g. the existence of a market or, if for internal use, the usefulness of the intangible asset);
- the availability of adequate resources to complete development of the asset; and
- the ability to reliably measure the expenditure attributable to the intangible asset during its development.

Like many accounting standards, the separation between research and development phase is one that requires judgment, supported by objective evidence.

Let's continue examining Dairy Farm's disclosure on its intangible assets. You can see from the Balance Sheet at the start of the chapter (line 3) that the net carrying amount went up from $343.9 to $352.4 million during the year. The movements in the $8.5 billion of intangible assets are disclosed in its notes to the accounts.

**Dairy Farm International Holdings Limited**
**Adapted notes to the Financial Statements ended December 31, 2011**

| (amounts in $ millions) | Goodwill | Leasehold land | Other | Total |
|---|---|---|---|---|
| January 1, 2011: Cost | 290.2 | 32.9 | 41.4 | 364.5 |
| January 1, 2011: Acc. Amortization and impairment | (0.4) | (1.9) | (18.3) | (20.6) |
| January 1, 2001: Net carrying amount | 289.8 | 31.0 | 23.1 | 343.9 |
| Adjustments (currency differences) | (3.2) | (0.5) | (0.7) | (4.4) |
| Additions | 0.0 | 7.9 | 12.3 | 20.2 |
| Disposals | 0.0 | 0.0 | (0.3) | (0.3) |
| Amortization | 0.0 | (0.9) | (6.1) | (7.0) |
| December 31, 2011: Net carrying amount | 286.6 | 37.5 | 28.3 | 352.4 |

*Source*: Dairy Farm Group

Dairy Farm's intangible assets consist of goodwill, leasehold land and a catch-all category called "other." This Notes to the Account reconciles the movements in the net book value of these intangibles. You can confirm that the totals of $352.4 (and opening balance of $364.5) agree with line 3 of its balance sheet.

## Reporting PPE Transactions on the Statement of Cash Flows

CASH FLOW

**OBJECTIVE**

**6** **Report** PPE transactions on the statement of cash flows

Three main types of PPE transactions appear on the statement of cash flows:

- acquisitions,
- sales, and
- depreciation (including amortization and depletion).

Acquisitions and disposal of PPE are investing activities. A company invests in PPE. The payments for PPE are investing activities that appear on the statement of cash flows. The sale of PPE results in a cash receipt, as illustrated in Exhibit 7-13, which provides extracts of data from Dairy Farm's statements of cash flows for 2011 and 2010. Acquisitions and disposals of PPE and intangibles are denoted in color (lines 3 to 5).

**EXHIBIT 7-13 | Dairy Farm's Statement of Cash Flows**

**Dairy Farm International Holdings Limited**
**Consolidated Cash Flow Statement (Adapted)**
As at December 31

| | (In millions $, USD) | 2011 | 2010 |
|---|---|---|---|
| 1 | Cash flows from operating activities | 730.3 | 676.5 |
| 2 | Cash flows from investing activities | | |
| 3 | Purchase of PPE | (213.5) | (210.8) |
| 4 | Purchase of intangible assets | (18.7) | (13.0) |
| 5 | Sale of PPE | 1.0 | 38.1 |
| 6 | Other investing activities | (10.3) | (52.2) |
| | | (241.5) | (237.9) |
| 7 | Cash flows from financing activities | (447.3) | (289.4) |
| 8 | Net cash flows | 41.5 | 149.2 |

*Source*: Dairy Farm Group

As you can see, the cash components of PPE transactions will be reflected in the statement of cash flows. We will look into cash flows later in Chapter 11, but for now, remember that the cash elements of PPE and intangibles transactions will be reported in the cash flow statement.

## Analyzing Financial Statements

Owners, managers, and investors use ratios to evaluate a business. Two ratios relate directly to non-current assets: asset turnover ratio and return on asset. The ability of a business to generate sales and profit from its asset is an important indication of effectiveness. Non-productive assets will hurt asset turnover and return on assets.

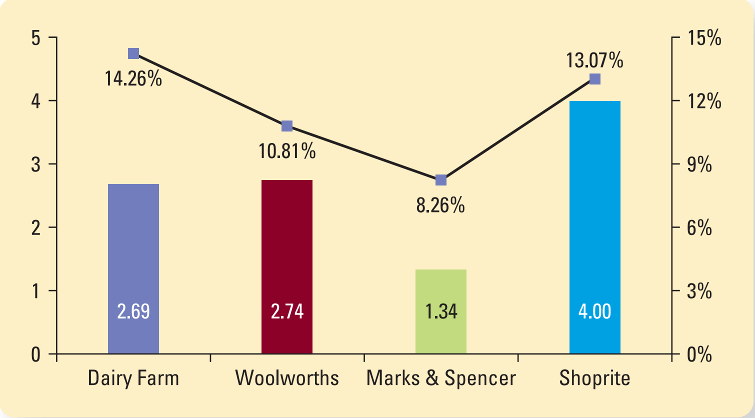
**Asset Turnover and Return on Assets.** Asset turnover is how many sales a business can generate from its assets. Similarly, return on assets is how much profit a business can generate from its assets. The higher the turnover or the return, the more effective the business is at utilizing its assets. Let's have a look at how Dairy Farm performs on these two ratios and compare it to other retailers such as **Woolworths** (the largest retailer in Australia), **Marks and Spencer** (an international retailer with over 1,000 stores in 40 countries, headquartered in London, United Kingdom) and **Shoprite Holdings** (the largest retailer in Africa).

| Asset Turnover and Return on Assets | Dairy Farm 2011 | Dairy Farm 2010 |
|---|---|---|
| $\frac{\text{Sales}}{\text{Average assets*}}$ | $\frac{9{,}134.4}{3{,}398.4} = 2.69$ times | $\frac{7{,}970.5}{3{,}031.9} = 2.63$ times |
| $\frac{\text{Net Profit}}{\text{Average assets*}}$ | $\frac{484.6}{3{,}398.4} = 14.26\%$ | $\frac{410.3}{3{,}031.9} = 13.53\%$ |

**Average = (beginning + ending balance)/2, which is (3,257.8 + 3,539.0)/2 for 2011*

Dairy Farm's asset turnover and return on assets have some marginal improvements in 2011. Exhibit 7-14 plots the two ratios for the four retailers. When compared to other retailers, Dairy Farm has done reasonably well. It has the second lowest asset turnover but it enjoys the highest return on assets. This means Dairy Farm is much better at controlling costs and thus generates more profits from its assets compared to the other three companies.

**EXHIBIT 7-14 | Asset Turnover and Return on Assets for Selected Retailers**




# DECISION GUIDELINES

## PPE AND RELATED EXPENSES

Dairy Farm International Holdings, like all other companies, must make some decisions about how to account for its property, plant and equipment (PPE) and intangibles. Let's review some of these decisions.

| Decision | Guidelines |
|---|---|
| Capitalize or expense a cost? | General rule: Capitalize all costs that provide future benefit for the business such as a new package-handling system. Expense all costs that provide no future benefit, such as ordinary repairs to a delivery vehicle. |
| Capitalize or expense: | |
| ■ Cost associated with a new asset? | Capitalize all costs that bring the asset to its intended use, including asset purchase price, transportation charges, and taxes paid to acquire the asset. |
| ■ Cost associated with an existing asset? | Capitalize only those costs that add to the asset's usefulness or to its useful life. Expense all other costs as maintenance or repairs. |
| Which depreciation method to use: | |
| ■ For financial reporting? | Use the method that best matches depreciation expense against the revenues produced by the asset. Most companies use the straight-line method. |
| ■ For income tax? | Use the method that produces the fastest tax deductions. Depending on the applicable fax regulations, a company may be able to apply different depreciation methods for financial reporting and for income-tax purposes. |
| ■ How to account for natural resources? | Capitalize the asset's acquisition cost and all later costs that add to the natural resource's future benefit. Then record depletion expense, as computed by the units-of-production method. |
| ■ How to account for intangibles? | Capitalize acquisition cost for intangibles that meet the definition, recognition and measurement criteria. For intangibles with finite lives, record amortization expense. For intangibles with indefinite lives, do not record amortization. All intangible assets are subject to impairment tests |

# END-OF-CHAPTER SUMMARY PROBLEM

The figures that follow appear in the *Answers to the Mid-Chapter Summary Problem*, Requirement 2.

| | *Method A: Straight-Line* | | | *Method B: Double-Declining-Balance* | | |
|---|---|---|---|---|---|---|
| **Financial Year** | **Annual Depreciation Expense** | **Accumulated Depreciation** | **Book Value** | **Annual Depreciation Expense** | **Accumulated Depreciation** | **Book Value** |
| Start | | | $44,000 | | | $44,000 |
| 20X5 | $4,000 | $ 4,000 | 40,000 | $8,800 | $ 8,800 | 35,200 |
| 20X6 | 4,000 | 8,000 | 36,000 | 7,040 | 15,840 | 28,160 |
| 20X7 | 4,000 | 12,000 | 32,000 | 5,632 | 21,472 | 22,528 |

## *Requirements*

1. Suppose the income tax authorities permitted a choice between these two depreciation methods. Which method would Dairy Farm select for income-tax purposes? Why?
2. Suppose Dairy Farm purchased the equipment described earlier ($44,000 cost, $4,000 residual value and 10 years' useful life) on January 1, 20X4. Management has depreciated the equipment by using the double-declining-balance method. On June 30, 20X7, Lenovo sold the equipment for $27,000 cash.

Record depreciation for 20X7 and the sale of the equipment on June 30, 20X7.

## Answers

### *Requirement 1*

For tax purposes, most companies select the accelerated method because it results in the greatest depreciation in the earliest years of the asset's life. Accelerated depreciation minimizes income tax payments in the early years of the asset's life. That maximizes the business's cash at the earliest possible time.

### *Requirement 2*

Entries to record depreciation to date of sale, and then the sale of the equipment, follow:

| | | | |
|---|---|---|---|
| 20X7 | | | |
| Oct 1 | Depreciation Expense—Equipment ($5,632 × 1/2 year) | 2,816 | |
| | Accumulated Depreciation—Equipment | | 2,816 |
| | *To update depreciation.* | | |
| | | | |
| | Cash | 27,000 | |
| Oct 1 | Accumulated Depreciation—Equipment | | |
| | ($15,840 + $2,816) | 18,656 | |
| | Equipment | | 44,000 |
| | Gain on Sale of Equipment | | 1,656 |
| | *To record sale of equipment.* | | |

# REVIEW PPES AND INTANGIBLES

## Quick Check (Answers are given at the end of the chapter.)

**1.** Bartman, Inc., purchased a tract of land, a small office building, and some equipment for $1,900,000. The appraised value of the land was $1,380,000, the building $575,000, and the equipment $345,000. What is the cost of the land?

**a.** $633,333 **c.** $1,380,000
**b.** $1,140,000 **d.** None of the above

**2.** Which statement is false?

**a.** Depreciation is a process of allocating the cost of a PPE over its useful life.
**b.** Depreciation is based on the matching principle because it matches the cost of the asset with the revenue generated over the asset's useful life.
**c.** The cost of a PPE minus accumulated depreciation equals the asset's book value.
**d.** Depreciation creates a fund to replace the asset at the end of its useful life.

**Use the following data for questions 3–6.**

On July 1, 20X6, Amir Communications purchased a new piece of equipment that cost $45,000. The estimated useful life is 10 years and estimated residual value is $5,000.

**3.** What is the depreciation expense for 20X6 if Amir uses the straight-line method?

**a.** $4,000 **c.** $4,500
**b.** $2,000 **d.** $2,250

**4.** Assume Amir Communications purchased the equipment on January 1, 20X6. If Amir uses the straight-line method for depreciation, what is the asset's book value at the end of 20X7?

**a.** $42,000 **c.** $32,000
**b.** $36,000 **d.** $37,000

**5.** Assume Amir Communications purchased the equipment on January 1, 20X6. If Amir uses the double-declining-balance method, what is the depreciation for 20X7?

**a.** $9,000 **c.** $16,200
**b.** $6,400 **d.** $7,200

**6.** Return to Amir's original purchase date of July 1, 20X5. Assume that Amir uses the straight-line method of depreciation and sells the equipment for $36,500 on July 1, 20X9. The result of the sale of the equipment is a gain (loss) of

**a.** ($3,500). **c.** $2,500.
**b.** $7,500. **d.** $0.

**7.** A company bought a new machine for $24,000 on January 1. The machine is expected to last five years and has a residual value of $4,000. If the company uses the double-declining-balance method, accumulated depreciation at the end of year 2 will be

**a.** $12,800. **c.** $19,200.
**b.** $15,360. **d.** $16,000.

**8.** Which of the following is *not* a capital expenditure?

**a.** The addition of a building wing
**b.** A tune-up of a company vehicle
**c.** A complete overhaul of an air-conditioning system
**d.** Replacement of an old motor with a new one in a piece of equipment
**e.** The cost of installing a piece of equipment

**9.** Which of the following assets is *not* subject to a decreasing book value through depreciation, depletion, or amortization?

**a.** Land improvements **c.** Intangibles
**b.** Goodwill **d.** Natural resources

**10.** Why would a business select an accelerated method of depreciation for tax purposes?
- **a.** Accelerated depreciation will result in higher gain on disposal of PPE than straight-line depreciation.
- **b.** Accelerated depreciation generates higher depreciation expense immediately, and therefore lowers tax payments in the early years of the asset's life.
- **c.** Accelerated depreciation is easier to calculate because salvage value is ignored.
- **d.** Accelerated depreciation generates a greater amount of depreciation over the life of the asset than does straight-line depreciation.

**11.** A company purchased an oil well for $270,000. It estimates that the well contains 90,000 barrels, has an eight-year life, and no salvage value. If the company extracts and sells 10,000 barrels of oil in the first year, how much depletion expense should be recorded?
- **a.** $33,750
- **b.** $135,000
- **c.** $27,000
- **d.** $30,000

**12.** Which item among the following is not an intangible asset?
- **a.** A copyright
- **b.** A patent
- **c.** A trademark
- **d.** Goodwill
- **e.** All of the above are intangible assets.

## Accounting Vocabulary

**accelerated depreciation method** (p. 433) A depreciation method that writes off a relatively larger amount of the asset's cost nearer the start of its useful life than does the straight-line method.

**accumulated depreciation** (p. 429) The cumulative sum of all depreciation expense from the date of acquiring PPE.

**amortization** (p. 449) The systematic reduction of a lump-sum amount. Expense that applies to intangible assets in the same way depreciation applies to PPE and depletion applies to natural resources.

**capital expenditure** (p. 426) Expenditure that increases an asset's capacity or efficiency or extends its useful life. Capital expenditures are debited to an asset account.

**copyright** (p. 450) Exclusive right to reproduce and sell a book, musical composition, film, other work of art, or computer program. Issued by the government, copyrights may extend many years beyond the author's life.

**depletion expense** (p. 448) That portion of a natural resource's cost that is used up in a particular period. Depletion expense is computed in the same way as units-of-production depreciation.

**depreciable cost** (p. 431) The cost of a PPE minus its estimated residual value.

**double-declining-balance (DDB) method** (p. 433) An accelerated depreciation method that computes annual depreciation by multiplying the asset's decreasing book value by a constant percentage, which is two times the straight-line rate.

**estimated residual value** (p. 431) Expected cash value of an asset at the end of its useful life. Also called *residual value, scrap value*, or *salvage value*.

**estimated useful life** (p. 430) Length of service that a business expects to get from an asset. May be expressed in years, units of output, miles, or other measures.

**franchises and licenses** (p. 451) Privileges granted by a private business or a government to sell a product or service in accordance with specified conditions.

**goodwill** (p. 451) Excess of the cost of an acquired company over the sum of the market values of its net assets (assets minus liabilities).

**impairment** (p. 419) The condition that exists when the carrying amount of an asset exceeds its recoverable amount.

**intangible assets** (p. 420) A non-monetary asset with no physical form that conveys future economic benefits to the entity.

**patent** (p. 450) A government grant giving the holder the exclusive right for a certain number of years to produce and sell an invention.

**recoverable amount** (p. 442) The higher of fair value less cost to sell and value in use. Used in impairment tests.

**Property, plant and equipment or PPE** (p. 419) Long-lived assets, such as land, buildings, and equipment, used in the operation of the business. Also called *fixed assets* or *plant assets*.

**straight-line (SL) method** (p. 431) Depreciation method in which an equal amount of depreciation expense is assigned to each year of asset use.

**trademark, trade name** (p. 450) A distinctive identification of a product or service. Also called a *brand name*.

**units-of-production (UOP) method** (p. 433) Depreciation method by which a fixed amount of depreciation is assigned to each unit of output produced by the PPE.

# ASSESS YOUR PROGRESS

## Short Exercises

**S7-1** ***(Learning Objective 1: Determining cost and book value of a company's PPEs)*** Examine Round Rock's assets.

**Round Rock Corporation**
**Consolidated Balance Sheets (Partial, Adapted)**

| (In millions) | | May 31 20X7 | May 31 20X6 |
|---|---|---|---|
| 1 | Assets | | |
| 2 | Current assets | | |
| 3 | Cash and cash equivalents | $ 2,098 | $ 246 |
| 4 | Receivables, less allowances of $144 and $125 | 2,772 | 2,610 |
| 5 | Spare parts, supplies, and fuel | 4,670 | 4,510 |
| 6 | Prepaid expenses and other | 468 | 411 |
| 7 | Total current assets | 10,008 | 7,777 |
| 8 | Property and equipment, at cost | | |
| 9 | Aircraft | 2,394 | 2,394 |
| 10 | Package handling and ground support equipment | 12,225 | 12,139 |
| 11 | Computer and electronic equipment | 28,165 | 26,115 |
| 12 | Vehicles | 586 | 453 |
| 13 | Facilities and other | 1,435 | 1,594 |
| 14 | Total cost | 44,805 | 42,695 |
| 15 | Less: Accumulated depreciation | (14,903) | (12,942) |
| 16 | Net property and equipment | 29,902 | 29,753 |
| 17 | Other long-term assets | | |
| 18 | Goodwill | 724 | 724 |
| 19 | Prepaid pension cost | 1,341 | 1,275 |
| 20 | Intangible and other assets | 324 | 329 |
| 21 | Total other long-term assets | 2,389 | 2,328 |
| 22 | Total assets | $42,299 | $39,858 |

1. What is Round Rock's largest category of assets? List all 20X7 assets in the largest category and their amounts as reported by Round Rock.
2. What was Round Rock's cost of property and equipment at May 31, 20X7? What was the book value of property and equipment on this date? Why is book value less than cost?

**S7-2** ***(Learning Objective 1: Measuring the cost of a PPE)*** This chapter lists the costs included for the acquisition of land in the 'Land and Land Improvements' section of this chapter. First is the purchase price of the land, which is obviously included in the cost of the land. The reasons for including the other costs are not so obvious. For example, property tax is ordinarily an expense, not part of the cost of an asset. State why the other costs listed are included as part of the cost of the land. After the land is ready for use, will these related costs be capitalized or expensed?

**S7-3** ***(Learning Objective 1: Determining the cost of individual assets in a lump-sum purchase of assets)*** Foley Distribution Service pays $140,000 for a group purchase of land, building, and equipment. At the time of acquisition, the land has a current market value of $75,000, the building's current market value is $45,000, and the equipment's current market value is $30,000. Journalize the lump-sum purchase of the three assets for a total cost of $140,000. You sign a note payable for this amount.

**S7-4** ***(Learning Objective 1: Capitalizing versus expensing PPE costs)*** Assume Nation Car Rentals changed the tires for its entire fleet of cars at a cost of $1.5 million, which Nation paid in cash. Further, assume the Nation accountant erroneously capitalized this expense as part of the cost of the fleet.

Show the effects of the accounting error on Nation Car Rentals' income statement. To answer this question, determine whether revenues, total expenses, and net income were overstated or understated by the accounting error.

**S7-5** ***(Learning Objective 2: Computing depreciation by three methods—first year only)*** Assume that at the beginning of 20X6, AirAsia, a regional airline operating predominantly in Southeast Asia, purchased a used Boeing 737 aircraft at a cost of $53,000,000. AirAsia expects the plane to remain useful for five years (6 million miles) and to have a residual value of $5,000,000. AirAsia expects to fly the plane 775,000 miles the first year, 1,275,000 miles each year during the second, third, and fourth years, and 1,400,000 miles the last year.

1. Compute AirAsia's first-year depreciation on the plane using the following methods:
   - **a.** Straight-line
   - **b.** Units-of-production
   - **c.** Double-declining-balance
2. Show the airplane's book value at the end of the first year under each depreciation method.

**S7-6** ***(Learning Objective 2: Computing depreciation by three methods—third year only)*** Use the AirAsia data in Short Exercise 7-5 to compute AirAsia's third-year depreciation on the plane using the following methods:

- **a.** Straight-line
- **b.** Units-of-production
- **c.** Double-declining-balance

**S7-7** ***(Learning Objective 3: Selecting the best depreciation method for income tax purposes)*** This exercise uses the assumed AirAsia data from Short Exercise 7-5. Assume AirAsia is trying to decide which depreciation method to use for income tax purposes. The company can choose from among the following methods: (a) straight-line, (b) units of production, or (c) double-declining-balance.

1. Which depreciation method offers the tax advantage for the first year? Describe the nature of the tax advantage.
2. How much income tax will AirAsia save for the first year of the airplane's use under the method you selected above as compared with using the straight-line depreciation method? Assume the tax rate is 32%. Ignore any earnings from investing the extra cash.

**S7-8** ***(Learning Objectives 2, 3: Computing partial year depreciation; selecting the best depreciation method)*** Assume that on September 30, 20X6, LoganAir, the national airline of Switzerland, purchased an Airbus aircraft at a cost of €45,000,000. LoganAir expects the plane to remain useful for six years (4,500,000 miles) and to have a residual value of €5,400,000. LoganAir will fly the plane 410,000 miles during the remainder of 20X6. Compute LoganAir's depreciation on the plane for the year ended December 31, 20X6, using the following methods:

- **a.** Straight-line
- **b.** Units-of-production
- **c.** Double-declining-balance

Which method would produce the highest net income for 20X6? Which method produces the lowest net income?

**S7-9** ***(Learning Objectives 2, 3: Computing and recording depreciation after a change in useful life of the asset)*** Ten Flags over Georgia paid $100,000 for a concession stand. Ten Flags started out depreciating the building straight-line over 20 years with zero residual value. After using the concession stand for three years, Ten Flags determines that the building will remain useful for only six more years. Record Ten Flags' depreciation on the concession stand for year 4 by the straight-line method.

**S7-10** ***(Learning Objectives 2, 4: Computing depreciation; recording a gain or loss on disposal)*** On January 1, 20X6, Scoot Airline purchased an airplane for $37,700,000. Scoot Airline expects the plane to remain useful for six years and to have a residual value of $2,900,000. Scoot Airline uses the straight-line method to depreciate its airplanes. Scoot Airline flew the plane for three years and sold it on January 1, 20X9, for $8,300,000.

1. Compute accumulated depreciation on the airplane at January 1, 20X9 (same as December 31, 20X8).
2. Record the sale of the plane on January 1, 20X9.

**S7-11** ***(Learning Objective 4: Accounting for the depletion of a company's natural resources)*** North Coast Petroleum, the giant oil company, holds reserves of oil and gas assets. At the end of 20X6, assume the cost of North Coast Petroleum's mineral assets totaled $120 billion, representing 10 billion barrels of oil in the ground.

1. Which depreciation method is similar to the depletion method that North Coast Petroleum and other oil companies use to compute their annual depletion expense for the minerals removed from the ground?
2. Suppose North Coast Petroleum removed 0.4 billion barrels of oil during 20X7. Record depletion expense for the year. Show amounts in billions.
3. At December 31, 20X6, North Coast Petroleum's Accumulated Depletion account stood at $38 billion. Report Mineral Assets and Accumulated Depletion at December 31, 20X7. Do North Coast Petroleum's Mineral Assets appear to be plentiful or mostly used up? Give your reason.

**S7-12** ***(Learning Objective 5: Measuring and recording goodwill)*** Vector, Inc., dominates the snack-food industry with its Tangy-Chip brand. Assume that Vector, Inc., purchased Concord Snacks, Inc., for $8.8 million cash. The market value of Concord Snacks' assets is $15 million, and Concord Snacks has liabilities of $8 million.

1. Compute the cost of the goodwill purchased by Vector.
2. Explain how Vector will account for goodwill in future years.

**S7-13** ***(Learning Objective 5: Accounting for patents and research and development cost)*** This exercise summarizes the accounting for patents, which, like copyrights, trademarks, and franchises, provide the owner with a special right or privilege. It also covers research and development costs.

Suppose Solar Automobiles Limited paid $600,000 to research and develop a new global positioning system. Solar also paid $350,000 to acquire a patent on a new motor. After readying the motor for production, Solar's sales revenue for the first year totaled $5,200,000. Cost of goods sold was $3,800,000, and selling expenses totaled $480,000. All these transactions occurred during 20X6. Solar expects the patent to have a useful life of seven years.

Prepare Solar Automobiles' income statement for the year ended December 31, 20X6, complete with a heading. Ignore income tax.

**S7-14** ***(Learning Objective 6: Reporting investing activities on the statement of cash flows)*** During 20X6, Northern Satellite Systems, Inc., purchased two other companies for $16 million. Also during 20X6, Northern made capital expenditures of $7 million to expand its market share. During the year, Northern sold its North American operations, receiving cash of $14 million. Overall, Northern reported a net income of $2 million during 20X6.

Show what Northern would report for cash flows from investing activities on its statement of cash flows for 20X6. Report a total amount for net cash provided by (used in) investing activities.

## Exercises

MyAccountingLab

All of the A and B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

### (Group A)

**E7-15A** ***(Learning Objective 1: Determining the cost of PPE)*** Ayer Self Storage purchased land, paying $175,000 cash as a downpayment and signing a $190,000 note payable for the balance. Ayer also had to pay delinquent property tax of $3,500, title insurance costing $3,000, and $9,000 to level the land and remove an unwanted building. The company paid $59,000 to add soil for the foundation and then constructed an office building at a cost of $650,000. It also paid $55,000 for a fence around the property, $14,000 for the company sign near the property entrance, and $8,000 for lighting of the grounds. Determine the cost of Ayer's land, land improvements, and building.

**E7-16A** ***(Learning Objectives 1, 2: Allocating costs to assets acquired in a lump-sum purchase; disposing of a PPE)*** Deadwood Manufacturing bought three used machines in a $167,000 lump-sum purchase. An independent appraiser valued the machines as shown in the table.

| Machine No. | Appraised Value |
|---|---|
| 1 | $38,250 |
| 2 | 73,100 |
| 3 | 58,650 |

What is each machine's individual cost? Immediately after making this purchase, Deadwood sold machine 2 for its appraised value. What is the result of the sale? (Round decimals to three places when calculating proportions, and use your computed percentages throughout.)

**E7-17A** ***(Learning Objective 1: Distinguishing capital expenditures from expenses)*** Assume Candy Corner, Inc., purchased conveyor-belt machinery. Classify each of the following expenditures as a capital expenditure or an immediate expense related to machinery:

- **a.** Sales tax paid on the purchase price
- **b.** Transportation and insurance while machinery is in transit from seller to buyer
- **c.** Purchase price
- **d.** Installation
- **e.** Training of personnel for initial operation of the machinery
- **f.** Special reinforcement to the machinery platform
- **g.** Income tax paid on income earned from the sale of products manufactured by the machinery
- **h.** Major overhaul to extend the machinery's useful life by three years
- **i.** Ordinary repairs to keep the machinery in good working order
- **j.** Lubrication of the machinery before it is placed in service
- **k.** Periodic lubrication after the machinery is placed in service

**E7-18A** ***(Learning Objectives 1, 2: Measuring, depreciating, and reporting PPE)*** During 20X6, Chun Book Store paid $487,000 for land and built a store in Akron. Prior to construction, the city of Akron charged Chun $1,400 for a building permit, which Chun paid. Chun also paid $15,320 for architect's fees. The construction cost of $690,000 was financed by a long-term note payable, with interest cost of $28,300 paid at completion of the project. The building was completed September 30, 20X6. Chun depreciates the building by the straight-line method over 35 years, with estimated residual value of $337,000.

1. Journalize transactions for:
   a. Purchase of the land
   b. All the costs chargeable to the building in a single entry
   c. Depreciation on the building
   Explanations are not required.
2. Report Chun Book Store's PPE on the company's balance sheet at December 31, 20X6.
3. What will Chun's income statement for the year ended December 31, 20X6, report for this situation?

■ writing assignment

■ spreadsheet

**E7-19A** ***(Learning Objectives 2, 3: Determining depreciation amounts by three methods)*** West Side's Pizza bought a used Nissan delivery van on January 2, 20X6, for $19,000. The van was expected to remain in service for four years (36,000 miles). At the end of its useful life, West Side's officials estimated that the van's residual value would be $2,800. The van traveled 11,000 miles the first year, 13,000 miles the second year, 5,000 miles the third year, and 7,000 miles in the fourth year. Prepare a schedule of *depreciation expense* per year for the van under the three depreciation methods. (For units-of-production and double-declining-balance, round to the nearest two decimals after each step of the calculation.)

Which method best tracks the wear and tear on the van? Which method would West Side's prefer to use for income tax purposes? Explain in detail why West Side's prefers this method.

**E7-20A** ***(Learning Objectives 1, 2, 6: Reporting PPE, depreciation, and investing cash flows)*** Assume that in January 20X6, an Oatmeal House restaurant purchased a building, paying $56,000 cash and signing a $107,000 note payable. The restaurant paid another $61,000 to remodel the building. Furniture and fixtures cost $53,000, and dishes and supplies—a current asset—were obtained for $9,200.

Oatmeal House is depreciating the building over 20 years by the straight-line method, with estimated residual value of $55,000. The furniture and fixtures will be replaced at the end of five years and are being depreciated by the double-declining-balance method, with zero residual value. At the end of the first year, the restaurant still has dishes and supplies worth $1,700.

Show what the restaurant will report for supplies, PPE, and cash flows at the end of the first year on its:

- Income statement
- Balance sheet
- Statement of cash flows (investing only)

*Note:* The purchase of dishes and supplies is an operating cash flow because supplies are a current asset.

**E7-21A** ***(Learning Objective 2: Selecting the best depreciation method for income tax purposes)*** On June 30, 20X6, Rockwell Corp. paid $220,000 for equipment that is expected to have an eight-year life. In this industry, the residual value of equipment is approximately 10% of the asset's cost. Rockwell's cash revenues for the year are $115,000 and cash expenses total $75,000.

Assume Rockwell has a choice of straight-line or DDB depreciation for taxation purposes. Select the depreciation method for income tax purposes. Then determine the extra amount of cash that Rockwell can invest by using DDB depreciation, versus straight-line, for the year ended December 31, 20X6. The income tax rate is 40%.

**E7-22A** ***(Learning Objectives 2: Changing a PPE's useful life)*** Assume G-1 Designing Consultants purchased a building for $400,000 and depreciated it on a straight-line basis over 40 years. The estimated residual value was $55,000. After using the building for 20 years, G-1 realized that the building will remain useful for only 15 more years. Starting with the 21st year, G-1 began depreciating the building over a revised total life of 35 years and decreased the residual value to $10,000. Record depreciation expense on the building for years 20 and 21.

**E7-23A** ***(Learning Objectives 2, 3: Analyzing the effect of a sale of a PPE; DDB depreciation)*** Assume that on January 2, 20X6, Maxwell of Michigan purchased fixtures for $8,800 cash, expecting the fixtures to remain in service for five years. Maxwell has depreciated the fixtures on a double-declining-balance basis, with $1,300 estimated residual value. On August 31, 20X7, Maxwell sold the fixtures for $2,900 cash. Record both the depreciation expense on the fixtures for 20X7 and the sale of the fixtures. Apart from your journal entry, also show how to compute the gain or loss on Maxwell' disposal of these fixtures.

**E7-24A** ***(Learning Objectives 1, 2, 3: Measuring a PPE's cost; using UOP depreciation; trading in a used asset)*** Honest Truck Company is a large trucking company that operates throughout the United States. Honest Truck Company uses the units-of-production (UOP) method to depreciate its trucks.

Honest Truck Company trades in trucks often to keep driver morale high and to maximize fuel economy. Consider these facts about one Mack truck in the company's fleet. When acquired in 20X6, the tractor-trailer rig cost $380,000 and was expected to remain in service for 10 years or 1,000,000 miles. Estimated residual value was $100,000. During 20X6, the truck was driven 76,000 miles; during 20X7, 116,000 miles; and during 20X8, 156,000 miles. After 37,000 miles in 20X9, the company traded in the Mack truck for a less expensive Freightliner with a sticker price of $300,000. Honest Truck Company paid cash of $28,000. Determine Honest's gain or loss on the transaction. Prepare the journal entry to record the trade-in of the old truck for the new one.

**E7-25A** ***(Learning Objective 4: Recording natural resource assets and depletion)*** Rocky Mines paid $426,000 for the right to extract ore from a 275,000-ton mineral deposit. In addition to the purchase price, Rocky Mines also paid a $120 filing fee, a $2,100 license fee to the state of Colorado, and $64,030 for a geologic survey of the property. Because the company purchased the rights to the minerals only, it expects the asset to have zero residual value when fully depleted. During the first year of production, Rocky Mines removed 40,000 tons of ore. Make journal entries to record (a) purchase of the mineral rights, (b) payment of fees and other costs, and (c) depletion for first-year production. What is the mineral asset's book value at the end of the year?

**E7-26A** ***(Learning Objectives 3, 5: Recording intangibles, amortization, and a change in the asset's useful life)***

1. Morris Printers purchased for $900,000 a patent for a new laser printer. Although the patent gives legal protection for 20 years, it is expected to provide Morris Printers with a competitive advantage for only 10 years. Assuming the straight-line method of amortization, make journal entries to record (a) the purchase of the patent and (b) amortization for year 1.
2. After using the patent for five years, Morris Printers learns at an industry trade show that Super Printers is designing a more efficient printer. On the basis of this new information, Morris Printers determines that the patent's total useful life is only seven years. Record amortization for year 6.

**E7-27A** ***(Learning Objective 5: Computing and accounting for goodwill)*** Assume Haledan paid $16 million to purchase Northshore.com. Assume further that Northshore had the following summarized data at the time of the Haledan acquisition (amounts in millions):

**Northshore.com**

| Assets | | Liabilities and Equity | |
|---|---|---|---|
| Current assets | $13 | Total liabilities | $25 |
| Long-term assets | 23 | Shareholders' equity | 11 |
| | $36 | | $36 |

Northshore's long-term assets had a current market value of only $18 million.

### Requirements

1. Compute the cost of goodwill purchased by Haledan.
2. Journalize Haledan's purchase of Northshore.
3. Explain how Haledan will account for goodwill in the future.

**E7-28A** ***(Learning Objective 6: Reporting cash flows for property and equipment)*** Assume Shoe Warehouse Corporation completed the following transactions:

**a.** Sold a store building for $650,000. The building had cost Shoe Warehouse $1,700,000, and at the time of the sale its accumulated depreciation totaled $1,050,000.
**b.** Lost a store building in a fire. The building cost $380,000 and had accumulated depreciation of $190,000. The insurance proceeds received by Shoe Warehouse totaled $130,000.
**c.** Renovated a store at a cost of $160,000.
**d.** Purchased store fixtures for $70,000. The fixtures are expected to remain in service for 10 years and then be sold for $20,000. Shoe Warehouse uses the straight-line depreciation method.

For each transaction, show what Shoe Warehouse would report for investing activities on its statement of cash flows. Show negative amounts in parentheses.

## (Group B)

**E7-29B** ***(Learning Objective 1: Determining the cost of PPE)*** Lavallee Self Storage purchased land, paying €155,000 cash as a downpayment and signing a €195,000 note payable for the balance. Lavallee also had to pay delinquent property tax of €4,000, title insurance costing €3,500, and €5,000 to level the land and remove an unwanted building. The company paid €53,000 to add soil for the foundation and then constructed an office building at a cost of €600,000. It also paid €45,000 for a fence around the property, €20,000 for the company sign near the property entrance, and €3,000 for lighting of the grounds. Determine the cost of Lavallee's land, land improvements, and building.

**E7-30B** ***(Learning Objectives 1, 2: Allocating costs to assets acquired in a lump-sum purchase; disposing of a PPE)*** Eastwood Manufacturing bought three used machines in a €216,000 lump-sum purchase. An independent appraiser valued the machines as shown in the table.

| Machine No. | Appraised Value |
|---|---|
| 1 | € 77,000 |
| 2 | 116,600 |
| 3 | 26,400 |

What is each machine's individual cost? Immediately after making this purchase, Eastwood sold machine 2 for its appraised value. What is the result of the sale? (Round decimals to three places when calculating proportions, and use your computed percentages throughout.)

**E7-31B** ***(Learning Objective 1: Distinguishing capital expenditures from expenses)*** Assume Delicious Desserts, Inc., purchased conveyor-belt machinery. Classify each of the following expenditures as a capital expenditure or an immediate expense related to machinery:

**a.** Sales tax paid on the purchase price
**b.** Transportation and insurance while machinery is in transit from seller to buyer
**c.** Purchase price
**d.** Installation
**e.** Training of personnel for initial operation of the machinery
**f.** Special reinforcement to the machinery platform
**g.** Income tax paid on income earned from the sale of products manufactured by the machinery
**h.** Major overhaul to extend the machinery's useful life by three years

**i.** Ordinary repairs to keep the machinery in good working order
**j.** Lubrication of the machinery before it is placed in service
**k.** Periodic lubrication after the machinery is placed in service

**E7-32B** ***(Learning Objectives 1, 2: Measuring, depreciating, and reporting PPE)*** During 20X6, Tao Book Store paid €488,000 for land and built a store in Lisbon. Prior to construction, the city of Lisbon charged Tao €1,800 for a building permit, which Tao paid. Tao also paid €15,800 for architect's fees. The construction cost of €710,000 was financed by a long-term note payable, with interest cost of €30,180 paid at completion of the project. The building was completed on September 30, 20X6. Tao depreciates the building by the straight-line method over 35 years, with estimated residual value of €341,000.

**1.** Journalize transactions for:
**a.** Purchase of the land
**b.** All the costs chargeable to the building in a single entry
**c.** Depreciation on the building
Explanations are not required.
**2.** Report Tao Book Store's PPE on the company's balance sheet at December 31, 20X6.
**3.** What will Tao's income statement for the year ended December 31, 20X6, report for this situation?

■ **writing assignment**

■ **spreadsheet**

**E7-33B** ***(Learning Objectives 2, 3: Determining depreciation amounts by three methods)*** Southern's Pizza bought a used Nissan delivery van on January 2, 20X6, for €19,200. The van was expected to remain in service four years (30,000 miles). At the end of its useful life, Southern's officials estimated that the van's residual value would be €2,400. The van traveled 8,000 miles the first year, 8,500 miles the second year, 5,500 miles the third year, and 8,000 miles in the fourth year. Prepare a schedule of *depreciation expense* per year for the van under the three depreciation methods. (For units-of-production and double-declining-balance, round to the nearest two decimals after each step of the calculation.)

Which method best tracks the wear and tear on the van? Which method would Southern's prefer to use for income tax purposes? Explain in detail why Southern's prefers this method.

**E7-34B** ***(Learning Objectives 1, 2, 6: Reporting PPE, depreciation, and investing cash flows)*** Assume that in January 20X6, an International Eatery restaurant purchased a building, paying €52,000 cash and signing a €106,000 note payable. The restaurant paid another €62,000 to remodel the building. Furniture and fixtures cost €57,000, and dishes and supplies—a current asset—were obtained for €8,800.

International Eatery is depreciating the building over 20 years by the straight-line method, with estimated residual value of €54,000. The furniture and fixtures will be replaced at the end of five years and are being depreciated by the double-declining-balance method, with zero residual value. At the end of the first year, the restaurant still has dishes and supplies worth €1,600.

Show what the restaurant will report for supplies, PPE, and cash flows at the end of the first year on its:

- Income statement
- Balance sheet
- Statement of cash flows (investing only)

*Note:* The purchase of dishes and supplies is an operating cash flow because supplies are a current asset.

**E7-35B** ***(Learning Objective 2: Selecting the best depreciation method for income tax purposes)*** On June 30, 20X6, Roy Corp. paid €200,000 for equipment that is expected to have an eight-year life. In this industry, the residual value is approximately 10% of the asset's cost. Roy's cash revenues for the year are €140,000 and cash expenses total €100,000.

Assume Rockwell has a choice of straight-line or DDB depreciation for taxation purposes. Select the depreciation method for income tax purposes. Then determine the extra amount of cash that Rockwell can invest by using DDB depreciation, versus straight-line, for the year ended December 31, 20X6. The income tax rate is 40%.

**E7-36B** ***(Learning Objectives 2: Changing a PPE's useful life)*** Assume B–1 Accounting Consultants purchased a building for €435,000 and depreciated it on a straight-line basis over 40 years. The estimated residual value was €73,000. After using the building for 20 years, B–1 realized that the building will remain useful for only 15 more years. Starting with the 21st year, B–1 began depreciating the building over the newly revised total life of 35 years and decreased the estimated residual value to €14,000. Record depreciation expense on the building for years 20 and 21.

**E7-37B** ***(Learning Objectives 2, 3: Analyzing the effect of a sale of a PPE; DDB depreciation)*** Assume that on January 2, 20X6, LaSalle of Lyon purchased fixtures for €8,300 cash, expecting the fixtures to remain in service for five years. LaSalle has depreciated the fixtures on a double-declining-balance basis, with €1,700 estimated residual value. On September 30, 20X7, LaSalle sold the fixtures for €2,300 cash. Record both the depreciation expense on the fixtures for 20X7 and then the sale of the fixtures. Apart from your journal entry, also show how to compute the gain or loss on LaSalle's disposal of these fixtures.

**E7-38B** ***(Learning Objectives 1, 2, 3: Measuring a PPE's cost; using UOP depreciation; trading in a used asset)*** EuroTruck Company is a large trucking company that operates throughout the EU. EuroTruck Company uses the units-of-production (UOP) method to depreciate its trucks.

EuroTruck Company trades in trucks often to keep driver morale high and to maximize fuel economy. Consider these facts about one Mack truck in the company's fleet. When acquired in 20X6, the rig cost €370,000 and was expected to remain in service for 10 years or 1,000,000 miles. Estimated residual value was €100,000. During 20X6, the truck was driven 77,000 miles; during 20X7, 117,000 miles; and during 20X8, 157,000 miles. After 42,000 miles in 20X9, the company traded in the Mack truck for a less expensive Freightliner with a sticker price of €300,000. EuroTruck Company paid cash of €25,000. Determine EuroTruck's gain or loss on the transaction. Prepare the journal entry to record the trade-in of the old truck on the new one.

**E7-39B** ***(Learning Objective 4: Recording natural resource assets and depletion)*** Mighty Mines paid €432,000 for the right to extract ore from a 425,000-ton mineral deposit. In addition to the purchase price, Mighty Mines also paid a €150 filing fee, a €2,700 license fee, and €92,150 for a geologic survey of the property. Because the company purchased the rights to the minerals only, it expected the asset to have zero residual value when fully depleted. During the first year of production, Mighty Mines removed 70,000 tons of ore. Make journal entries to record (a) purchase of the mineral rights, (b) payment of fees and other costs, and (c) depletion for first-year production. What is the mineral asset's book value at the end of the year?

**E7-40B** ***(Learning Objectives 3, 5: Recording intangibles, amortization, and a change in the asset's useful life)***

1. Miracle Printers purchased for €700,000 a patent for a new laser printer. Although the patent gives legal protection for 20 years, it is expected to provide Miracle Printers with a competitive advantage for only eight years. Assuming the straight-line method of amortization, make journal entries to record (a) the purchase of the patent and (b) amortization for year 1.
2. After using the patent for four years, Miracle Printers learns at an industry trade show that Speedy Printers is designing a more efficient printer. On the basis of this new information, Miracle Printers determines that the patent's total useful life is only six years. Record amortization for year 5.

**E7-41B** ***(Learning Objective 5: Computing and accounting for goodwill)*** Assume Kaledan paid €18 million to purchase Southwest.com. Assume further that Southwest had the following summarized data at the time of the Kaledan acquisition (amounts in millions):

| Southwest.com | | | |
|---|---|---|---|
| **Assets** | | **Liabilities and Equity** | |
| Current assets | €10 | Total liabilities | €25 |
| Long-term assets | 22 | Shareholders' equity | 7 |
| | €32 | | €32 |

Southwest's long-term assets had a current market value of only €17 million.

### *Requirements*

1. Compute the cost of goodwill purchased by Kaledan.
2. Journalize Kaledan's purchase of Southwest.
3. Explain how Kaledan will account for goodwill in the future.

**E7-42B** ***(Learning Objective 6: Reporting cash flows for property and equipment)*** Assume Shoes-R-Us Corporation completed the following transactions:

- **a.** Sold a store building for €610,000. The building had cost Shoes-R-Us €1,300,000, and at the time of the sale its accumulated depreciation totaled €690,000.
- **b.** Lost a store building in a fire. The building cost €350,000 and had accumulated depreciation of €170,000. The insurance proceeds received by Shoes-R-Us totaled €110,000.
- **c.** Renovated a store at a cost of €120,000.
- **d.** Purchased store fixtures for €90,000. The fixtures are expected to remain in service for 10 years and then be sold for €10,000. Shoes-R-Us uses the straight-line depreciation method.

For each transaction, show what Shoes-R-Us would report for investing activities on its statement of cash flows. Show negative amounts in parentheses.

## Challenge Exercises

**E7-43** ***(Learning Objective 2: Computing units-of-production depreciation)*** Buff Gym purchased exercise equipment at a cost of $107,000. In addition, Buff paid $3,000 for a special platform on which to stabilize the equipment for use. Freight costs of $1,600 to ship the equipment were borne by the seller. Buff will depreciate the equipment by the units-of-production method, based on an expected useful life of 55,000 hours of exercise. The estimated residual value of the equipment is $11,000. How many hours did Buff Gym use the machine if depreciation expense is $4,320?

**E7-44** ***(Learning Objective 4: Determining the sale price of property and equipment)*** Wilson Corporation reported the following for property and equipment (in millions, adapted):

| | Year End | |
|---|---|---|
| | **20X7** | **20X6** |
| Property and equipment | $24,073 | $22,011 |
| Accumulated depreciation | (13,306) | (12,087) |

During 20X7, Wilson paid $2,510 million for new property and equipment. Depreciation for the year totaled $1,546 million. During 20X7, Wilson sold property and equipment for cash of $48 million. How much was Wilson's gain or loss on the sale of property and equipment during 20X7?

**E7-45** ***(Learning Objectives 2, 3: Determining net income after a change in depreciation method)*** Norzani, Inc., has a popular line of sunglasses. Norzani reported net income of $66 million for 20X6. Depreciation expense for the year totaled $32 million. Norzani, Inc., depreciates PPE over eight years using the straight-line method and no residual value.

Norzani Inc., paid $256 million for PPE at the beginning of 20X6. Then at the start of 20X7, Norzani switched over to double-declining-balance (DDB) depreciation. 20X7 is expected to be the same as 20X6 except for the change in depreciation method. If Norzani had been using DDB depreciation all along, how much net income can Norzani, Inc., expect to earn during 20X7? Ignore income tax.

**E7-46** ***(Learning Objective 1: Capitalizing versus expensing; measuring the effect of an error)*** All French Press (AFP) is a major French telecommunication conglomerate. Assume that early in year 1, AFP purchased equipment at a cost of €8 million. Management expects the equipment to remain in service for four years and estimated residual value to be negligible. AFP uses the straight-line depreciation method. *Through an accounting error, AFP expensed the entire cost of the equipment at the time of purchase.* Because AFP is operated as a partnership, it pays no income tax.

***Requirements***

Prepare a schedule to show the overstatement or understatement in the following items at the end of each year over the four-year life of the equipment:

1. Total current assets
2. Equipment, net
3. Net income

## Quiz

*Test your understanding of accounting for PPE, natural resources, and intangibles by answering the following questions. Select the best choice from among the possible answers given.*

**Q7-47** A capital expenditure

**a.** adds to an asset.
**b.** is expensed immediately.
**c.** is a credit like capital (owners' equity).
**d.** records additional capital.

**Q7-48** Which of the following items should be accounted for as a capital expenditure?

**a.** The monthly rental cost of an office building.
**b.** Taxes paid in conjunction with the purchase of office equipment.
**c.** Maintenance fees paid with funds provided by the company's capital.
**d.** Costs incurred to repair leaks in the building roof.

| Catergory | Sale Price per Lot |
|---|---|
| 10 Hilltop lots................ | $525,000 |
| 10 Valley lots................. | 350,000 |

**Q7-49** Suppose you buy land for $2,900,000 and spend $1,200,000 to develop the property. You then divide the land into lots as follows:

How much did each hilltop lot cost you?

**a.** $246,000
**b.** $175,715
**c.** $234,285
**d.** $410,000

**Q7-50** Which statement about depreciation is false?

**a.** Depreciation should not be recorded in years that the market value of the asset has increased.
**b.** Depreciation is a process of allocating the cost of an asset to expense over its useful life.
**c.** A major objective of depreciation accounting is to match the cost of using an asset with the revenues it helps to generate.
**d.** Obsolescence as well as physical wear and tear should be considered when determining the period over which an asset should be depreciated.

**Q7-51** Boston Corporation acquired a machine for $33,000 and has recorded depreciation for two years using the straight-line method over a five-year life and $6,000 residual value.

At the start of the third year of use, Boston revised the estimated useful life to a total of 10 years. Estimated residual value declined to $0.

What is the book value of the machine at the end of two full years of use?

**a.** $13,200
**b.** $16,800
**c.** $10,800
**d.** $22,200

**Q7-52** Boston Corporation acquired a machine for $33,000 and has recorded depreciation for two years using the straight-line method over a five-year life and $6,000 residual value. At the start of the third year of use, Boston revised the estimated useful life to a total of 10 years. Estimated residual value declined to $0.

How much depreciation should Boston record in each of the asset's last eight years (that is, year 3 through year 10), following the revision?

**a.** $13,200
**b.** $3,300
**c.** $2,775
**d.** Some other amount

**Q7-53** King Company failed to record depreciation of equipment. How does this omission affect King's financial statements?

**a.** Net income is overstated and assets are understated.
**b.** Net income is overstated and assets are overstated.
**c.** Net income is understated and assets are overstated.
**d.** Net income is understated and assets are understated.

**Q7-54** Jimmy's DVD, Inc., uses the double-declining-balance method for depreciation on its computers. Which item is not needed to compute depreciation for the first year?

**a.** Original cost
**b.** Expected useful life in years
**c.** Estimated residual value
**d.** All the above are needed.

**Q7-55** Which of the following costs is reported on a company's income statement?

**a.** Land
**b.** Accumulated depreciation
**c.** Depreciation expense
**d.** Accounts payable

**Q7-56** Which of the following items is reported on the balance sheet?

**a.** Gain on disposal of equipment
**b.** Accumulated depreciation
**c.** Cost of goods sold
**d.** Net sales revenue

**Use the following information to answer questions 7-57 through 7-59.**
Hill Company purchased a machine for $8,600 on January 1, 20X6. The machine has been depreciated using the straight-line method over a 10-year life and $600 residual value. Hill sold the machine on January 1, 20X8, for $7,700.

**Q7-57** What gain or loss should Hill record on the sale?

**a.** Gain, $1,300
**b.** Loss, $900
**c.** Gain, $300
**d.** Gain, $700

**Q7-58** Journalize Hill's sale of the machine.

**Q7-59** What is straight-line depreciation for the year ended December 31, 20X6, and what is the book value on December 31, 20X7?

**Q7-60** A company purchased mineral assets costing $840,000, with estimated residual value of $30,000, and holding approximately 300,000 tons of ore. During the first year, 48,000 tons are extracted and sold. What is the amount of depletion for the first year?

**a.** $114,500
**b.** $129,600
**c.** $109,400
**d.** Cannot be determined from the data given

**Q7-61** Suppose Timely Delivery pays $64 million to buy Guaranteed Overnight. Guaranteed's assets are valued at $74 million, and its liabilities total $16 million. How much goodwill did Timely Delivery purchase in its acquisition of Guaranteed Overnight?

**a.** $48 million
**b.** $16 million
**c.** $26 million
**d.** $6 million

## Problems

All of the A and B problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

### (Group A)

**P7-62A** ***(Learning Objectives 1, 2: Identifying the elements of a PPE's cost)*** Assume Online, Inc., opened an office in Durban, South Africa. Further assume that Online incurred the following costs in acquiring land, making land improvements, and constructing and furnishing the new building:

| | | |
|---|---|---|
| **a.** | Purchase price of land, including an old building that will be used for a garage (land market value is $315,000; building market value is $85,000) | $360,000 |
| **b.** | Landscaping (additional dirt and earth moving) | 8,500 |
| **c.** | Fence around the land | 31,800 |
| **d.** | Attorney fee for title search on the land | 900 |
| **e.** | Delinquent real estate taxes on the land to be paid by Online | 5,600 |
| **f.** | Company signs at entrance to the property | 1,200 |
| **g.** | Building permit for the sales building | 400 |
| **h.** | Architect fee for the design of the sales building | 19,600 |
| **i.** | Masonry, carpentry, and roofing of the sales building | 515,000 |
| **j.** | Renovation of the garage building | 41,200 |
| **k.** | Interest cost on construction loan for sales building | 9,100 |
| **l.** | Landscaping (trees and shrubs) | 6,600 |
| **m.** | Parking lot and concrete walks on the property | 52,100 |
| **n.** | Lights for the parking lot and walkways | 7,500 |
| **o.** | Salary of construction supervisor (86% to sales building; 11% to land improvements; and 3% to garage building renovations) | 44,000 |
| **p.** | Office furniture for the sales building | 79,400 |
| **q.** | Transportation and installation of furniture | 1,900 |

Assume Online depreciates buildings over 40 years, land improvements over 20 years, and furniture over 10 years, all on a straight-line basis with zero residual value.

***Requirements***

1. Show how to account for each of Online's costs by listing the cost under the correct account. Determine the total cost of each asset.
2. All construction was complete and the assets were placed in service on May 2. Record depreciation for the year ended December 31. Round to the nearest dollar.
3. How will what you learned in this problem help you manage a business?

**P7-63A** ***(Learning Objectives 1, 2: Recording PPE transactions; reporting on the balance sheet)*** Romano Lakes Resort reported the following on its balance sheet at December 31, 20X6:

| | |
|---|---|
| Property, plant and equipment, at cost: | |
| Land | $ 146,000 |
| Buildings | 709,000 |
| Less: Accumulated depreciation | (342,000) |
| Equipment | 405,000) |
| Less: Accumulated depreciation | (265,000) |

In early July 20X7, the resort expanded operations and purchased additional equipment at a cost of $102,000. The company depreciates buildings by the straight-line method over 20 years with residual value of $89,000. Due to obsolescence, the equipment has a useful life of only 10 years and is being depreciated by the double-declining-balance method with zero residual value.

### *Requirements*

1. Journalize Romano Lakes Resort's PPE purchase and depreciation transactions for 20X7.
2. Report PPEs on the December 31, 20X7, balance sheet.

**P7-64A** ***(Learning Objectives 1, 2, 3: Recording PPE transactions, exchanges, and changes in useful life)*** Carr, Inc., has the following PPE accounts: Land, Buildings, and Equipment, with a separate accumulated depreciation account for each of these except land. Carr completed the following transactions:

| | |
|---|---|
| Jan 2 | Traded in equipment with accumulated depreciation of $65,000 (cost of $136,000) for similar new equipment with a cash cost of $175,000. Received a trade-in allowance of $75,000 on the old equipment and paid $100,000 in cash. |
| Jun 30 | Sold a building that had a cost of $655,000 and had accumulated depreciation of $130,000 through December 31 of the preceding year. Depreciation is computed on a straight-line basis. The building has a 40-year useful life and a residual value of $275,000. Carr received $115,000 cash and a $405,250 note receivable. |
| Oct 29 | Purchased land and a building for a single price of $390,000. An independent appraisal valued the land at $221,100 and the building at $180,900. |
| Dec 31 | Recorded depreciation as follows:<br>Equipment has an expected useful life of 5 years and an estimated residual value of 6% of cost. Depreciation is computed on the double-declining-balance method.<br>Depreciation on buildings is computed by the straight-line method. The new building carries a 40-year useful life and a residual value equal to 20% of its cost. |

### *Requirement*

1. Record the transactions in Carr, Inc.'s journal.

■ **writing assignment**

**P7-65A** ***(Learning Objective 1: Explaining the concept of depreciation)*** The board of directors of Gold Structures, Inc., is reviewing the 20X6 annual report. A new board member—a wealthy woman with little business experience—questions the company accountant about the depreciation amounts. The new board member wonders why depreciation expense has decreased from $220,000 in 20X4 to $204,000 in 20X5 to $196,000 in 20X6. She states that she could understand the decreasing annual amounts if the company had been disposing of properties each year, but that has not occurred. Further, she notes that growth in the city is increasing the values of company properties. Why is the company recording depreciation when the property values are increasing?

■ **spreadsheet**

**P7-66A** ***(Learning Objectives 1, 2, 3: Computing depreciation by three methods; identifying the cash-flow advantage of accelerated depreciation for tax purposes)*** On January 9, 20X6, J.T. Outtahe Co. paid $230,000 for a computer system. In addition to the basic purchase price, the company paid a setup fee of $1,000, $6,000 sales tax, and $28,000 for a special platform on which to place the computer. J.T. Outtahe management estimates that the computer will remain in service for five years and have a residual value of $15,000. The computer will process 30,000 documents the first year, with annual processing decreasing by 2,500 documents during each of the next four years (that is, 27,500 documents in year 20X7; 25,000 documents in year 20X8; and so on). In trying to decide which depreciation method to use, the company president has requested a depreciation schedule for each of the three depreciation methods (straight-line, units-of-production, and double-declining-balance).

## Requirements

1. For each of the generally accepted depreciation methods, prepare a depreciation schedule showing asset cost, depreciation expense, accumulated depreciation, and asset book value.
2. J.T. Outtahe reports to shareholders and creditors in the financial statements using the depreciation method that maximizes reported income in the early years of asset use. For income tax purposes, the company uses the depreciation method that minimizes income tax payments in those early years. Consider the first year J.T. Outtahe Co. uses the computer. Identify the depreciation methods that meet Outtahe's objectives, assuming the income tax authorities permit the use of any of the methods.

**P7-67A** ***(Learning Objectives 2, 3, 6: Analyzing PPE transactions from a company's financial statements)*** Floral, Inc., sells electronics and appliances. The excerpts that follow are adapted from Floral's financial statements for 20X6 and 20X5.

| Balance Sheet (dollars in millions) | February 28 20X6 | 20X5 |
|---|---|---|
| **Assets** | | |
| Total current assets | $7,980 | $6,900 |
| Property, plant and equipment | 4,830 | 4,199 |
| Less: Accumulated depreciation | 2,126 | 1,726 |
| Goodwill | 558 | 519 |

| Statement of Cash Flows (dollars in millions) | Year Ended February 28 20X6 | 20X5 |
|---|---|---|
| **Operating activities:** | | |
| Net income | $1,146 | $ 981 |
| Non-cash items affecting net income: | | |
| Depreciation | 460 | 457 |
| **Investing activities:** | | |
| Additions to property, plant and equipment | (707) | (615) |

## Requirements

1. How much was Floral's cost of PPE at February 28, 20X6? How much was the book value of PPE? Show computations.
2. The financial statements give three pieces of evidence that Floral purchased PPE and goodwill during fiscal year 20X6. What are they?
3. Prepare T-accounts for Property, Plant and Equipment; Accumulated Depreciation; and Goodwill. Then show all the activity in these accounts during 20X6. Label each increase or decrease and give its dollar amount. During 20X6, Floral sold PPE that had cost the company $76 million (accumulated depreciation on these assets was $60 million). Assume there were no losses on goodwill during 20X6.

**P7-68A** ***(Learning Objective 4: Accounting for natural resources, and the related expense)*** Northeastern Energy Company's balance sheet includes the asset Iron Ore. Northeastern Energy paid $2.5 million cash for a lease giving the firm the right to work a mine that contained an estimated 197,000 tons of ore. The company paid $65,000 to remove unwanted buildings from the land and $75,000 to prepare the surface for mining. Northeastern Energy also signed a $37,230 note payable to a landscaping company to return the land surface to its original condition after the lease ends. During the first year, Northeastern Energy removed 33,500 tons of ore, which it sold on account for $35 per ton. Operating expenses for the first year totaled $250,000, all paid in cash. In addition, the company accrued income tax at the tax rate of 32%.

### *Requirements*

1. Record all of Northeastern Energy's transactions for the year.
2. Prepare the company's income statement for its iron ore operations for the first year. Evaluate the profitability of the company's operations.

**P7-69A** ***(Learning Objectives 4, 6: Reporting PPE transactions on the statement of cash flows)*** At the end of 20X5, Solving Engineering Associates (SEA) had total assets of $17.1 billion and total liabilities of $9.7 billion. Included among the assets were property, plant and equipment with a cost of $4.4 billion and accumulated depreciation of $3.2 billion.

SEA completed the following selected transactions during 20X6. The company earned total revenues of $26.4 billion and incurred total expenses of $21.2 billion, which included depreciation of $1.9 billion. During the year, SEA paid $1.8 billion for new property, plant and equipment and sold old PPE for $0.3 billion. The cost of the assets sold was $1.1 billion, and their accumulated depreciation was $0.6 billion.

### *Requirements*

1. Explain how to determine whether SEA had a gain or loss on the sale of old PPE during the year. What was the amount of the gain or loss, if any?
2. Show how SEA would report property, plant and equipment on the balance sheet at December 31, 20X6, after all the year's activity. What was the book value of property, plant and equipment?
3. Show how SEA would report its operating activities and investing activities on its statement of cash flows for 20X6. Ignore gains and losses.

## (Group B)

**P7-70B** ***(Learning Objectives 1, 2: Identifying the elements of a PPE's cost)*** Assume Lance Pharmacy, Inc., opened an office in Valencia, Italy. Further assume that Lance Pharmacy incurred the following costs in acquiring land, making land improvements, and constructing and furnishing the new sales building:

| | | |
|---|---|---|
| **a.** | Purchase price of land, including an old building that will be used for a garage (land market value is €310,000; building market value is €90,000) | €340,000 |
| **b.** | Landscaping (additional dirt and earth moving) | 8,900 |
| **c.** | Fence around the land | 31,000 |
| **d.** | Attorney fee for title search on the land | 400 |
| **e.** | Delinquent real estate taxes on the land to be paid by Lance Pharmacy | 5,800 |
| **f.** | Company signs at entrance to the property | 1,400 |
| **g.** | Building permit for the sales building | 700 |
| **h.** | Architect fee for the design of the sales building | 19,900 |
| **i.** | Masonry, carpentry, and roofing of the sales building | 510,000 |
| **j.** | Renovation of the garage building | 41,900 |
| **k.** | Interest cost on construction loan for sales building | 9,000 |
| **l.** | Landscaping (trees and shrubs) | 6,300 |
| **m.** | Parking lot and concrete walks on the property | 52,900 |
| **n.** | Lights for the parking lot and walkways | 7,000 |
| **o.** | Salary of construction supervisor (86% to sales building; 10% to land improvements; and 4% to garage building renovations) | 41,000 |
| **p.** | Office furniture for the sales building | 79,200 |
| **q.** | Transportation and installation of furniture | 1,100 |

Assume Lance Pharmacy depreciates buildings over 30 years, land improvements over 15 years, and furniture over eight years, all on a straight-line basis with zero residual value.

## Requirements

1. Show how to account for each of Lance Pharmacy's costs by listing the cost under the correct account. Determine the total cost of each asset.
2. All construction was complete and the assets were placed in service on May 2. Record depreciation for the year ended December 31. Round to the nearest dollar.
3. How will what you learned in this problem help you manage a business?

**P7-71B** ***(Learning Objectives 2, 3: Recording PPE transactions; reporting on the balance sheet)*** Rossi Lakes Resort reported the following on its balance sheet at December 31, 20X6:

| | |
|---|---|
| Property, plant and equipment, at cost: | |
| Land | € 149,000 |
| Buildings | 704,000 |
| Less: Accumulated depreciation | (342,000) |
| Equipment | 401,000 |
| Less: Accumulated depreciation | (268,000) |

In early July 20X7, the resort expanded operations and purchased additional equipment at a cost of €105,000. The company depreciates buildings by the straight-line method over 20 years with residual value of €89,000. Due to obsolescence, the equipment has a useful life of only 10 years and is being depreciated by the double-declining-balance method with zero residual value.

## Requirements

1. Journalize Rossi Lakes Resort's PPE purchase and depreciation transactions for 20X7.
2. Report PPE on the December 31, 20X7, balance sheet.

**P7-72B** ***(Learning Objectives 1, 2, 3: Recording PPE transactions, exchanges, and changes in useful life)*** Tarrier, Inc., has the following PPE accounts: Land, Buildings, and Equipment, with a separate accumulated depreciation account for each of these except land. Tarrier completed the following transactions:

| | |
|---|---|
| Jan 2 | Traded in equipment with accumulated depreciation of €64,000 (cost of €138,000) for similar new equipment with a cash cost of €179,000. Received a trade-in allowance of €73,000 on the old equipment and paid €106,000 in cash. |
| Jun 30 | Sold a building that had a cost of €645,000 and had accumulated depreciation of €155,000 through December 31 of the preceding year. Depreciation is computed on a straight-line basis. The building has a 40-year useful life and a residual value of €285,000. Tarrier received €135,000 cash and a €350,500 note receivable. |
| Oct 29 | Purchased land and a building for a single price of €340,000. An independent appraisal valued the land at €108,900 and the building at €254,100. |
| Dec 31 | Recorded depreciation as follows:<br>Equipment has an expected useful life of 4 years and an estimated residual value of 4% of cost. Depreciation is computed on the double-declining-balance method.<br>Depreciation on buildings is computed by the straight-line method. The new building carries a 40-year useful life and a residual value equal to 10% of its cost. |

## Requirement

1. Record the transactions in Tarrier, Inc.'s journal.

■ **writing assignment**

**P7-73B** ***(Learning Objective 2: Explaining the concept of depreciation)*** The board of directors of Cooper Structures, Inc., is reviewing the 20X6 annual report. A new board member—a wealthy man with little business experience—questions the company accountant about the depreciation amounts. The new board member wonders why depreciation expense has decreased from €190,000 in 20X4 to €174,000 in 20X5 to €166,000 in 20X6. He states that he could understand the decreasing annual amounts if the company had been disposing of properties each year, but that has not occurred. Further, he notes that growth in the city is increasing the values of company properties. Why is the company recording depreciation when the property values are increasing?

■ spreadsheet

**P7-74B** ***(Learning Objectives 1, 2, 3: Computing depreciation by three methods; identifying the cash-flow advantage of accelerated depreciation for tax purposes)*** On January 6, 20X6, K.P. Scott Co. paid €245,000 for a computer system. In addition to the basic purchase price, the company paid a setup fee of €800, €6,400 sales tax, and €27,800 for a special platform on which to place the computer. K.P. Scott management estimates that the computer will remain in service for five years and have a residual value of €20,000. The computer will process 45,000 documents the first year, with annual processing decreasing by 2,500 documents during each of the next four years (that is, 42,500 documents in 20X7; 40,000 documents in 20X8; and so on). In trying to decide which depreciation method to use, the company president has requested a depreciation schedule for each of the three depreciation methods (straight-line, units-of-production, and double-declining-balance).

### *Requirements*

1. For each of the generally accepted depreciation methods, prepare a depreciation schedule showing asset cost, depreciation expense, accumulated depreciation, and asset book value.
2. K.P. Scott reports to shareholders and creditors in the financial statements using the depreciation method that maximizes reported income in the early years of asset use. For income tax purposes, the company uses the depreciation method that minimizes income tax payments in those early years. Consider the first year K.P. Scott Co. uses the computer. Identify the depreciation methods that meet Scott's objectives, assuming the income tax authorities permit the use of any of the methods.

**P7-75B** ***(Learning Objectives 2, 3, 6: Analyzing PPE transactions from a company's financial statements)*** Parem, Inc., sells electronics and appliances. The excerpts that follow are adapted from Parem's financial statements for 20X6 and 20X5.

| | February 28 | |
|---|---|---|
| **Balance Sheet (Euros in millions)** | **20X6** | **20X5** |
| **Assets** | | |
| Total current assets | €7,986 | €6,901 |
| Property, plant and equipment | 4,836 | 4,198 |
| Less: Accumulated depreciation | 2,123 | 1,727 |
| Goodwill | 553 | 511 |

| | Year Ended February 28 | |
|---|---|---|
| **Statement of Cash Flows (Euros in millions)** | **20X6** | **20X5** |
| **Operating activities:** | | |
| Net income | €1,147 | € 989 |
| Non-cash items affecting net income: | | |
| Depreciation | 458 | 460 |
| **Investing activities:** | | |
| Additions to property, plant and equipment | (716) | (617) |

**Requirements**

1. How much was Parem's cost of PPE at February 28, 20X6? How much was the book value of PPE? Show computations.
2. The financial statements give three pieces of evidence that Parem purchased PPE and goodwill during fiscal year 20X6. What are they?
3. Prepare T-accounts for Property, Plant and Equipment; Accumulated Depreciation; and Goodwill. Then show all the activity in these accounts during 20X6. Label each increase or decrease and give its dollar amount. During 20X6, Parem sold PPE that had cost the company €78 million (accumulated depreciation on these assets was €62 million). Assume there were no losses on goodwill during 20X6.

**P7-76B** ***(Learning Objective 4: Accounting for natural resources and the related expense)*** South Pacific Energy Company's balance sheet includes the asset Iron Ore. South Pacific Energy paid €2.2 million cash for a lease giving the firm the right to work a mine that contained an estimated 190,000 tons of ore. The company paid €61,000 to remove unwanted buildings from the land and €71,000 to prepare the surface for mining. South Pacific Energy also signed a €24,000 note payable to a landscaping company to return the land surface to its original condition after the lease ends. During the first year, South Pacific Energy removed 31,500 tons of ore, which it sold on account for €31 per ton. Operating expenses for the first year totaled €242,000, all paid in cash. In addition, the company accrued income tax at the tax rate of 25%.

**Requirements**

1. Record all of South Pacific Energy's transactions for the year.
2. Prepare the company's income statement for its iron ore operations for the first year. Evaluate the profitability of the company's operations.

**P7-77B** ***(Learning Objectives 6: Reporting PPE transactions on the statement of cash flows)*** At the end of 20X5, Great Financial Associates (GFA) had total assets of €17.4 billion and total liabilities of €9.9 billion. Included among the assets were property, plant and equipment with a cost of €4.5 billion and accumulated depreciation of €3.3 billion.

GFA completed the following selected transactions during 20X6. The company earned total revenues of €26.1 billion and incurred total expenses of €21.0 billion, which included depreciation of €1.9 billion. During the year, GFA paid €1.6 billion for new property, plant and equipment and sold old PPE for €0.4 billion. The cost of the assets sold was €1.2 billion, and their accumulated depreciation was €0.5 billion.

**Requirements**

1. Explain how to determine whether GFA had a gain or loss on the sale of old PPE during the year. What was the amount of the gain or loss, if any?
2. Show how GFA would report property, plant and equipment on the balance sheet at December 31, 20X6, after all the year's activity. What was the book value of property, plant and equipment?
3. Show how GFA would report its operating activities and investing activities on its statement of cash flows for 20X6. Ignore gains and losses.

# APPLY YOUR KNOWLEDGE

## Decision Cases

■ writing assignment

**Case 1.** ***(Learning Objectives 2, 3: Measuring profitability based on different inventory and depreciation methods)*** Suppose you are considering investing in two businesses, La Petite France Bakery and Burgers Ahoy!. The two companies are virtually identical, and both began operations at the beginning of the current year. During the year, each company purchased inventory as follows:

| | | | |
|---|---|---|---|
| Jan | 4 | 10,000 units at $4 = | 40,000 |
| Apr | 6 | 5,000 units at $5 = | 25,000 |
| Aug | 9 | 7,000 units at $6 = | 42,000 |
| Nov | 27 | 10,000 units at $7 = | 70,000 |
| Totals | | 32,000 | $177,000 |

During the first year, both companies sold 25,000 units of inventory.

In early January, both companies purchased equipment costing $150,000 that had a 10-year estimated useful life and a $20,000 residual value. La Petite France uses the inventory and depreciation methods that maximize reported income. By contrast, Burgers uses the inventory and depreciation methods that minimize income tax payments. Assume that both companies' trial balances at December 31 included the following:

| | |
|---|---|
| Sales revenue ........................ | $350,000 |
| Operating expenses .............. | 50,000 |

The income tax rate is 40%.

### *Requirements*

1. Prepare both companies' income statements.
2. Write an investment newsletter to address the following questions: Which company appears to be more profitable? Which company has more cash to invest in promising projects? If prices continue rising over the long term, which company would you prefer to invest in? Why? (Challenge)

■ writing assignment

**Case 2.** ***(Learning Objectives 1, 5: Accounting for PPE and intangible assets)*** The following questions are unrelated except that they all apply to PPEs and intangible assets:

1. The manager of Carpet World regularly debits the cost of repairs and maintenance of PPE to Plant and Equipment. Why would she do that, since she knows she is violating GAAP?
2. The manager of Horizon Software regularly buys PPE and debits the cost to Repairs and Maintenance Expense. Why would he do that, since he knows this action violates GAAP?
3. It has been suggested that because many intangible assets have no value except to the company that owns them, they should be valued at $1.00 or zero on the balance sheet. Many accountants disagree with this view. Which view do you support? Why?

## Ethical Issue

United Jersey Bank of Princeton purchased land and a building for the lump sum of $6.0 million. To get the maximum tax deduction, the bank's managers allocated 80% of the purchase price to the building and only 20% to the land. A more realistic allocation would have been 60% to the building and 40% to the land.

### *Requirements*

1. What is the ethical issue in this situation?
2. Who are the stakeholders? What are the possible consequences to each?
3. Analyze the alternatives from the following standpoints: (a) economic, (b) legal, and (c) ethical.
4. What would you do? How would you justify your decision?

## Focus on Financials: Vodafone Corporation

This case spans all 12 chapters and is based on the consolidated financial statements of **Vodafone Corporation**. As you work with Vodafone throughout this course, you will develop the confidence and ability to use the financial statements of other companies as well. Refer to Vodafone's financial statements in Appendix A. Alternatively, you may choose to obtain the full annual report from Vodafone's website at www.vodafone.com.

### *Requirements*

1. Refer to Note 11—Property, plant and equipment. What kinds of fixed assets does Vodafone have?
2. What depreciation method does Vodafone use for reporting to shareholders and creditors in the financial statements? Assume that Vodafone expects fairly constant net income before depreciation for the next few years. What type of depreciation method would the company probably use for income tax purposes and why?
3. Depreciation expense is not disclosed separately on Vodafone's Consolidated income statement. Instead, it is lumped together with other expenses. Nevertheless, we can find the separate figure from the Consolidated Statements of Cash Flows. What was Vodafone's depreciation and amortization expense during 2011? (You can find the figure in Note 26.) Now refer to Note 11. What was Vodafone's accumulated depreciation at the end of 2011? Ignore the impairment aspect of this figure and treat it as immaterial. Explain why accumulated depreciation exceeds depreciation expense for the current year.
4. What are Vodafone's intangible assets? Assuming straight line amortization of finite live intangible assets, what are your estimates for Vodafone's intangible assets?
5. How much impairment did Vodafone record for 2011? What do you understand by "impairment," and where would we find the losses attributable to impairment on Vodafone's financial statements? Examine carefully Note 10, and describe one event for year ending 2011 that led to impairment of PPE.

## Group Project

Visit a local business.

### *Requirements*

1. List all its PPE.
2. If possible, interview the manager. Gain as much information as you can about the business's PPE. For example, try to determine the assets' costs, the depreciation method the company is using, and the estimated useful life of each asset category. If an interview is impossible, then develop your own estimates of the assets' costs, useful lives, and book values, assuming an appropriate depreciation method.
3. Determine whether the business has any intangible assets. If so, list them and gain as much information as possible about their nature, cost, and estimated useful lives.
4. Write a detailed report of your findings and be prepared to present your results to the class.

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## Quick Check Answers

1. *b* {[\$1,380/(\$1,380 + \$575 + \$345)] × \$1,900 = \$1,140}
2. *d*
3. *b* (\$45,000 – \$5,000)/10 × 6/12 = \$2,000)
4. *d* [(\$45,000 – \$5,000)/10 × 2 = \$8,000; \$45,000 – \$8,000 = \$37,000]
5. *d* [\$45,000 × .2 = \$9,000; (\$45,000 – \$9,000) × .2 = \$7,200]
6. *b* [(\$45,000 – \$5,000)/5 × 4 = \$16,000; \$45,000 – \$16,000 = \$29,000; \$36,500 – \$29,000 = gain of \$7,500]
7. *b* [\$24,000 × 2/5 = \$9,600; (\$24,000 – \$9,600) × 2/5 = \$5,760; \$9,600 + \$5,760 = \$15,360]
8. *b*
9. *b*
10. *b*
11. *d* [\$270,000 × (3,000/90,000) = \$30,000]
12. *e*

# 8 Investments and International Operations




**SPOTLIGHT: Vivendi** **www.vivendi.com**

What do Activision Blizzard (producer of games such as *World of Warcraft*, *Guitar Hero*, *Diablo* and *Call of Duty*), Universal Music (with artists such as U2, Lady Gaga, Black-Eyed Peas), SFT, Maroc Telecom, and GBVT (leading telecommunication companies in Europe, Morocco and Brazil, respectively), and Canal+ (pay TV with over 10 million subscribers) have in common? Believe it or not, they are all related companies! Vivendi is either an owner of, or investor in, all these companies.

You might still be wondering how all those companies are related to Vivendi. This is why some understanding of inter-corporate investments is an important element in your study of accounting. It is a challenging topic, but all the companies you have seen so far, from **Samsung**, **Nestlé** to **Dairy Farm**, have subsidiaries and investments in other companies. Let's first have a look at Vivendi's consolidated balance sheet.

**Vivendi SA**
**Consolidated Balance Sheet (Adapted)**
As at December 31

| (In millions € Euros) | | 2011 | 2010 |
|---|---|---|---|
| **Assets** | | | |
| 1 | Cash and cash equivalents | 3,304 | 3,310 |
| 2 | Trade and other receivables | 6,730 | 6,711 |
| 3 | Current financial assets | 478 | 622 |
| 4 | Non-current financial assets | 394 | 496 |
| 5 | Investment in equity affiliates | 135 | 2,906 |
| 6 | Subtotal financial assets and investments | 11,041 | 14,045 |
| 7 | Total assets | 55,719 | 58,993 |



This balance sheet shows the financial assets and investment-related accounts for the Vivendi group. As you can see, Vivendi has some cash and cash equivalents, trade and other receivables, short-term financial assets, investment in equity affiliates, and non-current financial assets, totaling about €11.0 billion (line 6), out of total assets of €55.7 billion (line 7). Actual investment (lines 3–5) totaled only €1 billion. How could this relatively small amount of investment be the connecting factor of all the businesses of Vivendi?

The above consolidated balance sheet is what Vivendi (as a group) collectively has in terms of investments and does not show the investments in its own subsidiaries. Financial performance and financial position of all the companies in a group are consolidated at a group level. The second balance sheet (below) is for the Vivendi parent entity only. You can see that the overwhelming majority of the parent entity's €47.6 billion total assets (line 14) are in the form of "investments in affiliates and long-term securities" of about €39.4 billion (line 11). This is the account that connects all the Vivendi subsidiaries.

**Vivendi SA**
**Parent Company Balance Sheet (Adapted)**
As at December 31

| (In millions € Euros) | | 2011 | 2010 |
|---|---|---|---|
| **Assets** | | | |
| 8 | Cash and cash equivalents | 21 | 227 |
| 9 | Trade and other receivables | 3,014 | 3,831 |
| 10 | Marketable securities | 87 | 571 |
| 11 | Investments in affiliates and long-term securities | 39,408 | 34,352 |
| 12 | Other long-term investments | 8 | 8 |
| 13 | Subtotal financial assets and investments | 42,539 | 38,988 |
| 14 | Total assets | 47,607 | 44,069 |

One of your learning goals should be to develop the ability to analyze whatever you encounter in real company statements. This chapter will help you advance toward that goal. The first half of this chapter shows how to account for investments, including a brief overview of consolidated financial statements. The second half of the chapter covers accounting for international operations.

## LEARNING OBJECTIVES

1 **Account** for financial asset investments

2 **Use** the equity method for investments

3 **Understand** consolidated financial statements

4 **Account** for international operations

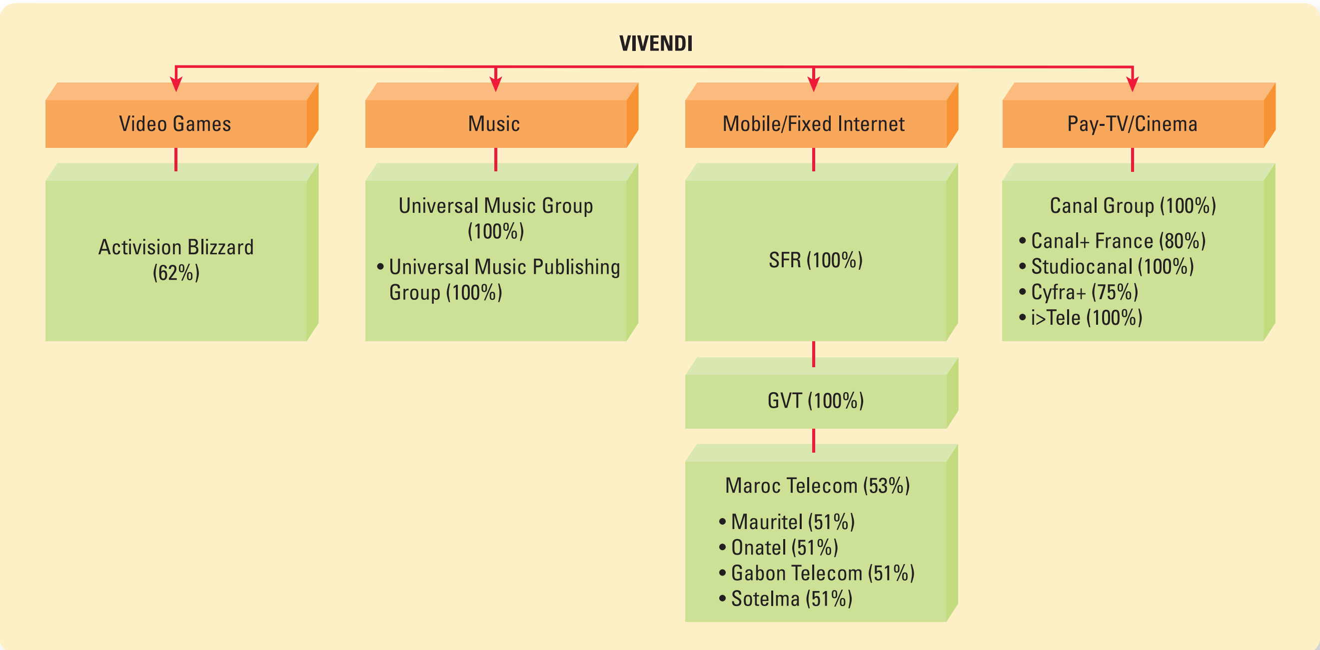
5 **Report** investing transactions on the statement of cash flows

# Investments: An Overview

Businesses make investments in many forms, from buying equipment and inventory to investing in **financial assets**. *IAS 32—Financial Instruments: Presentation* defines financial assets as any asset that is: (a) cash, (b) an equity instrument in another entity, (c) a contractual right to receive cash or financial asset of another entity, or (d) a contract that will or may be settled in the entity's own equity instruments. In this chapter, we examine various investments that an entity makes, with emphasis on equity instruments, i.e. shares of other entities.

To consider investments, we need to define two key terms. The entity that owns the shares of a corporation is the investor. The corporation that issued the shares is the investee. If you own Vivendi shares, you are an investor and Vivendi is the investee. Similarly, a company may also own shares of another company. Vivendi, for example, owns 100% of **Universal Music Group** and **Canal+**, over half of **Activision Blizzard** and **SFR**, and until early 2011, 20% of **NBC Universal** (see Exhibit 8-1).

**EXHIBIT 8-1 | Vivendi and Its Major Subsidiaries**



You can log onto the Internet to view Vivendi's current share price. Some companies provide share information directly on their websites, but for others, you may have to visit the actual stock exchange where the company is listed to see "live" prices. For Vivendi, you can visit http://www.vivendi.com/investment-analysts/share-price-dividend-and-shareholding-structure/share-price/ and check out its share price information and charts.

## Reporting Investments on the Balance Sheet

An investment is an asset to the investor. The investment may be short-term or long-term, as classified by *IAS 1—Presentation of Financial Statements*. **Short-term investments** are investments in financial assets that are expected to be realized within 12 months. They can be classified as either *trading*, *held-to-maturity*, or *available for sale*, depending on management's intent and ability to hold them until they mature. Investments that aren't short-term are listed as **long-term investments**, a category of non-current assets. Long-term investments include shares and bonds that the investor expects to hold for longer than one year. Exhibit 8-2 shows where short-term and long-term investments typically appear on the balance sheet.

**EXHIBIT 8-2 | Reporting Investments on the Balance Sheet**

| | | |
|---|---|---|
| **Current Assets:** | | |
| Cash | $X | |
| Short-term investments | X | |
| Account receivables | X | |
| Inventories | X | |
| Prepaid expenses | X | |
| Total current assets | | X |
| **Non-current Assets:** | | |
| Long-term investments [or simply Investments] | X | |
| Property, plant and equipment | X | |
| Intangible assets | X | |
| Other assets | X | |
| Total non-current assets | | X |
| Total Assets | | X |

Look at Vivendi's balance sheet extracts on p. 482. Vivendi group calls its short-term investments "current financial assets" (line 3) and the long-term investments are further divided into "non-current financial assets" (line 4) and "investment in equity affiliates" (line 5). Vivendi (parent company) calls its short-term investments "marketable securities" (line 10), "investments in affiliates and long-term securities" (line 11), and "other long-term investments" (line 12). As of December 31, 2011, approximately 590 entities were consolidated or accounted for using the *equity method* (more on this later) in the Vivendi Group.

Let's put these various types of investments into the big picture perspective before discussing their accounting treatment. Exhibit 8-3 shows three categories of investments: financial assets, investment in associates (or affiliates), and investment in subsidiaries and their general characteristics.

**EXHIBIT 8-3 | Categories of Investments**

| Financial assets | Investment in associates (and joint ventures) | Investment in subsidiaries |
|---|---|---|
| Typically less than 20%<br>Classified as:<br>(a) trading securities<br>(b) loans and receivables<br>(c) held-to-maturity, or<br>(d) available-for-sale | Typically between 20–50% ownership<br><br>Usually for strategic reasons, to collaborate, exert influence or direction | Typically more than 50% ownership<br><br>Part of core operations of the Group, to exercise control |
| Mostly short-term but may also be long-term | Typically long-term investments | Typically long-term investments |

Financial assets are investments in which an investor does not play any role in the operations of the investee. For example, you can purchase some Vivendi shares from the Euronext Paris stock exchange, but you are unlikely to be able to direct or influence Vivendi to release more sequels of your favorite computer games, or to stop selling records of an artist you don't like. In general, investments below 20% can be termed "passive investments" because the investor does not play an active role or exert much influence on the investee. On the other hand, ownership between 20% and 50% may provide an investor with the opportunity to significantly influence the investee's operating decisions and policies over the long run. These investees are usually called "associates" or "equity affiliates." An investment above 50% would typically allow an investor a great deal of long-term influence and control over the investee company, and these investees are said to be "subsidiaries" of the investor, typically a parent company.

## A CLOSER LOOK

Percentage of ownership is a good indicator of the accounting treatment above, but the underlying principle is more important than the actual percentage of ownership. *IAS 28—Investment in Associates* states that the equity method is to be used when an entity has "significant influence" over its investee. Significant influence is the power to participate in the financial and operating policy decisions of the investee but where the investor does not have control or joint control over those policies. While this usually exists when the shareholding exceeds 20%, it is not always the case.

Similarly, consolidation is usually performed when an entity holds more than 50% of an investee. *IAS 27—Consolidated and Separate Financial Statements* states that the primary determinant of whether an entity is consolidated or not is the existence of "control." Control is the power to govern the financial and operating policies of an investee so as to obtain benefits from its activities. For example, even if shareholding is below 50%, but if an entity is able to elect a majority of the members of the investee's board of directors and thus control the investee, the investee is still considered a subsidiary and will be consolidated.

IASB is in the process of rewriting *IAS 39*. This is expected to be completed in three stages. The new *IFRS 9—Financial Instruments* (stage one of the *IAS 39* rewrite) was issued in November 2009 and will only be effective in 2015, but early adaptation is permitted in a number of jurisdictions. The new *IFRS 9*, when effective in your jurisdiction, will change some of the accounting treatment discussed in this chapter. In particular, it will introduce new requirements for classifying and measuring financial assets into two categories: investments at fair value and investments at amortized cost.

Let's look at these types of investments in turn and understand how they are accounted for in the books of the investor.

## Financial Asset Investments

**OBJECTIVE**

1 **Account** for financial assets investments

*IAS 39—Financial Instruments: Recognition and Measurement* classifies financial assets into trading securities, loans and receivables, held-to-maturity securities, and available-for-sale investments. For example, you already saw that Vivendi's financial assets include its cash, trade and other receivables, equity investments, and both current and non-current other financial assets. The key issue here is that measurement of a specific financial asset depends on its classification. Let's look at Vivendi's accounting policies related to its financial assets. It may look a little complicated, but we will explain each classification further.

### EXCERPTS (ADAPTED) FROM VIVENDI NOTES TO THE 2011 FINANCIAL STATEMENTS

**Financial assets at fair value**

Financial assets at fair value include available-for-sale securities and other financial assets measured at fair value through profit or loss. Most of these financial assets are actively traded in organized public markets, their fair value being determined by reference to the published market price at period end.

Available-for-sale securities consist of unconsolidated interests and other securities not qualifying for classification in the other financial asset categories described below. Unrealized gains and losses on available-for-sale securities are recognized in charges and income directly recognized in equity until the financial asset is sold.

Other financial assets measured at fair value through profit or loss mainly consist of assets held for trading which Vivendi intends to sell in the near future (primarily marketable securities). Unrealized gains and losses on these assets are recognized in other financial charges and income.

**Financial assets at amortized cost**

Financial assets at amortized cost consist of loans and receivables and held-to-maturity investments (financial assets with fixed or determinable payments and fixed maturity). At the end of each period, these assets are measured at amortized cost using the effective interest method.

## Trading Securities

**Trading securities** is the common term for short-term investments in marketable securities (such as shares or bonds). The purpose of having trading securities is to hold them for a short time and then sell them for more than their cost; in other words, with the intention of earning profit. Whilst holding the investments, the investor also collects dividends or interest income paid by the investees. Trading securities allow the company to invest cash for a short period of time and earn a return until the cash is needed. Short-term investments are usually the next-most-liquid asset after cash. This is why we usually report short-term investments immediately after cash and before receivables on the balance sheet.

### A CLOSER LOOK

The official term for trading securities in *IAS 39* is "Fair Value through Profit or Loss," which includes financial assets that are held for trading (which is why they are usually called trading securities). In addition, certain financial assets may also be designated on initial recognition as items to be measured at fair value with fair value changes in profit or loss.

The investor, such as Vivendi, expects to sell a trading security within the coming financial year. Therefore, all trading securities are included in current assets.

Suppose Vivendi purchases **Sony Corporation**'s shares, intending to sell the shares within a few months. If the market value of the Sony shares increases, Vivendi will have a gain; if Sony's share price drops, Vivendi will have a loss. Along the way, Vivendi will receive dividend income from Sony, like any other Sony shareholder.

Suppose Vivendi buys the Sony shares on November 18, paying $100,000 cash. Vivendi records the purchase of the investment at cost:

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Nov 18 | Investment in Sony Corp | 100,000 | |
| | Cash | | 100,000 |
| | *Purchased investment.* | | |

| Investment in Sony Corp | |
|---|---|
| 100,000 | |

Assume that Vivendi receives a cash dividend of $4,000 from Sony. Vivendi records the dividend income as follows:

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Nov 27 | Cash | 4,000 | |
| | Dividend Income | | 4,000 |
| | *Received cash dividend.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 4,000 | = | 0 | + | + 4,000 | (Dividend Income) |

**Unrealized gains or losses.** Vivendi's fiscal year ends on December 31, and Vivendi prepares its financial statements. The Sony shares have risen in value, and on December 31 Vivendi's investment has a current market value of $102,000. Market value is the amount the owner can sell the securities for. Vivendi has an *unrealized gain* on the investment:

- *Gain* because the market value ($102,000) of the securities is greater than Vivendi's cost of the securities ($100,000). A gain has the same effect as a revenue, i.e. it will increase equity.
- *Unrealized gain* because because Vivendi has not yet sold the securities.

Trading securities are reported on the balance sheet at their current **fair market value**, because fair market value is the amount the investor can receive by selling the securities. Prior to preparing financial statements on December 31, Vivendi adjusts the investment in Sony securities to its current market value with this year-end journal entry:

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Dec 31 | Investment in Sony Corp | 2,000 | |
| | Unrealized Gain on Investments | | 2,000 |
| | *Adjusted investment to market value.* | | |

| Investment in Sony Corp | | Unrealized Gain on Investments | |
|---|---|---|---|
| 100,000 | | | |
| 2,000 | | | 2,000 |
| 102,000 | | | |

After the adjustment, Vivendi's Short-Term Investments account is ready to be reported on the balance sheet—at current market value of $102,000.

If, on the other hand, Vivendi's investment in Sony shares had decreased in value, say to $95,000, then Vivendi would have reported an *unrealized loss*. A loss has the same effect as an expense, i.e. it reduces equity. In that case, Vivendi would have made a different entry at December 31. For an unrealized loss of $5,000, the entry would have been as follows:

| | | | |
|---|---|---|---|
| | Unrealized Loss on Investments | 5,000 | |
| | Investment in Sony Corp | | 5,000 |
| | *Adjusted investment to market value.* | | |

| Investment in Sony Corp | | Unrealized Loss on Investments | |
|---|---|---|---|
| 100,000 | 5,000 | 5,000 | |
| 95,000 | | | |

Investments in debt and equity securities earn interest revenue and dividend income. Investments also create gains and losses. For trading investments these items may be reported on the income statement as Other revenue, gains, and (losses), as shown in Exhibit 8-4.

**EXHIBIT 8-4 | Reporting Short-Term Investments and the Related Revenues, Gains, and Losses**

| Balance sheet | | Income statement | |
|---|---|---|---|
| Current assets: | | Revenues | $ XXX |
| Cash | $ XXX | Expenses | XXX |
| Short-term investments, at market value | 102,000 | Other revenue, gains and (losses): | |
| Accounts receivable | XXX | Interest revenue | XXX |
| | | Dividend income | 4,000 |
| | | Unrealized gain on investment | 2,000 |
| | | Net income | $ XXX |

**Realized Gains and Losses.** A *realized* gain or loss occurs only when the investor sells an investment. This gain or loss is different from the unrealized gain that we reported for Vivendi above. The result may be a:

- Realized gain = Sale price is *greater than* the Investment carrying amount
- Realized loss = Sale price is *less than* the Investment carrying amount

Suppose Vivendi sells its Sony shares during 20X7. Remember that we have already updated the Investment in Sony Corp account to $102,000 on December 31, 20X6. If the sale price is $98,000, Vivendi makes this journal entry:

| | | | |
|---|---|---|---|
| 20X7 | | | |
| Jan 19 | Cash | 98,000 | |
| | Loss on Sale of Investments | 4,000 | |
| | Investment in Sony Corp | | 102,000 |
| | *Sold investments at a loss.* | | |

| Investment in Sony Corp | | Loss on Sale of Investments | |
|---|---|---|---|
| 100,000 | | 4,000 | |
| 2,000 | 102,000 | | |

Accountants rarely use the word "Realized" in the account title. A gain (or a loss) is understood to be a realized gain (or loss) arising from a sale transaction. Unrealized gains and losses are clearly labeled as *unrealized*. Vivendi would report Gain (or Loss) on Sale of Investments among the "Other" items of the income statement, as shown in Exhibit 8-4.

## Loans and Receivables

We have previously discussed the accounting treatment for loans and receivables in Chapter 5. The key thing to remember is that loans and receivables are typically recorded at the original loan or invoiced amount less any impairment for uncollectible loans/receivables. It the loans and receivables contain an interest element (such as notes receivables), the interest component is accounted for using the effective interest rate method.

## Held-to-maturity

*IAS 39* defines **held-to-maturity investments** as non-derivative financial assets with fixed or determinable payments and fixed maturity that an entity has the positive intention and ability to hold to maturity. As shares do not have an expiry date, held-to-maturity financial assets are typically investments in bonds or other fixed income instruments (more on bonds in the next chapter). The major investors in bonds are financial institutions—pension plans, mutual funds, and insurance companies. The relationship between the issuing corporation and the investor (bondholder) may be diagrammed as follows:

| Chapter 8<br>Investor (Bondholder) | | Chapter 9<br>Issuing Corporation |
|---|---|---|
| Investment in bonds | ←——→ | Bonds payable |
| Interest revenue | ←——→ | Interest expense |

An investment in held-to-maturity securities is classified either as short-term or as long-term, depending on the expected maturity date. Short-term investments in bonds are relatively rare (unless having invested in the bonds for a long time, the bonds are about to mature).

Bond investments are initially recorded at cost. Years later, at maturity, the investor will receive the bonds' face value. Bond investments may be purchased at a premium or a discount (we will discuss bonds from the issuer's perspective in Chapter 9). When there is a premium or discount, held-to-maturity investments are amortized to account for interest revenue and the bonds' carrying amount. Held-to-maturity investments are reported by the *amortized cost method*, which determines the carrying amount on the investor's balance sheet.

Suppose Vivendi purchases €10,000 of 6% GlaxoSmithKline (GSK) bonds at a price of 95.2 on April 1, 20X5. Vivendi intends to hold the bonds as a long-term investment until their maturity. Interest payment dates are April 1 and October 1. Because these bonds mature on April 1, 20X9, they will be outstanding for four years (48 months). In this case, the investor paid a discount price for the bonds (95.2% of face value). Vivendi must amortize the bonds' carrying amount from cost of €9,520 up to €10,000 over their term to maturity. For the purpose of illustration, we can use amortization of the bonds by the "quick and dirty" straight-line method (technically, *IAS 39* requires the effective interest amortization method). The following are the entries for this long-term investment:

| | | | |
|---|---|---|---|
| 20X5 | | | |
| Apr 1 | Long-Term Investment in Bonds (€10,000 × 0.952) | 9,520 | |
| | Cash | | 9,520 |
| | *To purchase bond investment.* | | |
| | | | |
| Oct 1 | Cash (€10,000 × 0.06 × 6/12) | 300 | |
| | Interest Revenue | | 300 |
| | *To receive semiannual interest.* | | |
| | | | |
| Oct 1 | Long-Term Investment in Bonds [(€10,000 – €9,520)/48] × 6 | 60 | |
| | Interest Revenue | | 60 |
| | *To amortize bond investment.* | | |

At December 31, Vivendi's year-end adjustments are:

| | | | |
|---|---|---|---|
| 20X5 | | | |
| Dec 31 | Interest Receivable (€10,000 × 0.06 × 3/12) | 150 | |
| | Interest Revenue | | 150 |
| | *To accrue interest revenue.* | | |
| | | | |
| Dec 31 | Long-Term Investment in Bonds | 30 | |
| | [(€10,000 – €9,520)/48] × 3 | | 30 |
| | Interest Revenue | | |
| | *To amortize bond investment.* | | |

This amortization entry has two effects:

1. It increases the Long-Term Investment account on its march toward maturity value.
2. It records the interest revenue earned from the increase in the carrying amount of the investment.

The financial statements of Vivendi at December 31, 20X6, would report the following for this investment in bonds:

| | |
|---|---|
| **Balance sheet at December 31, 20X6:** | |
| Current assets: | |
| Interest receivable................................................................. | € 150 |
| Long-term investments in bonds (€9,520 + €60 + €30) .............. | 9,610 |
| Property, plant and equipment ....................................................... | X,XXX |
| **Income statement for the year ended December 31, 2010:** | |
| Other revenues: | |
| Interest revenue (€300 + €60 + €150 + €30)........................... | € 540 |

## Available-for-Sale Investments

**Available-for-sale investments** are, in effect, a "catch all" category. They are non-derivative financial assets that are designated as available for sale or are not classified as (a) loans and receivables, (b) held-to-maturity investments, or (c) financial assets at fair value through profit or loss. They are classified as current assets if the business expects to sell them within the next year. All other available-for-sale investments are classified as long term.

Available-for-sale investments are accounted for at fair market value on the balance sheet, with any change between the fair value and carrying amount recognized as a component of other comprehensive income.

Suppose Vivendi purchases 1,000 **Siemens** shares at the market price of €44.00 per share. Vivendi intends to hold this investment for longer than a year and classifies it as an available-for-sale investment. Vivendi's entry to record the investment is:

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Oct 23 | Long-Term Investment (1,000 × €44) | 44,000 | |
| | Cash | | 44,000 |
| | *Purchased investment.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 44,000<br>– 44,000 | = | 0 | + | 0 |

Assume that Vivendi receives a €0.20 cash dividend on the Siemens shares. Vivendi's entry to record receipt of the dividend is:

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Nov 14 | Cash (1,000 × €0.20) | 200 | |
| | Dividend Income | | 200 |
| | *Received cash dividend.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| +200 | = | 0 | + | +200 | (Dividend income) |

Similar to trading securities, available-for-sale investments are reported on the balance sheet at their fair market values. At each reporting date, we adjust available-for-sale investments from their last carrying amount to current fair market value. Assume that the fair market value of the Siemens ordinary shares is €46,500 on December 31, 20X6. Remember that Vivendi bought these shares for €44,000 on October 23, 20X6. In this case, Vivendi makes the following entry to bring the investment to fair market value.

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Dec 31 | Market Value Adjustments (€46,500 – €44,000) | 2,500 | |
| | Unrealized Gain on Investment | | 2,500 |
| | *Adjusted investment to fair market value.* | | |

The increase in the investment's fair market value creates additional equity for the investor. Available-for-sale differs from trading securities in that the increase in equity is recognized as a component of *other comprehensive income*, net of tax, instead of being recognized in the profit or loss.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 2,500 | = | 0 | + | + 2,500 | (through other comprehensive income) |

The following display shows how Vivendi could report its investment and the related unrealized gain in its financial statements at the end of 20X6 (all other figures are assumed for this illustration). Note that the unrealized gain on available-for-sale investments is reported net of tax (assumed 40%) as a component of other comprehensive income.

| Balance sheet | | Income statement | |
|---|---|---|---|
| **Assets:** | | Revenue: | €50,000 |
| Available for sale investments | €46,250 | Expenses: | €30,000 |
| | | Net profit | €20,000 |
| **Equity:** | | | |
| Share capital | €XX,XXX | **Comprehensive income** | |
| Retained earnings | €X,XXX | Net profit (from income statement) | €20,000 |
| + Net profit | €20,000 | Other comprehensive income: | |
| + Other comprehensive income | €1,500 | Unrealized gain on available for sale investments net of 40% tax | €1,500 |
| | | Total comprehensive income | €21,500 |

## A CLOSER LOOK

Unrealized gains or losses on available-for-sale investments are recognized in other comprehensive income. What happens when the investment is sold? The resulting gain or loss would be shown as income in the income statement, but as previous unrealized gains or losses have been reported as other comprehensive income, we would be double counting total comprehensive income. To avoid this "recycling of gains or losses," the amount of gains or losses that were previously reported as other comprehensive income must be reversed simultaneously with the recognition of the gain or loss in income. This adjustment is beyond the scope of this text.

The preceding example assumes that the investor holds an investment in only one security of another company. Usually companies invest in a portfolio of securities (more than one). In this case, the periodic adjustment to fair market value must be made for the portfolio as a whole. See the "Stop & Think" exercise at the end of this section (page 494) for an example.

When eventually sold, the sale of such available-for-sale investment results in a *realized* gain or loss. Realized gains and losses measure the difference between the amount received from the sale and the original cost of the investment. Suppose Vivendi sells its investment in Siemens shares for €43,000 during 20X7 (recall that Vivendi bought them for €44,000). Vivendi would record the sale as follows:

| | | | |
|---|---|---|---|
| 20X7 | Cash | 43,000 | |
| May 19 | Loss on Sale of Investment | 1,000 | |
| | Long-Term Investment (cost) | | 44,000 |
| | *Sold investment.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 43,000<br>− 44,000 | = | 0 | + | − 1,000 | (loss on sale of investment) |

Vivendi would report €1,000 Loss on Sale of Investments on its income statement. Vivendi also needs to make further adjusting entries to market value adjustment accounts and prevent double counting of total comprehensive income, as previous unrealized gains and losses were included in other comprehensive income in earlier periods (e.g. the €1,500 in our example at the end of 20X7). These adjustments are covered in intermediate accounting courses.

## STOP & THINK . . .

Suppose Vivendi holds the following available-for-sale securities as long-term investments at December 31, 20X7:

| Available for sale (Investments) | Cost | Current Fair Market Value |
|---|---|---|
| Bayer | €85,000 | €71,000 |
| Phillips | 16,000 | 12,000 |
| | €101,000 | €83,000 |

Show how Vivendi will report long-term investments on its December 31, 20X7, balance sheet.

***Answer:***

| Assets | |
|---|---|
| Long-term investments, at fair market value | €83,000 |

### Summary of Financial Assets Recognition and Measurements

The following table summarizes the accounting treatment for the four classifications of financial assets.

| Financial asset category | Balance Sheet measurement | Income measurement |
|---|---|---|
| Trading securities | Fair market value | Changes in fair value as income |
| Loans and receivables | Amortized cost | Changes in value due to amortization |
| Held-to-maturity | Amortized cost | Changes in value due to amortization |
| Available-for-sale | Fair market value | Changes in fair value as other comprehensive income |

## Equity-Method Investments

**OBJECTIVE**

**2 Use** the equity method for investments

When an investor owns a large portion of an investee, typically between 20% and 50%, the investor is said to have significant influence in the entity's operations. Such an investor can probably affect dividend policy, product lines, and other important matters. *IAS 28—Investment in Associates* refers to these investee entities as associates (but you may see the term "affiliates" used in practice sometimes). We use the **equity method** to account for investment in associated or affiliated entities.

Up to early January 2011, Vivendi holds equity-method investments in **NBC Universal**. NBC Universal runs television channels such as NBC, CNBC, and MSNBC, and produces TV hits such as *30 Rock*, *The Office*, *The Voice*, and many more. It also produces films under the banner of Universal Pictures, as well as Universal Studios theme parks around the world. As Vivendi had significant influence in shaping the policy and operations of NBC Universal, some measure of NBC Universal's profits and losses should be included in Vivendi's income.

## EXCERPTS (ADAPTED) FROM VIVENDI NOTES TO THE 2011 FINANCIAL STATEMENTS

### Equity accounting

Entities over which Vivendi exercises significant influence as well as entities over which Vivendi exercises joint control are accounted for under the equity method. Significant influence is presumed to exist when Vivendi holds, directly or indirectly, at least 20% of voting rights in an entity unless it can be clearly demonstrated that Vivendi does not exercise significant influence. Significant influence can be evidenced through other criteria, such as representation on the board of directors or the entity's equivalent governing body, participation in policy-making processes, material transactions with the entity or interchange of managerial personnel.

Companies that are jointly controlled by Vivendi, directly or indirectly, and a limited number of other shareholders under the terms of a contractual arrangement are also accounted for under the equity method.



The equity method is a method of accounting whereby the investment is initially recognized at cost and adjusted thereafter for the post-acquisition change in the investor's share of net assets of the investee. The profit or loss of the investor includes the investor's share of the profit or loss of the investee. Let's continue our example using Vivendi and NBC Universal.

Investments accounted for by the equity method are recorded initially at cost. Suppose Vivendi paid €400 million in cash for 20% of the ordinary shares of NBC Universal. Vivendi's entry to record the purchase of this investment follows (in millions).

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Jan 6 | Equity Investments in Associate | 400 | |
| | Cash | | 400 |
| | *To purchase equity–method investment.* | | |

Under the equity method, Vivendi, as the investor, applies its percentage of ownership —20%, in our example—in recording its share of the investee's net income and dividends. If NBC Universal reports net income of €250 million for the year, Vivendi records 20% of this amount as follows (in millions):

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Dec 31 | Equity Investments in Associate (€250 × 0.20) | 50 | |
| | Income from Associates | | 50 |
| | *To record investment revenue.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 50 | = | 0 | + | + 50 | (equity-method income) |

Because of the close relationship between Vivendi and NBC Universal, Vivendi (the investor) increases its investment in the associate account and records income from the associate when NBC Universal (the investee) reports income. In other words, as NBC Universal's own equity increases because of its own profits, so does the investment account on Vivendi's books. This was what *IAS 28* terms "the investor's share of net assets of the investee." The equity earnings that appear on the investor's income statement may be labeled by other terms such as "share of profits of associates." Vivendi uses the term "income from equity affiliates."

If the affiliate made a loss during the financial year, the investor would also have to share the loss of the associate as reduction in income and reduction in its net assets in investment in associates.

Vivendi also records its proportionate part of cash dividends received from NBC Universal. When NBC Universal declares and pays a cash dividend of €100 million, Vivendi receives 20% of this dividend and records this entry (in millions):

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Dec 31 | Cash (€100 × 0.20) | 20 | |
| | Equity Investments in Associate | | 20 |
| | *To receive cash dividend on equity-method investment.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| +20<br>−20 | = | 0 | + | 0 |

The Investment account is *decreased* for the receipt of a dividend on an equity-method investment. Why? Because the dividend decreases the investee's net assets and thus the investor's investment.

After the preceding entries are posted, Vivendi's Investment account at December 31, 20X6, shows Vivendi's equity in the net assets of NBC Universal (in millions):

**Equity Investments in Associate**

| | | | | | |
|---|---|---|---|---|---|
| Jan 6 | Purchase | 400 | Dec 31 | Dividends | 20 |
| Dec 31 | Net income | 50 | | | |
| Dec 31 | Balance | 430 | | | |

Vivendi would report this investment in associate on the balance sheet as a non-current asset and the income from associates on the income statement as follows:

| | Millions |
|---|---|
| **Balance sheet (partial):** | |
| Assets | |
| Total current assets | €XXX |
| Long-term investments, at equity | 430 |
| Property, plant and equipment, net | XXX |
| **Income statement (partial):** | |
| Income from operations | €XXX |
| Other revenue: | |
| Income from associates | 50 |
| Net income | €XXX |

Gain or loss on the sale of an equity-method investment is measured as the difference between the sale proceeds and the carrying amount of the investment. For example, Vivendi selling all of its 20% holding in NBC Universal for €425 million would be recorded as follows:

| | | | |
|---|---|---|---|
| 20X7 | | | |
| Feb 13 | Cash | 425 | |
| | Loss on Sale of Investment | 5 | |
| | Equity Investments in Associates | | 430 |
| | *Sold investment in affiliate.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 425<br>− 430 | = | 0 | + | − 5 | (loss on sale of investment) |

**Summary of the Equity Method.** The following T-account illustrates the accounting for equity-method investments:

**Equity-Method Investment**

| | |
|---|---|
| Original cost | Share of losses |
| Share of income | Share of dividends |
| Balance | |

# Consolidated Subsidiaries

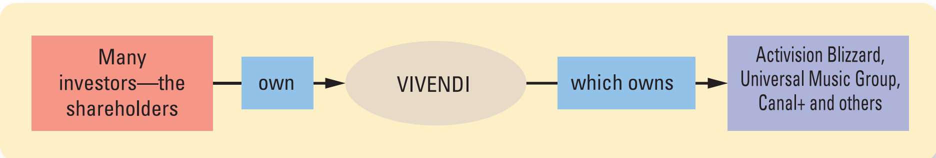
**OBJECTIVE**

**3** **Understand** consolidated financial statements

Entities buy a significant stake in another company in order to *influence* the other company's operations. In this section, we cover the situation in which an investor buys enough of an investee's shares to actually *control* that company.

Most large corporations own controlling interests in other companies. A **controlling** (or **majority**) **interest** is typically indicated by the ownership of more than 50% of the investee's voting shares. The investor is called the "**parent company**," and the investee company is called the "**subsidiary.**" For example, Activision Blizzard, Universal Music Group, and Canal+ are subsidiaries of Vivendi, the parent (see Exhibit 8-1). Therefore, the shareholders of Vivendi control Activision Blizzard, Universal Music Group, and Canal+ (and many others) as shown in Exhibit 8-5.

**EXHIBIT 8-5 | Ownership Structure of Vivendi and Key Subsidiaries**



## Consolidation Accounting

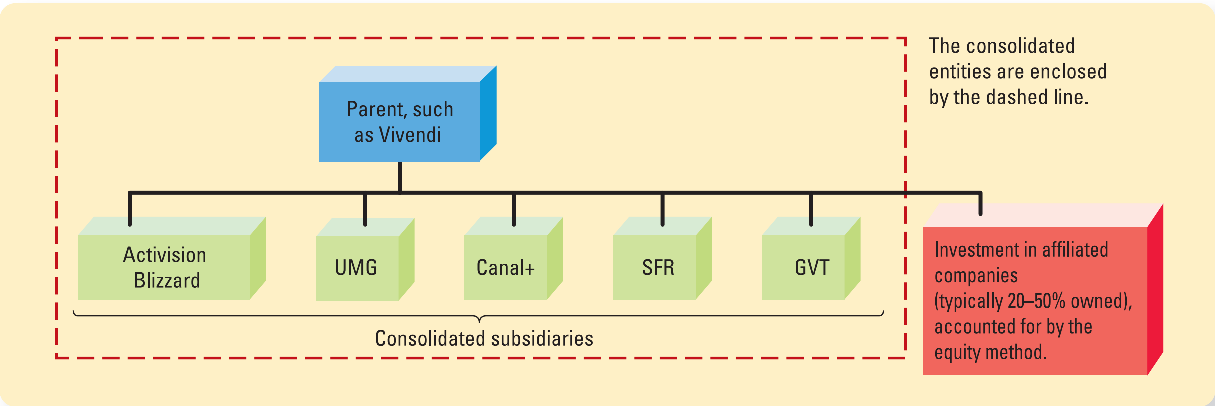
*Consolidation accounting* is a method of combining the financial statements of all the companies controlled by the same shareholders. This method reports a single set of financial statements for the consolidated entity, which carries the name of the parent company, usually indicated by the word "consolidated" or "group."

**Consolidated financial statements** combine the financial statements of the parent company with those of its subsidiaries. The result is a single set of statements as if the parent and its subsidiaries were one entity. If you own shares in Vivendi, the parent company, you want to know the total operations of the group, not just the parent company's own accounts. Consolidated financial statements are presented primarily for the benefit of shareholders, creditors and other resource providers of the parent.

In consolidated statements, the assets, liabilities, revenues, and expenses of each subsidiary are added to the parent's accounts. For example, the Cash account balances in Activision Blizzard and Canal+ and all other subsidiaries are added to Vivendi's (the parent company) own Cash balance. The sum of all of the cash amounts is presented as a single amount in Vivendi's consolidated balance sheet. Each account balance of a subsidiary, such as UMG or SFR, loses its identity in the consolidated statements, which bear the name of the parent, Vivendi. In turn, these subsidiaries may even be parents of other subsidiaries! For example, UMG is the parent of **Polygram Holding**, **Centenary Music International**, **Universal Entertainment**, and many more. Modern business structures make very complicated family trees!

Exhibit 8-6 demonstrates a corporate structure for a parent corporation that owns controlling interests in five subsidiaries and an equity-method investment in another investee company.

**EXHIBIT 8-6 | Parent Company With Consolidated Subsidiaries and An Equity-Investment Method**




## The Consolidated Balance Sheet and the Related Worksheet

Vivendi owns all (100%) the outstanding shares of Universal Music Group (UMG). Both Vivendi and UMG keep their own separate sets of books. Vivendi, the parent company, uses a worksheet to prepare the consolidated statements of Vivendi and its consolidated subsidiaries. Then Vivendi's consolidated balance sheet shows the combined assets and liabilities of both Vivendi and all its subsidiaries. Exhibit 8-7 shows how the parent's balances are consolidated with those of the subsidiary, and the resulting consolidated balance sheet.

**EXHIBIT 8-7 | Consolidation of a Wholly-Owned Subsidiary**

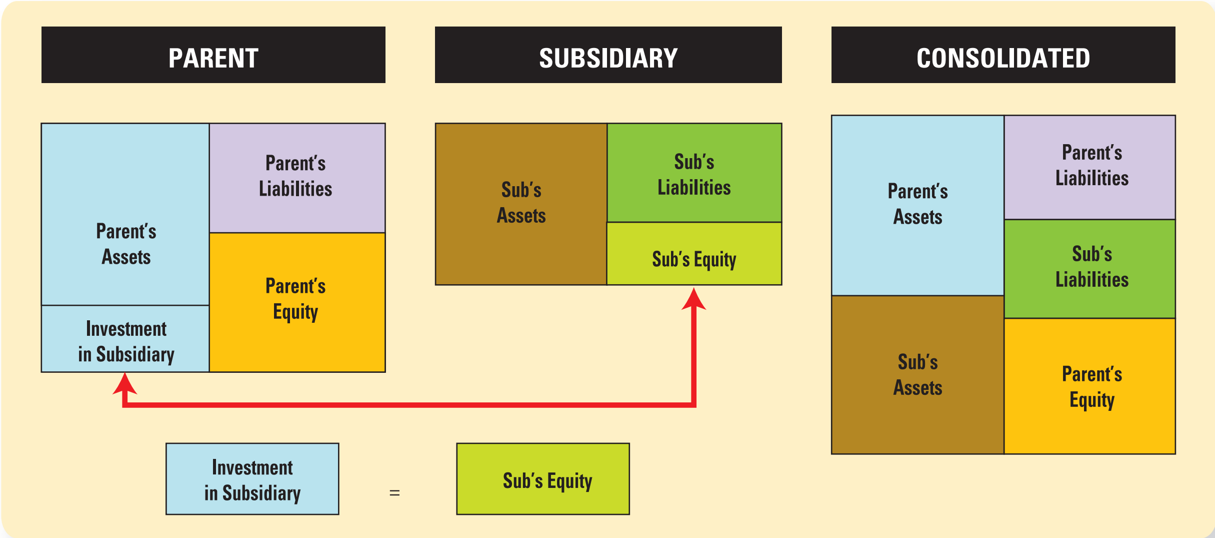



Exhibit 8-8 shows the worksheet for consolidating the balance sheets of Parent Corporation and Subsidiary Corporation at the date of acquisition. We use these hypothetical entities to illustrate the consolidation process. Consider elimination entry (a) for the parent-subsidiary ownership accounts. Entry (a) credits the parent's Investment account to eliminate its debit balance. Entry (a) also eliminates the subsidiary's shareholders' equity accounts by debiting the subsidiary's share capital and retained earnings for their full balances. Without this elimination, the consolidated financial statements would include both the parent company's investment in the subsidiary and the subsidiary company's equity. But these accounts represent the same thing—Subsidiary's equity—and so they must be eliminated from the consolidated totals. If they weren't, the same resources would be counted twice.

**EXHIBIT 8-8 | Worksheet For a Consolidated Balance Sheet**

| | Parent Corporation | Subsidiary Corporation | Eliminations | | Parent and Subsidiary Consolidated Amounts |
|---|---|---|---|---|---|
| | | | Debit | Credit | |
| **Assets** | | | | | |
| Cash | 12,000 | 18,000 | | | 30,000 |
| Note receivable from Subsidiary | 80,000 | — | | (b) 80,000 | — |
| Inventory | 104,000 | 91,000 | | | 195,000 |
| Investment in Subsidiary | 150,000 | — | | (a) 150,000 | — |
| Other assets | 218,000 | 138,000 | | | 356,000 |
| Total | 564,000 | 247,000 | | | 581,000 |
| **Liabilities and Shareholders' Equity** | | | | | |
| Accounts payable | 43,000 | 17,000 | | | 60,000 |
| Notes payable | 190,000 | 80,000 | (b) 80,000 | | 190,000 |
| Share Capital | 176,000 | 100,000 | (a) 100,000 | | 176,000 |
| Retained earnings | 155,000 | 50,000 | (a) 50,000 | | 155,000 |
| Total | 564,000 | 247,000 | 230,000 | 230,000 | 581,000 |

The resulting Parent and Subsidiary consolidated balance sheet (far-right column) reports no Investment in Subsidiary account. Moreover, the consolidated totals for share capital and retained earnings are those of Parent Corporation only. Study the final column of the consolidation worksheet.

In this example, Parent Corporation has an $80,000 note receivable from Subsidiary, and Subsidiary has a note payable to Parent. The parent's receivable and the subsidiary's payable represent the same resources—all entirely within the consolidated entity. Both, therefore, must be eliminated and entry (b) accomplishes this.

- The $80,000 credit in the Elimination column of the worksheet zeros out Parent's Note Receivable from Subsidiary.
- The $80,000 debit in the Elimination column zeros out the Subsidiary's note payable to Parent.
- The resulting consolidated amount for notes payable is the amount owed to creditors outside the consolidated entity, which is appropriate.

After the worksheet is complete, the consolidated amount for each account represents the total asset, liability, and equity amounts controlled by Parent Corporation.

## STOP & THINK . . .

Examine Exhibit 8-8. Why does the consolidated shareholders' equity ($176,000 + $155,000) *exclude* the equity of Subsidiary Corporation?

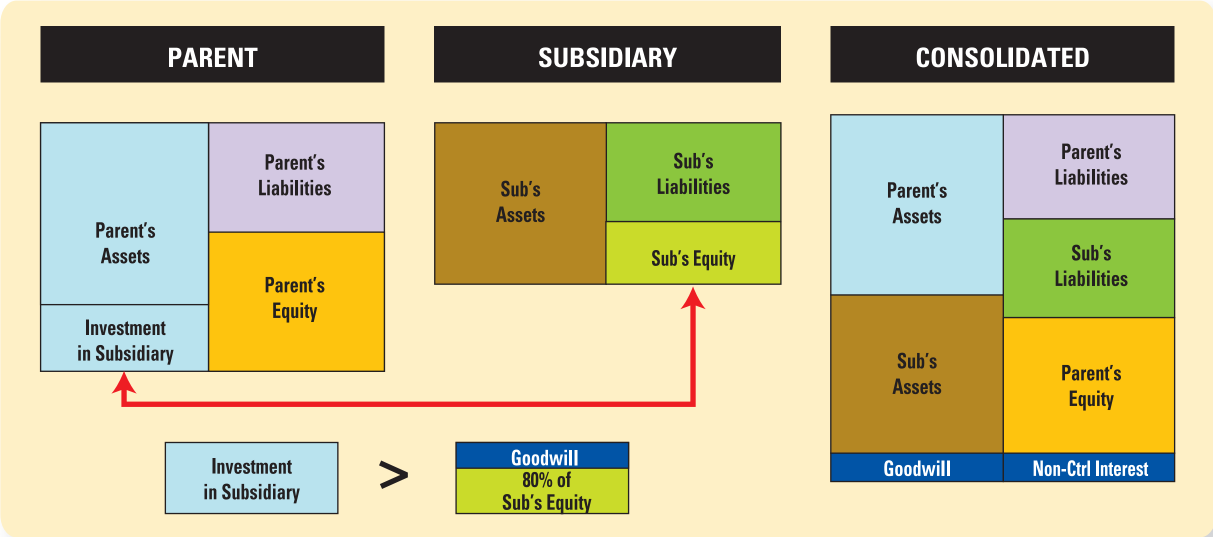
***Answer:***

The shareholders' equity of the consolidated entity is that of the parent only. To include the shareholders' equity of the subsidiary as well as the investment in the subsidiary on the parent's books would be double counting.

## Goodwill and Non-Controlling Interest

Goodwill and Non-Controlling Interest are two accounts that only a consolidated entity can have. Goodwill, which we studied in Chapter 7, arises when a parent company pays more to acquire a subsidiary company than the market value of the subsidiary's net assets. Goodwill is the intangible asset that represents the parent company's excess payment over and above the fair market value of net assets of the subsidiary. Exhibit 8-9 depicts a parent company that owns 80% of a subsidiary, having paid more than its share of the subsidiary's fair value of net assets. You can trace how the assets, liabilities and equity of the parent and subsidiary's assets and liabilities are eventually shown in the consolidated financial statement.

**EXHIBIT 8-9 | Consolidation of a Partially-Owned Subsidiary**




**Non-controlling interest** arises when a parent company owns less than 100% of the shares of a subsidiary. For example, Vivendi owns less than 100% of some of the companies it controls (such as Activision Blizzard and Maroc Telecom). The remainder of the subsidiaries' shares is non-controlling interest to the Vivendi group. Non-controlling interest is reported as a separate account in the shareholders' equity section of the consolidated balance sheet. The amount of non-controlling interest in subsidiaries' shares must be clearly identified and labeled as such. Vivendi reports non-controlling interest (line 4) in the shareholders' equity section on its balance sheet as shown in Exhibit 8-10.

**EXHIBIT 8-10 | Shareholders' Equity and Non-Controlling Interest**

Vivendi SA
Consolidated Balance Sheet (Adapted)
As at December 31

| (In millions € Euros) | | 2011 | 2010 |
|---|---|---|---|
| 1 | Total assets | 55,719 | 58,993 |
| 2 | Total liabilities | 33,649 | 30,820 |
| 3 | Equity attributable to Vivendi's shareholders | 19,447 | 24,058 |
| 4 | Non-controlling interests | 2,623 | 4,115 |
| 5 | Total equity | 22,070 | 28,173 |
| 6 | Total liabilities and equity | 55,719 | 58,993 |



## Income of a Consolidated Entity

The income of a consolidated entity is the net income of the parent plus the parent's proportion of the subsidiaries' net income. If the subsidiary is 100% owned, then all the subsidiary's income belongs to the shareholders of the parent. However, if the ownership is less than 100%, part of the subsidiary's income belongs to non-controlling interest. Have a look at Exhibit 8-11 for an 80% owned subsidiary. Total revenue to the consolidated entity is the revenues of the parent plus subsidiary and total consolidated expenses is the expenses of the parent plus subsidiary. We include 100% revenue and expenses of the subsidiary, even when we only own 80% of the subsidiary. The total profit attributable to equity holders of the parent company is the total consolidated net income (denoted by red bracket) less the 20% of income that belongs to non-controlling shareholders of the subsidiary.

**EXHIBIT 8-11 | Consolidation of An Income Statement**

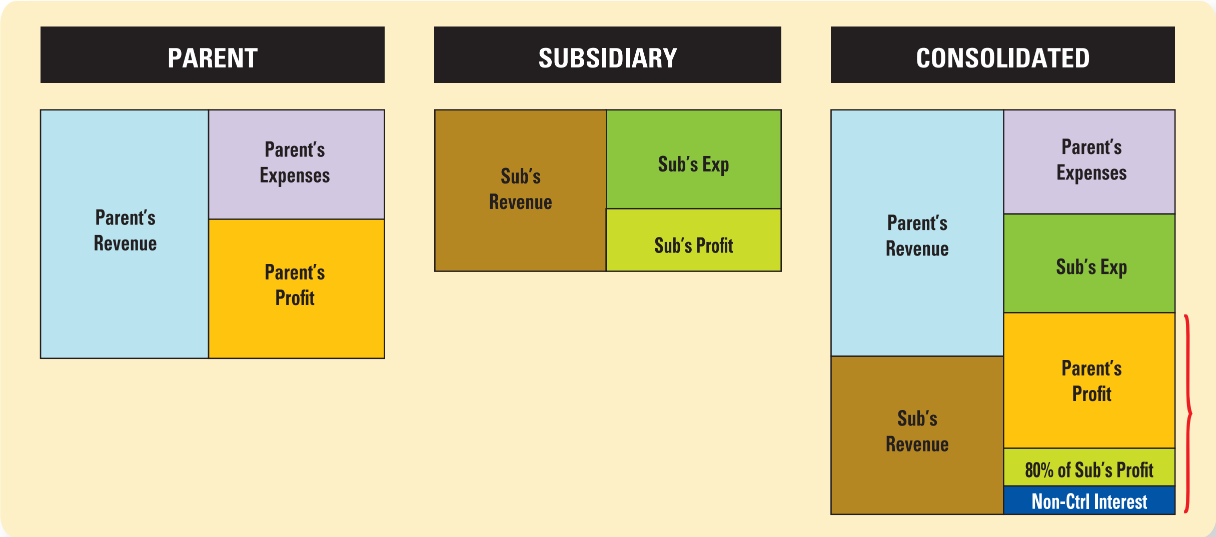



Exhibit 8-12 shows how this works for Vivendi. Line 1 is the total revenues of Vivendi and all its subsidiaries, including those which are less than 100% owned. Vivendi's share of income from its equity affiliates is shown on line 4. The net profit for the consolidated entity is line 6, at €3.7 billion, of which €2.6 billion (line 7) is attributable to Vivendi shareholders and the balance of €1.0 billion (line 8) is attributable to other shareholders of consolidated entities.

**EXHIBIT 8-12 | Vivendi's Income Statement**

Vivendi SA
Consolidated Income Statement (Adapted)
As at December 31

| | | 2011 | 2010 |
|---|---|---|---|
| 1 | Revenues | 28,813 | 28,878 |
| 2 | Cost of sales | (14,391) | (14,561) |
| 3 | ⋮ | ⋮ | ⋮ |
| 4 | (Loss)/Income from equity affiliates | (18) | 195 |
| 5 | ⋮ | ⋮ | ⋮ |
| 6 | Net income | 3,727 | 3,522 |
| 7 | Attributable to Vivendi shareowners | 2,681 | 2,198 |
| 8 | Non-controlling interests | 1,046 | 1,342 |

## A CLOSER LOOK

Since consolidated financial statements are presented as if the parent and all its subsidiaries are one economic entity, it makes sense that transactions between members of the group need special attention. You have seen in Exhibit 8-8 that any amounts owing to and by members of the group must be eliminated. Similarly, if one member of the consolidated entity sells goods or services to another member of the same entity, this transaction would have to be eliminated as well. For example, if Activision Blizzard licenses some music from UMG for its video games, revenue is earned by UMG and expenses are incurred by Activision Blizzard. However, from a consolidated perspective, this transaction should not exist (you can't make money from yourself!) and will be eliminated from the consolidated income statement. More complicated transactions would include sale of a PPE from a subsidiary to another subsidiary. As the transaction is deemed non-existent from a consolidated perspective, numerous adjustments would have to be made on the consolidation worksheet. If you are doing an accounting major, you are likely to cover this topic in your advanced accounting courses.

## COOKING THE BOOKS with Investments and Debt

**Enron Corporation**

In 2000, Enron Corporation in Houston, Texas, employed approximately 22,000 people and was one of the world's leading electricity, natural gas, pulp and paper, and communications companies, with reported revenues of nearly $101 billion. *Fortune* had named Enron "America's Most Innovative Company" for six consecutive years. To many outside observers, Enron was the model corporation.

Enron's financial statements showed that the company was making a lot of money, but in reality, most of its profits were merely on paper. Rather than from operations, the great majority of the cash Enron needed to operate on a day-to-day basis came from bank loans. It was very important, therefore, that Enron keep its debt ratio (discussed in Chapter 9) as well as its return on assets (ROA, discussed in Chapter 10) at acceptable levels, so the banks would continue to view the company as creditworthy. Enron's balance sheets contained large misstatements in the liabilities and shareholders' equity sections over a period of years. Many of the offsetting misstatements were in long-term assets. Specifically, Enron owned numerous long-term investments, including power plants, water, broadband cable, and sophisticated, complex, and somewhat dubious derivative financial instruments in such unusual things as the weather! Many of these investments actually had questionable value, but Enron had abused fair market value accounting to estimate them at grossly inflated values.

To create paper profits, Andrew Fastow, Enron's chief financial officer, created a veritable maze of "special purpose entities" (SPEs), financed with bank debt. He then "sold" the dubious investments to the SPEs to get them off Enron's books. Enron recorded millions of dollars in "profits" from these transactions. Fastow then used Enron shares to collateralize the bank debt of the SPEs, making the transactions entirely circular. Unknown to Enron's board of directors, Fastow or members of his own family owned most of these entities, making them related parties to Enron. Enron was, in fact, the owner of the assets, and was, in fact, obligated for the debts of the SPEs since those debts were collateralized with Enron shares. When Enron's fraud was discovered in late 2001, the company was forced to consolidate the assets of the SPEs, as well as all of their bank debt, into its own financial statements. The end result of the restatement so depressed Enron's debt ratio and ROA that the banks refused to loan the company any more money to operate. Enron's energy trading business virtually dried up overnight, and it was bankrupt within 60 days. An estimated $60 billion in shareholder value, and 22,000 jobs, were lost. Enron's CEO, Jeffrey Skilling, its CFO, Andrew Fastow, and Board Chairman Kenneth Lay were all convicted of fraud. Skilling and Fastow both went to prison. Lay died suddenly of a heart attack before being sentenced.

Enron's audit firm, Arthur Andersen, was accused of trying to cover up its knowledge of Enron's practices by shredding documents. The firm was indicted by the US Justice Department in March 2002. Because of the indictment, Andersen lost all of its public clients and was forced out of business. As a result, over 58,000 people lost their jobs worldwide. A US Supreme Court decision in 2005 eventually led to withdrawal of the indictment, but it came much too late for the once "gold plated" CPA firm. Allegations about the quality of its work on Enron, as well as other well-publicized cases such as Waste Management and WorldCom, who were also clients, doomed Arthur Andersen.

Decision Case 1 in Chapter 9 and Decision Case 3 in Chapter 10 illustrate the financial statement impact of Enron's fraudulent transactions.

# DECISION GUIDELINES

## ACCOUNTING METHODS FOR INVESTMENTS

These guidelines show which accounting method to use for each type of long-term investment.

Vivendi has all types of investments—shares, bonds, significant interests, and controlling interests. How would Vivendi typically account for its various investments?

| Type of Long-Term Investments | Accounting Method |
|---|---|
| Vivendi owns less than 20% of investee shares | Available-for-sale |
| Vivendi owns between 20% and 50% of investee/affiliate shares | Equity |
| Vivendi owns more than 50% of investee shares | Consolidation |
| Vivendi owns long-term investment in bonds (held-to-maturity investment) | Amortized cost |

# MID-CHAPTER SUMMARY PROBLEMS

1. Identify the appropriate accounting method for each of the following situations:
   a. Investment in 25% of investee's shares
   b. 10% investment in shares intended for profit-taking purpose
   c. Investment in more than 50% of investee's shares
2. At what amount should the following investment portfolio be reported on the December 31 balance sheet?

| Investments | Purpose | Investment Cost | Current Market Value |
|---|---|---|---|
| DuPont | Held to Maturity Bonds | $ 5,000 | $ 5,500 |
| ExxonMobil | Available for Sale | 61,200 | 53,000 |
| Procter & Gamble | Trading Securities | 3,680 | 6,230 |

3. Investor paid $67,900 to acquire a 40% equity-method investment in the share capital of Investee. At the end of the first year, Investee's net income was $80,000, and Investee declared and paid cash dividends of $55,000. What is Investor's ending balance in its Equity-Method Investment account? Use a T-account to answer.
4. Parent company paid $85,000 for all the shares of Subsidiary Company, and Parent owes Subsidiary $20,000 on a note payable. Complete the consolidation worksheet below.

| | Parent Company | Subsidiary Company | Eliminations Debit | Eliminations Credit | Consolidated Amounts |
|---|---|---|---|---|---|
| **Assets** | | | | | |
| Cash | 7,000 | 4,000 | | | |
| Note receivable from Parent | — | 20,000 | | | |
| Investment in Subsidiary | 85,000 | — | | | |
| Other assets | 108,000 | 99,000 | | | |
| Total | 200,000 | 123,000 | | | |
| **Liabilities and Shareholders' Equity** | | | | | |
| Accounts payable | 15,000 | 8,000 | | | |
| Notes payable | 20,000 | 30,000 | | | |
| Share capital | 120,000 | 60,000 | | | |
| Retained earnings | 45,000 | 25,000 | | | |
| Total | 200,000 | 123,000 | | | |

## Answers

1. a. Equity
   b. Trading securities
   c. Consolidation

2. Report the investments at market value, $64,230, as follows:

| Investments | Purpose | Investment Cost | Current Market Value | Report At |
|---|---|---|---|---|
| DuPont | Held to Maturity Bonds | $ 5,000 | $ 5,500 | $ 5,000 |
| ExxonMobil | Available for Sale | 61,200 | 53,000 | 53,000 |
| Procter & Gamble | Trading Securities | 3,680 | 6,230 | 6,230 |

3.

Equity-Method Investment

| | | | |
|---|---|---|---|
| Cost | 67,900 | Dividends | 22,000** |
| Income | 32,000* | | |
| Balance | 77,900 | | |

*$80,000 × 0.40 = $32,000
**$55,000 × 0.40 = $22,000

4. Consolidation worksheet:

| | Parent Company | Subsidiary Company | Eliminations Debit | Eliminations Credit | Consolidated Amounts |
|---|---|---|---|---|---|
| **Assets** | | | | | |
| Cash | 7,000 | 4,000 | | | 11,000 |
| Note receivable from Parent | — | 20,000 | | (a) 20,000 | — |
| Investment in Subsidiary | 85,000 | — | | (b) 85,000 | — |
| Other assets | 108,000 | 99,000 | | | 207,000 |
| Total | 200,000 | 123,000 | | | 218,000 |
| **Liabilities and Shareholders' Equity** | | | | | |
| Accounts payable | 15,000 | 8,000 | | | 23,000 |
| Notes payable | 20,000 | 30,000 | (a) 20,000 | | 30,000 |
| Share capital | 120,000 | 60,000 | (b) 60,000 | | 120,000 |
| Retained earnings | 45,000 | 25,000 | (b) 25,000 | | 45,000 |
| Total | 200,000 | 123,000 | 105,000 | 105,000 | 218,000 |

# Accounting for International Operations

**OBJECTIVE**

**4** **Account** for international operations

In this globalized world, many companies earn revenue beyond their national boundaries. Accounting for business activities across national boundaries involves foreign currencies and exchange rates. Transactions may be expressed in currencies other than the company's local currency. This is the subject of *IAS 21—The Effects of Changes in Foreign Exchange Rates*.

## Foreign Currencies and Exchange Rates

Most countries use their own national currency, usually denoted by their three letter currency codes. For example, the United States uses United States Dollars (USD), South

Africa uses South African Rand (ZAR), Bahrain uses Bahraini Dinar (BHD), United Arab Emirates uses Emirati Dirham (AED), Malaysia uses Malaysian Ringgit (MYR), and so forth. An exception is the European Union nations; France, Germany, Italy, Belgium, Netherlands and others use a common currency, the Euro (€ or EUR).

The price of one nation's currency can be stated in terms of another country's monetary unit. This measure of one currency against another is called the **foreign-currency exchange rate**. In Exhibit 8-13, you can see the cross rates of major currencies in the world. You can visit Bloomberg for update exchange rates.

**EXHIBIT 8-13 | Foreign Currency Exchange Rates**

| | USD | EUR | JPY | GBP | CHF | CAD | AUD | HKD |
|---|---|---|---|---|---|---|---|---|
| USD | – | 1.3254 | 0.0124 | 1.6238 | 1.1035 | 1.0193 | 1.0444 | 0.1289 |
| EUR | 0.7546 | – | 0.0094 | 1.2253 | 0.8326 | 0.7691 | 0.7880 | 0.0972 |
| JPY | 80.4500 | 106.6300 | – | 130.6700 | 88.7830 | 82.0190 | 84.0320 | 10.3700 |
| GBP | 0.6158 | 0.8161 | 0.0077 | – | 0.6795 | 0.6277 | 0.6433 | 0.0794 |
| CHF | 0.9063 | 1.2011 | 0.0113 | 1.4716 | – | 0.9238 | 0.9466 | 0.1168 |
| CAD | 0.9810 | 1.3001 | 0.0122 | 1.5931 | 1.0825 | – | 1.0247 | 0.1264 |
| AUD | 0.9574 | 1.2690 | 0.0119 | 1.5548 | 1.0565 | 0.9760 | – | 0.1234 |
| HKD | 7.7593 | 10.2823 | 0.0964 | 12.6001 | 8.5613 | 7.9091 | 8.1053 | – |

*Currency keys: USD = US Dollar; EUR = Euro; JPY = Japanese Yen; GBP = British Pound; CHF = Swiss Franc; CAD = Canadian Dollar; AUD = Australian Dollar; HKD = Hong Kong Dollar; Source: Bloomberg, 27 April 2012.*

For example, 1 EUR is equal to 1.3254 USD, 1 HKD = 10.3700 JPY. Obviously, exchange rates move all the time, so the actual rates at any time may be different from the cross rates table above. We call this conversion a *translation*. Suppose an item costs €400. To compute its cost in Australian dollar (AUD), we multiply the euro amount by the conversion rate: EUR 400 × AUD 1.2690 = AUD 507.60.

There a number of factors that determine foreign currency exchange rates between two currencies. You would typically study this in macroeconomics. These factors include:

- difference in inflation rates (generally, lower inflation rates means stronger currency);
- difference in interest rates (generally, higher domestic interest rates means stronger currency);
- current account deficits (the higher the deficit, the weaker the currency);
- public debt (the higher the debt, the weaker the currency);
- political stability (the more unstable, the weaker the currency).

Currencies are often described as "strong" or "weak." The exchange rate of a **strong currency** is rising relative to other nations' currencies. The exchange rate of a **weak currency** is falling relative to other currencies. For example, Bloomberg listed the conversion rate for GBP (British Pounds) to AED at 5.9657 on April 27, 2012. Had the rate risen to 6.0000 the next day, we would have said that Pounds had strengthened against the Dirhams. If it dropped to 5.5000 we would have said Pounds had weakened against Dirhams.

## Accounting for Foreign Currency Transactions

International transactions are common. Many businesses buy and sell in currencies other than their local currency. In accounting for transactions involving foreign currencies, *IAS 21—The Effects of Changes in Foreign Exchange Rates* requires the determination of "functional currency," which is the currency of the primary economic environment in which the business operates. In most cases, we can assume that the business's local currency is the functional currency. All foreign currency items are then translated into the functional currency at initial recognition using transaction-date exchange rates.

Let's use **Qian Hu**, an ornamental fish farmer and retailer, as a working example. Qian Hu sells various kinds of ornamental fish and pet accessories from its base in Singapore to over 80 countries around the world. Its sales outside Singapore are about 70% of its total revenue in 2011. Your local pet stores may be selling Qian Hu's fish!

Let's be a little more specific in our example. Suppose Qian Hu supplies a pet store in Europe and makes some of its sales in euros and buys some of its breeding equipment from Japan and pays for them in Japanese yen.

Consider Qian Hu's sale of ornamental fish and aquariums to FishyTales, a pet store in Europe, on a 30-day credit term, on June 10, 20X6. The sale can be conducted in Singapore dollars (SGD) or in euros (EUR), or even in other currencies such as US dollars. If FishyTales agrees to pay in SGD, Qian Hu avoids the complication of dealing in a foreign currency, and the transaction is treated the same way as sales of ornamental fish across town in Singapore. But suppose FishyTales orders EUR 1,000 worth of fish and aquariums from Qian Hu. Further suppose FishyTales would like to pay in euros and Qian Hu agrees to receive euros instead of Singapore dollars.

On initial recognition of the sale, Qian Hu would have recorded in its books sales of EUR 1,000 and a receivable of the same amount. This would be entered using transaction date exchange rates. Suppose that the exchange rate on June 10, 20X6, the day of the sale, is 1 EUR for 2.00 SGD. Qian Hu would thus record:

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Jun 10 | Accounts Receivable—Fishy Tales | 2,000 | |
| | Sales Revenue | | 2,000 |
| | *Sale on account (€1,000 × 2.00).* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 2,000 | = | 0 | + | + 2,000 | (sales revenue) |

When Qian Hu receives payment of EUR 1,000 from FishyTales on July 10, 20X6, it may or may not translate to the amount recognized at initial measurement of SGD 2,000. The prevailing exchange rate on the payment date will determine how much SGD Qian Hu actually receives. If the exchange rate on July 10, 20X6 is 1 EUR for 2.10 SGD (in other words, the euro has strengthened against the Singapore dollar), Qian Hu would collect more in Singapore dollar terms. Qian Hu would collect SGD 2,100 (EUR 1,000 × 2.10), resulting in a "translation gain" of SGD 100.

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Jul 10 | Cash | 2,100 | |
| | Accounts Receivables—Fishy Tales | | 2,000 |
| | Translation Gain | | 100 |
| | *Collection of account (€1,000 × 2.10).* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 2,100<br>– 2,000 | = | 0 | + | + 100 | (translation gain) |

Conversely, had the euro weakened against Singapore dollar, Qian Hu would have recognized a translation loss. Suppose the exchange rate on July 10 was 1 EUR = 1.95 SGD instead of 2.10 SGD. The EUR 1,000 payment from FishyTales would translate to SGD 1,950 in settlement of an account receivable of SGD 2,000. Qian Hu would process this journal entry instead:

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Jul 10 | Cash | 1,950 | |
| | Translation Loss | 50 | |
| | Accounts Receivables—Fishy Tales | | 2,000 |
| | *Collection of account (€1,000 × 1.95).* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 1,950<br>– 2,000 | = | 0 | + | – 50 | (translation loss) |

## A CLOSER LOOK

What if Qian Hu's financial year-end was June 30, 20X6? How should the transaction be reported on the financial statements?

Subsequent to initial measurement, *IAS 21* requires entities to distinguish between "monetary" and "non-monetary" items. The key distinction between the two categories is whether or not there is a right to receive (or obligation to deliver) a fixed or determinable number of units of currency. For example, FishyTales receivable is a monetary item because it is deliverable in the fixed amount of EUR 1,000. At the end of each reporting period, *IAS 21* requires monetary assets to be retranslated using the closing rate. Non-monetary assets carried at historical costs continue to be measured using historical transaction date exchange rates.

If Qian Hu's financial year-end were June 30, 20X6, it would be required to re-measure the FishyTale receivables using the closing exchange rate on June 30, 20X6. Any gains (or losses) on the balance sheet date are recognized in the income statement.

## Reporting Gains and Losses on the Income Statement

The Foreign-Currency Translation Gain/Loss account holds gains and losses on transactions settled in foreign currencies. The net amount of the gains and losses are reported on the income statement as Other Revenues and Gains, or Other Expenses and Losses, as the case may be. For example, Qian Hu may report the net impact of its translation gains and losses as follows:

| | |
|---|---|
| Other Expenses and Losses: | |
| Foreign-currency transaction loss, net ........................... | $2,600 |

## Should We Hedge Our Foreign-Currency-Transaction Risk?

One way for companies to avoid foreign-currency transaction losses is to insist that international transactions be settled in the local currency. This requirement puts the burden of currency translation on the foreign party. But this approach may not always work and may even alienate customers and decrease sales. Another way for a company to protect itself is by hedging. **Hedging** means to protect oneself from losing money in one transaction by engaging in a counter-balancing transaction.

A company selling goods to be collected in a foreign currency expects to receive a fixed number of foreign currency units. If the foreign currency weakens, the company would receive the agreed amounts in foreign currency units, but this would translate to a lower local currency, resulting in a foreign currency translation loss.

A company may have accumulated a number of receivables and payables expressed in foreign currencies. Losses on one currency may be offset by gains on another. Most companies do not have equal amounts of receivables and payables in foreign currency. To obtain a more precise hedge, companies can buy futures contracts. These are contracts for foreign currencies to be received in the future. Futures contracts can create a payable to exactly offset a receivable, and vice versa. Many companies that do business internationally use hedging techniques to minimize their foreign currency exposure.

## Consolidation of Foreign Subsidiaries

Besides entering into foreign activities directly, an entity may also operate through a "foreign operation." *IAS 21* defines foreign operation as an entity that is a subsidiary, associate, joint venture or branch of a reporting entity, the activities of which are based or conducted in a country or currency other than those of the reporting entity. Let's look at a simple example on how you would consolidate foreign subsidiaries.

A company with a foreign subsidiary must consolidate the subsidiary's financial statements into its own statements for reporting to the public. The consolidation of a foreign subsidiary poses two special challenges:

1. Some foreign countries may require accounting treatments that differ from the reporting entity's accounting principles. For example, the foreign subsidiary's financial statements might be prepared in accordance with US GAAP whereas the parent's accounts are prepared using international financial reporting standards (IFRS). For reporting purposes, if those differences are material, the subsidiary's statements must be adjusted to conform to the parent's accounting policies.
2. The subsidiary's statements may be expressed in a foreign currency different from the parent's currency. We are making an assumption in our discussion here that the parent's functional currency is the parent's local currency. First, we must translate the subsidiary's statements into the parent's currency. Then the two companies' financial statements can be consolidated as illustrated in Exhibit 8-8.

The process of translating a foreign subsidiary's financial statements into the parent's currency usually creates a *foreign-currency translation adjustment*. This item appears in the financial statements of most multinational companies and is reported as part of other comprehensive income on the income statement and as part of shareholders' equity on the consolidated balance sheet.

A translation adjustment arises due to changes in the foreign exchange rate over time. In general, the foreign operation's:

- monetary *assets* and *liabilities* are translated into the parent's currency at the current exchange rate on the date of the statements;
- non-monetary assets and liabilities carried at historical cost (such as PPE) continue to be measured using the historical transaction-date exchange rates;
- *shareholders' equity* is translated into the parent's currency at older, historical exchange rates. Paid-in capital accounts are translated at the historical exchange rate when the subsidiary was acquired. Retained earnings is translated at the average exchange rates applicable over the period that interest in the subsidiary has been held.

This difference in exchange rates creates an out-of-balance condition on the balance sheet. The translation adjustment brings the balance sheet back into balance. Let's see how the translation adjustment works.

Suppose Vivendi has an American subsidiary whose financial statements are expressed in US dollars. Vivendi must consolidate the US subsidiary's financials into its own statements. When Vivendi acquired the American company in 20X5, the applicable exchange rate was 1 USD = 0.70 EUR (or 1 EUR = 1.42 USD). When the American firm earned its retained income during 20X5–20X8, the average exchange rate was 1 USD = 0.65 EUR. On the balance sheet date in 20X8, 1 USD = 0.60 EUR. Exhibit 8-14 shows how to translate the American company's balance sheet into euros.

The **foreign-currency translation adjustment** is the balancing amount that brings the dollar amount of liabilities and equity of a foreign subsidiary into agreement with the dollar amount of total assets (in Exhibit 8-14, total assets equal €540,000). Only after the translation adjustment of €40,000 do total liabilities and equity equal total assets stated in euros.

**EXHIBIT 8-14 | Translation of a Foreign-Currency Balance Sheet in Euros**

| Balance Sheet Dec 31, 20X8 | Dollars | Exchange Rate | Euros |
|---|---|---|---|
| Assets* | 800,000 | 0.60 | 540,000 |
| Liabilities* | 500,000 | 0.60 | 300,000 |
| Shareholders' equity | | | |
| Share capital | 100,000 | 0.70 | 70,000 |
| Retained earnings | 200,000 | 0.65 | 130,000 |
| Accumulated other comprehensive income: | | | |
| Foreign-currency translation adjustment | | | 40,000 |
| | 800,000 | | 540,000 |

**Assume all monetary assets and liabilities.*

What caused the translation adjustment? The euro has strengthened after the acquisition of the US company.

- When Vivendi acquired the foreign subsidiary in 20X6, 1 USD was worth 0.70 EUR (or expressed the other way, 1 EUR was worth USD 1.43).
- When the US company earned its income during 20X6 through 20X8, the average exchange rate was 0.65.
- On the balance sheet date in 20X8, 1 USD is worth only €0.60.
- Thus, the US company's equity (assets minus liabilities) is translated into only €240,000 (€540,000 – €300,000).
- To bring shareholders' equity to €240,000 requires a €40,000 adjustment.

In a sense, a translation adjustment is like a profit, reported as an item in the shareholders' equity section of the balance sheet, as in Exhibit 8-14. Similarly, had the currency moved the other way, a negative translation adjustment would have resulted, and is similar to a loss that is reported in the equity section of the balance sheet. The US firm's euro figures in Exhibit 8-14 are what Vivendi would include in its consolidated balance sheet. The consolidation procedures would follow those illustrated earlier in the chapter.

## Analyzing Financial Statements

You may have heard of the term "return on investment." It is a generic way to measure how much you get out of something. For example, if you bought one Vivendi share at €12 and sold it a year later at €15, then you would have made a return of €3 over an investment of €12, or a 25% return on your investment. If you had received dividends during your holding period, your return would be higher.

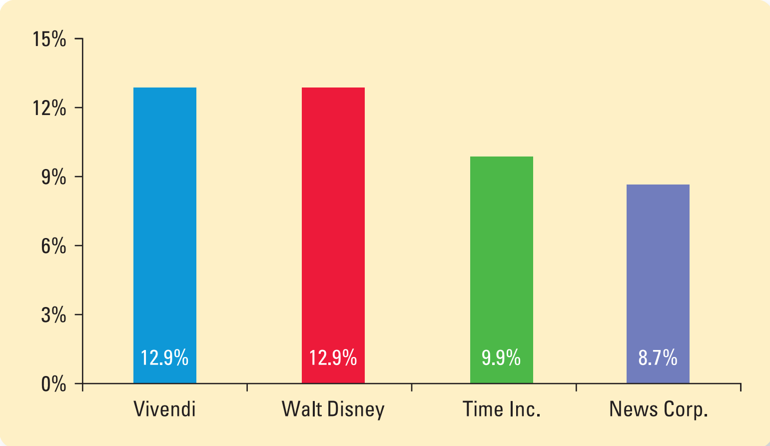
It is, however, much harder to measure the total returns on all the investment that a company makes. Remember, a company may choose to invest in inventory, equipment, held-to-maturity bonds, and varying degrees of share investments, from trading securities to affiliates and subsidiaries. It may choose to spend its resources through an international expansion, or by venturing into completely different industries. Whatever form of returns the company generates, eventually, they will all be reflected on its bottom line as net profit. Thus, in measuring the profitability of a company's investments, we should look at how much net profit a company generates from its total revenue. This ratio is called the **net profit margin**.

Net profit margin is calculated as a percentage of net profit over the company's revenues. Vivendi, as a group, with all its investments and international operations, made a total of €3,727 million from total revenue of €28,813. Vivendi's net profit margin is thus:

| Net Profit Margin | Vivendi 2011 | Vivendi 2010 |
|---|---|---|
| $\frac{\text{Net profit}}{\text{Revenue}}$ | $\frac{3,727}{28,813} = 12.9\%$ | $\frac{3,522}{28,878} = 12.2\%$ |

How does this compare to its competitors? Well, for a company as diversified as Vivendi, it will be very difficult to find an exact competitor or an exact benchmark. We can look at other diversified media and entertainment companies such as **The Walt Disney Company**, **Time Warner Incorporated** and **News Corporation** (Exhibit 8-15). It looks like Vivendi is well placed amongst these companies. It shares the top honors, in terms of net profit margin, with Walt Disney. And both are performing better than Time Inc and News Corp.

**EXHIBIT 8-15 | Net Profit Margins of Selected Media/Entertainment Companies**




# Impact of Investing Activities on the Statement of Cash Flows

Investing activities include many types of transactions. In Chapter 7, we covered the purchase and sale of long-term assets such as Property, Plant and Equipment (PPE). In this chapter, we examined investments in financial assets, including shares and bonds.

**EXHIBIT 8-16 | Vivendi's Statement of Cash Flows**

**Vivendi SA**
**Consolidated Statement of Cash Flows (Adapted)**
For the year ended December 31

| (In millions € Euros) | **2011** | **2010** |
|---|---|---|
| **Cash flow from operating activities** | 6,862 | 6,966 |
| **Cash flow from investing activities** | | |
| 1 Purchase of consolidated companies (net cash) | (210) | (742) |
| 2 Investments in equity affiliates | (49) | (15) |
| 3 Investments in financial assets | (377) | (640) |
| 4 Proceeds from sale of consolidated companies (net cash) | 30 | (43) |
| 5 Proceeds from disposal of equity affiliates | 2,920 | 1,458 |
| 6 Proceeds from financial assets | 1,751 | 567 |
| 7 All other investing cash flow | (3,258) | (3,119) |
| 8 Cash flows from investing activities | 807 | (2,534) |
| **Cash flow from financing activities** | (7,661) | (4,761) |
| **Net cash flow** | 8 | (329) |



**OBJECTIVE**

**5** **Report** investing transactions on the statement of cash flows

Exhibit 8-16 provides excerpts from Vivendi's 2011 consolidated statement of cash flows. During 2011, Vivendi made additional investments in consolidated companies and equity affiliates totaling €259 million (lines 1 and 2). It also sold investments totaling €2,950 million in some other consolidated companies and equity affiliates (lines 4 and 5), including its 20% stake in NBC Universal in January 2011. These actual investing activities relate directly to the topics you studied in this chapter.

## END-OF-CHAPTER SUMMARY PROBLEM

Translate the balance sheet of the Brazilian subsidiary of **Unilever**, a European company, into euros. When Unilever acquired this subsidiary, the exchange rate of the Brazilian currency BRL (the Real), was €0.40. The average exchange rate applicable to retained earnings is €0.41. The Real's current exchange rate is €0.43.

Before performing the translation, predict whether the translation adjustment will be positive or negative. Does this situation generate a foreign-currency translation gain or loss? Give your reasons.

| | Reals |
|---|---|
| Assets | 900,000 |
| Liabilities | 600,000 |
| Shareholders' equity: | |
| Share capital | 30,000 |
| Retained earnings | 270,000 |
| | 900,000 |

### Answer

Translation of foreign-currency balance sheet:

This situation will generate a *positive* translation adjustment, which is like a gain. The gain occurs because the real's current exchange rate, which is used to translate net assets (assets minus liabilities), exceeds the historical exchange rates used for shareholders' equity.

The calculation follows.

| | Reals | Exchange Rate | Euros |
|---|---|---|---|
| Assets | 900,000 | 0.43 | 387,000 |
| Liabilities | 600,000 | 0.43 | 258,000 |
| Shareholders' equity: | | | |
| Share capital | 30,000 | 0.40 | 12,000 |
| Retained earnings | 270,000 | 0.41 | 110,700 |
| Accumulated other comprehensive income: | | | |
| Foreign-currency translation adjustment | — | | 6,300 |
| | 900,000 | | 387,000 |

# REVIEW INVESTMENTS AND INTERNATIONAL OPERATIONS

## Quick Check (Answers are given at the end of the chapter.)

1. SABIC (Saudi Arabia Basic Industries Company) invests in 100,000 Apple Inc.'s shares. SABIC expects to hold these shares for a medium term and not trade actively. How should SABIC classify this investment?
   **a.** Available-for-sale
   **b.** Equity
   **c.** Consolidation
   **d.** Trading
2. Jacques Corporation purchased an available-for-sale investment in 1,500 shares of Home Central shares for $24 per share. On the next balance-sheet date, Home Central shares are quoted at $27 per share. Jacques' *balance sheet* should report
   **a.** realized gain of $4,500.
   **b.** investments of $40,500.
   **c.** unrealized loss of $4,500.
   **d.** investments of $36,000.
3. Use the Jacques Corporation data in question 2. Assume tax rate of 20%. Jacques' should report
   **a.** unrealized loss of $4,500 in the income statement.
   **b.** realized gain of $4,500 in other comprehensive income.
   **c.** unrealized gain of $4,500 in other comprehensive income.
   **d.** unrealized gain of $3,600 in other comprehensive income.
4. Use the Jacques Corporation data in question 2. Jacques sold the Home Central shares for $45,000 two years later. Jacques' *income statement* should report
   **a.** investments of $45,000.
   **b.** unrealized gain of $4,500.
   **c.** gain on sale of $9,000.
   **d.** gain on sale of $4,500.
5. Patrick Moving & Storage Co. paid $180,000 for 30% of the ordinary shares of McDonough Co. McDonough earned net income of $50,000 and paid dividends of $20,000. The carrying value of Patrick's investment in McDonough is
   **a.** $180,000.
   **b.** $230,000.
   **c.** $210,000.
   **d.** $189,000.
6. Tidal, Inc., owns 70% of Granite Corporation, and Granite owns 70% of Shaw Company. During 20X6, these companies' net incomes are as follows before any inter-corporation income-related consolidations:
   - Tidal $200,000
   - Granite $64,000
   - Shaw $55,000

   How much net income should Tidal report for 20X6?
   **a.** $283,300
   **b.** $200,000
   **c.** $271,750
   **d.** $319,000
7. Royalston, Inc., holds an investment in Daley bonds that pay interest each October 31. Royalston's *balance sheet* at December 31 should report
   **a.** Interest expense.
   **b.** Interest revenue.
   **c.** Interest payable.
   **d.** Interest receivable.
8. You are taking a vacation to Italy, and you buy Euros for LC1.50. LC is your local currency. On your return you cash in your unused Euros for LC1.20. During your vacation
   **a.** the euro rose against your local currency.
   **b.** the euro gained value against your local currency.
   **c.** your local currency rose against the euro.
   **d.** your local currency lost value.
9. Bahrain Development Corporation purchased earth-moving equipment from a Canadian company. The cost was $1,600,000 Canadian (CAD), and the Canadian dollar was quoted at 1 CAD = 0.40 BHD. A month later, the corporation paid its debt, and the Canadian dollar was quoted at BHD0.42. What should the corporation record as the cost of the equipment?
   **a.** BHD 640,000.
   **b.** BHD 672,000.
   **c.** BHD 3,809,524.
   **d.** BHD 4,000,000.

10. Insight, a company headquartered in Hong Kong, owns numerous foreign subsidiary companies. When Insight consolidates its subsidiaries, Insight should translate the subsidiary's monetary assets into Hong Kong dollars at the
    **a.** current exchange rate.
    **b.** average exchange rate during the period Insight owned the British subsidiary.
    **c.** historical exchange rate when Insight purchased the British company.
    **d.** none of the above. There's no need to translate the subsidiary's assets into dollars.

## Accounting Vocabulary

**available-for-sale investments** (p. 491) All other financial asset investments not classified as loan and receivables, held-to-maturity or trading securities.

**consolidated statements** (p. 498) Financial statements of the parent company plus those of majority-owned subsidiaries as if the combination were a single legal entity.

**controlling (majority) interest** (p. 497) Ownership of more than 50% of an investee company's voting shares.

**equity method** (p. 494) The method used to account for investments in which the investor has 20–50% of the investee's voting shares and can significantly influence the decisions of the investee.

**fair market value** (p. 488) The amount that a seller would receive on the sale of an investment to a willing purchaser on a given date. Securities and available-for-sale securities are valued at fair market values on the balance sheet date. Other assets may be recorded at fair market value.

**financial assets** (p. 483) An asset that arises because of contractual rights to receive items of value, for example, cash, receivables, etc. and similar rights.

**foreign-currency exchange rate** (p. 507) The measure of one country's currency against another country's currency.

**foreign-currency translation adjustment** (p. 511) The balancing figure that brings the dollar amount of the total liabilities and shareholders' equity of the foreign subsidiary into agreement with the dollar amount of its total assets.

**hedging** (p. 510) To protect oneself from losing money in one transaction by engaging in a counterbalancing transaction.

**held-to-maturity investments** (p. 490) Bonds and notes that an investor intends to hold until maturity.

**long-term investments** (p. 484) Any investment that does not meet the criteria of a short-term investment; any investment that the investor expects to hold longer than a year or that is not readily marketable.

**net profit margin** (p. 512) The amount of net profit earned from each currency unit of sale. Also called *return on sales*.

**non-controlling interest** (p. 501) A subsidiary company's equity that is held by shareholders other than the parent company (i.e., less than 50%).

**parent company** (p. 497) An investor company that owns more than 50% of the voting shares of a subsidiary company.

**short-term investments** (p. 484) Investment that a company plans to hold for 1 year or less. Usually in the form of marketable securities.

**strong currency** (p. 507) A currency whose exchange rate is rising relative to other nations' currencies.

**subsidiary** (p. 497) An investee company in which a parent company owns more than 50% of the voting shares.

**trading securities** (p. 487) Investments in financial assets that are primarily for the purpose of trading, with the intent of generating profits on the sale. Also called fair value investments through profit or loss.

**weak currency** (p. 507) A currency whose exchange rate is falling relative to that of other nations.

# ASSESS YOUR PROGRESS

## Short Exercises

**S8-1** ***(Learning Objective 1: Accounting for an available-for-sale investment; recording unrealized gain or loss)*** Ship Your Way completed these long-term available-for-sale investment transactions during 20X6:

| 20X6 | |
|---|---|
| Apr 10 | Purchased 400 Naradon shares, paying $22 per share. Ship Your Way intends to hold the investment for the indefinite future. |
| Jul 22 | Received a cash dividend of $1.26 per share on the Naradon investment. |
| Dec 31 | Adjusted the Naradon investment to its current market value of $5,200. |

1. Journalize Ship Your Way's investment transactions. Explanations are not required.
2. Show how to report the investment and any unrealized gain or loss on Ship Your Way's balance sheet at December 31, 20X6. Ignore income tax.

**S8-2** ***(Learning Objective 1: Accounting for the sale of an available-for-sale investment)*** Use the data given in Short Exercise 8-1. On May 21, 20X7, Ship Your Way sold its investment in Naradon for $27 per share.

1. Journalize the sale. No explanation is required.
2. How does the gain or loss that you recorded here differ from the gain or loss that was recorded at December 31, 20X6?

**S8-3** ***(Learning Objective 1: Working with a bond investment)*** Hopter Khan (HK) owns vast amounts of corporate bonds. Suppose HK buys $1,100,000 of Tyconix bonds at a price of 104. The Tyconix bonds pay cash interest at the annual rate of 6% and mature at the end of five years.

1. How much did HK pay to purchase the bond investment? How much will HK collect when the bond investment matures?
2. How much cash interest will HK receive each year from Tyconix?
3. Will HK's annual interest revenue on the bond investment be more or less than the amount of cash interest received each year? Give your reason.
4. Compute HK's annual interest revenue on this bond investment. Use the straight-line method to amortize the investment.

**S8-4** ***(Learning Objective 1: Recording bond investment transactions)*** Return to Short Exercise 8-3, the Hopter Khan (HK) investment in Tyconix bonds. Journalize on HK's books:

- **a.** Purchase of the bond investment on June 30, 20X0. HK expects to hold the investment to maturity.
- **b.** Receipt of semi-annual cash interest on December 31, 20X0.
- **c.** Amortization of the bonds on December 31, 20X0. Use the straight-line method.
- **d.** Collection of the investment's face value at the maturity date on June 30, 20X5. (Assume the receipt of 20X5 interest and the amortization of bonds for 20X5 have already been recorded, so ignore these entries.)

**S8-5** ***(Learning Objective 2: Accounting for a 40% investment in another company)*** Suppose on February 1, 20X6, Fall Motors paid $420 million for a 40% investment in Yuza Motors. Assume Yuza earned net income of $50 million and paid cash dividends of $25 million during 20X6.

1. What method should Fall Motors use to account for the investment in Yuza? Give your reason.
2. Journalize these three transactions on the books of Fall Motors. Show all amounts in millions of dollars and include an explanation for each entry.
3. Post to the Long-Term Investment T-account. What is its balance after all the transactions are posted?

**S8-6** ***(Learning Objective 2: Accounting for the sale of an equity-method investment)*** Use the data given in Short Exercise 8-5. Assume that in November 20X7, Fall Motors sold half its investment in Yuza Motors. The sale price was $155 million. Compute Fall Motors' gain or loss on the sale.

**S8-7** ***(Learning Objective 3: Understanding consolidated financial statements)*** Answer these questions about consolidation accounting:

1. Define "parent company." Define "subsidiary company."
2. How do consolidated financial statements differ from the financial statements of a single company?
3. Which company's name appears on the consolidated financial statements? How much of the subsidiary's shares must the parent own before reporting consolidated statements?

■ **writing assignment**

**S8-8** ***(Learning Objective 3: Understanding goodwill and non-controlling interest)*** Two accounts that arise from consolidation accounting are goodwill and non-controlling interest.

1. What is goodwill, and how does it arise? Which company reports goodwill, the parent or the subsidiary? Where is goodwill reported?
2. What is non-controlling interest, and which company reports it, the parent or the subsidiary? Where is non-controlling interest reported?

**S8-9** ***(Learning Objective 4: Accounting for transactions stated in a foreign currency)*** Suppose Pepson sells soft drink syrup to a Russian company on September 12. Pepson agrees to accept 500,000 Russian rubles. On the date of sale, the ruble is quoted at $0.36. Pepson collects half the receivable on October 18, when the ruble is worth $0.33. Then on November 15, when the foreign-exchange rate of the ruble is $0.39, Pepson collects the final amount.

Journalize these three transactions for Pepson.

**S8-10** ***(Learning Objective 4: Accounting for transactions stated in a foreign currency)*** Ocean Belting sells goods for 1,100,000 Mexican pesos. The foreign exchange rate for a peso is $0.086 on the date of sale. Ocean Belting then collects cash on April 24, when the exchange rate for a peso is $0.089. Record Ocean's cash collection.

Ocean Belting buys inventory for 28,000 Swiss francs. A Swiss franc costs $0.82 on the purchase date. Record Ocean Belting's payment of cash on October 25, when the exchange rate for a Swiss Franc is $0.87.

In these two scenarios, which currencies strengthened? Which currencies weakened?

**S8-11** ***(Learning Objective 5: Reporting cash flows)*** Companies divide their cash flows into three categories for reporting on the cash flows statement.

1. List the three categories of cash flows in the order they appear on the cash flows statement. Which category of cash flows is most closely related to this chapter?
2. Identify two types of transactions that companies report as cash flows from investing activities.

**S8-12** ***(Learning Objective 5: Using a statement of cash flows)*** Excerpts from The ABC Company statement of cash flows, as adapted, appear as follows:

■ **writing assignment**

**The ABC Company and Subsidiaries**
**Consolidated Statement of Cash Flows**
**(Adapted)**

| | Years Ended December 31 | |
|---|---|---|
| (In millions) | **20X7** | **20X6** |
| **Operating Activities** | | |
| Net cash provided by operating activities | $ 4,222 | $ 1,170 |
| **Investing Activities** | | |
| Purchases of property, plant and equipment | (782) | (743) |
| Acquisitions and investments, principally trademarks and bottling companies | (665) | (407) |
| Purchases of investments | (461) | (522) |
| Proceeds from disposals of investments | 475 | 300 |
| Proceeds from disposals of property, plant and equipment | 100 | 56 |
| Other investing activities | 143 | 139 |
| Net cash used in investing activities | (1,190) | (1,177) |
| **Financing Activities** | | |
| Issuances of debt (borrowing) | 3,021 | 3,675 |
| Payments of debt | (4,017) | (4,279) |
| Issuances of shares | 172 | 342 |
| Purchases of shares for treasury | (280) | (145) |
| Dividends | (1,795) | (1,697) |
| Net cash used in financing activities | (2,899) | (2,104) |

As the chief executive officer of The ABC Company, your duty is to write the management letter to your shareholders explaining ABC's major investing activities during 20X7. Compare the company's level of investment with previous years and indicate how the company financed its investments during 20X7. Net income for 20X7 was $3,971 million.

## Exercises

All of the A and B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

MyAccountingLab

### (Group A)

**E8-13A** ***(Learning Objective 1: Journalizing transactions for trading securities)*** Journalize the following trading securities investment transactions of Cullen Brothers Department Stores:

**a.** Purchased 470 Potter Foods shares at $31 per share, with the intent of holding the shares for the indefinite future.
**b.** Received cash dividend of $1.70 per share on the Potter investment.
**c.** At year-end, adjusted the investment account to fair market value of $36 per share.
**d.** Sold the Potter shares for the market price of $22 per share.

**E8-14A** ***(Learning Objective 1: Accounting for available-for-sale investments)*** Osborn Co. bought 3,400 Stockholm shares at $35; 660 London shares at $46.50; and 1,200 Glasgow shares at $74—all as available-for-sale investments. At December 31, Hoover's Online reports Stockholm shares at $28.375, London at $48.25, and Glasgow at $68.75.

***Requirements***

1. Determine the cost and the fair market value of the long-term investment portfolio at December 31.
2. Record Osborn's adjusting entry at December 31.
3. What would Osborn report on its income statement and balance sheet for the information given? Make the necessary disclosures. Ignore income tax.

**E8-15A** ***(Learning Objective 1: Recording bond investment transactions)*** Assume that on September 30, 20X0, Newtex, Inc., paid 98 for 8% bonds of Teague Corporation as a long-term held-to-maturity investment. The maturity value of the bonds will be $30,000 on September 30, 20X5. The bonds pay interest on March 31 and September 30.

***Requirements***

1. What method should Newtex use to account for its investment in the Teague bonds?
2. Using the straight-line method of amortizing the bonds, journalize all of Newtex's transactions on the bonds for 20X0.
3. Show how Newtex would report everything related to the bond investment on its balance sheet at December 31, 20X0.

**E8-16A** ***(Learning Objective 2: Accounting for transactions under the equity method)*** Nelson Corporation owns equity-method investments in several companies. Suppose Nelson paid $1,500,000 to acquire a 25% investment in Payton Software Company. Payton Software reported net income of $670,000 for the first year and declared and paid cash dividends of $400,000.

***Requirements***

1. Record the following in Nelson's journal: (a) purchase of the investment, (b) Nelson's proportion of Payton Software's net income, and (c) receipt of the cash dividends.
2. What is the ending balance in Nelson's investment account?

**E8-17A** ***(Learning Objective 2: Measuring gain or loss on the sale of an equity-method investment)*** Without making journal entries, record the transactions of Exercise 8-16A directly in the Nelson account, Long-Term Investment in Payton Software. Assume that after all the noted transactions took place, Nelson sold its entire investment in Payton Software for cash of $1,100,000. How much is Nelson's gain or loss on the sale of the investment?

**E8-18A** ***(Learning Objective 2: Applying the appropriate accounting method for a 30% investment)*** Ashcroft Financial paid $590,000 for a 30% investment in the ordinary shares of Sonic, Inc. For the first year, Sonic reported net income of $200,000 and at year-end declared and paid cash dividends of $125,000. On the balance-sheet date, the market value of Ashcroft's investment in Sonic shares was $390,000.

***Requirements***

1. Which method is appropriate for Ashcroft Financial to use in accounting for its investment in Sonic? Why?
2. Show everything that Ashcroft would report for the investment and any investment revenue in its year-end financial statements.

■ spreadsheet

**E8-19A** ***(Learning Objective 3: Preparing a consolidated balance sheet)*** XYZ, Inc., owns Cressida Corp. The two companies' individual balance sheets follow:

**XYZ, Inc.**
**Consolidation Worksheet**

| | XYZ, Inc. | Cressida Corp. | Elimination Debit | Elimination Credit |
|---|---|---|---|---|
| **Assets** | | | | |
| Cash | $ 51,000 | $ 18,000 | | |
| Accounts receivable, net | 85,000 | 58,000 | | |
| Note receivable from XYZ | — | 40,000 | | |
| Inventory | 57,000 | 81,000 | | |
| Investment in Cressida | 103,000 | — | | |
| PPE, net | 291,000 | 96,000 | | |
| Other assets | 22,000 | 9,000 | | |
| Total | $609,000 | $302,000 | | |
| **Liabilities and Shareholders' Equity** | | | | |
| Accounts payable | $ 46,000 | $ 29,000 | | |
| Notes payable | 147,000 | 35,000 | | |
| Other liabilities | 79,000 | 135,000 | | |
| Share capital | 113,000 | 81,000 | | |
| Retained earnings | 224,000 | 22,000 | | |
| Total | $609,000 | $302,000 | | |

### *Requirements*

1. Prepare a consolidated balance sheet of XYZ, Inc. using the above consolidation worksheet.
2. What is the amount of shareholders' equity for the consolidated entity?

■ writing assignment

**E8-20A** ***(Learning Objective 4: Managing and accounting for foreign currency transactions)*** Assume that Computer City Stores completed the following foreign currency transactions:

| | |
|---|---|
| Sep 9 | Purchased DVD players as inventory on account from Sona, a Japanese company. The price was 800,000 yen, and the exchange rate of the yen was $0.0085. |
| Oct 18 | Paid Sona when the exchange rate was $0.0084. |
| 22 | Sold merchandise on account to CoCo, a French company, at a price of 50,000 euros. The exchange rate was $1.25. |
| 22 | Collected from CoCo when the exchange rate was $1.21. |

### *Requirements*

1. Journalize these transactions for Computer City. Focus on the gains and losses caused by changes in foreign currency rates. (Round your answers to the nearest whole dollar.)
2. On September 10, immediately after the purchase, and on October 23, immediately after the sale, which currencies did Computer City want to strengthen? Which currencies did in fact strengthen? Explain your reasoning.

■ spreadsheet

**E8-21A** ***(Learning Objective 4: Translating a foreign-currency balance sheet into dollars)*** Translate into dollars the balance sheet of Utah Leather Goods' Spanish subsidiary. When Utah Leather Goods acquired the foreign subsidiary, a euro was worth \$1.01. The current exchange rate is \$1.38. During the period when retained earnings were earned, the average exchange rate was \$1.18 per euro.

| | Euros |
|---|---|
| Assets | 800,000 |
| | |
| Liabilities | 550,000 |
| Shareholders' equity: | |
| Share capital | 70,000 |
| Retained earnings | 180,000 |
| | 800,000 |

During the period covered by this situation, which currency was stronger, the dollar or the euro?

**E8-22A** ***(Learning Objective 5: Preparing and using the statement of cash flows)*** During fiscal year 20X6, Sugar Land Doughnuts reported net loss of \$129.6 million. Sugar Land received \$1.7 million from the sale of other businesses. Sugar Land made capital expenditures of \$10.0 million and sold property, plant and equipment for \$6.9 million. The company purchased long-term investments at a cost of \$11.5 million and sold other long-term investments for \$2.6 million.

***Requirement***

1. Prepare the investing activities section of Sugar Land Doughnuts' statement of cash flows. Based solely on Sugar Land Doughnuts' investing activities, does it appear that the company is growing or shrinking? How can you tell?

**E8-23A** ***(Learning Objective 5: Using the statement of cash flows)*** At the end of the year, Crown King Properties' statement of cash flows reported the following for investment activities:

**Crown King Properties**
**Consolidated Statement of Cash Flows (Partial)**

| | |
|---|---|
| Cash flows from Investing Activities: | |
| Notes receivable collected | \$ 3,117,000 |
| Purchases of short-term investments | (3,465,000) |
| Proceeds from sales of equipment | 1,599,000* |
| Proceeds from sales of investments (cost of \$470,000) | 487,000 |
| Expenditures for property and equipment | (1,741,000) |
| Net used by investing activities | \$ (3,000) |

*Cost \$5,300,000; Accumulated depreciation, \$3,701,000.

***Requirement***

1. For each item listed, make the journal entry that placed the item on Crown King's statement of cash flows.

## (Group B)

**E8-24B** ***(Learning Objective 1: Journalizing transactions for trading securities)*** Journalize the following trading securities investment transactions of Johnson Brothers Department Stores:

**a.** Purchased 460 Jefferson Foods shares at €30 per share, with the intent of holding the shares for the indefinite future.
**b.** Received cash dividend of €1.20 per share on the Jefferson investment.
**c.** At year-end, adjusted the investment account to fair market value of €39 per share.
**d.** Sold the Jefferson shares for the market price of €21 per share.

**E8-25B** ***(Learning Objective 1: Accounting for available-for-sale investments)*** Leary Co. bought 3,800 Canada shares at €38; 640 Chile shares at €47.25; and 1,500 Milan shares at €77—all as available-for-sale investments. At December 31, Hoover's Online reports Canada shares at €29.125, Chile at €49.25, and Milan at €69.50.

### *Requirements*

1. Determine the cost and the market value of the long-term investment portfolio at December 31.
2. Record Leary's adjusting entry at December 31.
3. What would Leary report on its income statement and balance sheet for the information given? Make the necessary disclosures. Ignore income tax.

**E8-26B** ***(Learning Objective 4: Recording bond investment transactions)*** Assume that on September 30, 20X0, Baytex, Inc., paid 96 for 7.5% bonds of Collins Corporation as a long-term held-to-maturity investment. The maturity value of the bonds will be €40,000 on September 30, 20X5. The bonds pay interest on March 31 and September 30.

### *Requirements*

1. What method should Baytex use to account for its investment in the Collins bonds?
2. Using the straight-line method of amortizing the bonds, journalize all of Baytex's transactions on the bonds for 20X0.
3. Show how Baytex would report everything related to the bond investment on its balance sheet at December 31, 20X0.

**E8-27B** ***(Learning Objective 2: Accounting for transactions under the equity method)*** Watson Corporation owns equity-method investments in several companies. Suppose Watson paid €1,200,000 to acquire a 35% investment in Smith Software Company. Smith Software reported net income of €650,000 for the first year and declared and paid cash dividends of €440,000.

### *Requirements*

1. Record the following in Watson's journal: (a) purchase of the investment, (b) Watson's proportion of Smith Software's net income, and (c) receipt of the cash dividends.
2. What is the ending balance in Watson's investment account?

**E8-28B** ***(Learning Objective 2: Measuring gain or loss on the sale of an equity-method investment)*** Without making journal entries, record the transactions of Exercise 8-26B directly in the Watson account, Long-Term Investment in Smith Software. Assume that after all the noted transactions took place, Watson sold its entire investment in Smith Software for cash of €3,000,000. How much is Watson's gain or loss on the sale of the investment?

**E8-29B** ***(Learning Objective 2: Applying the appropriate accounting method for a 20% investment)*** Ever Financial paid €560,000 for a 20% investment in the ordinary shares of Laker, Inc. For the first year, Laker reported net income of €220,000 and at year-end declared and paid cash dividends of €105,000. On the balance-sheet date, the market value of Ever's investment in Laker shares was €410,000.

### *Requirements*

1. Which method is appropriate for Ever Financial to use in its accounting for its investment in Laker? Why?
2. Show everything that Ever would report for the investment and any investment revenue in its year-end financial statements.

■ spreadsheet

**E8-30B** ***(Learning Objective 3: Preparing a consolidated balance sheet)*** Gamma, Inc., owns Hamlet Corp. These two companies' individual balance sheets follow:

**Gamma, Inc.**
**Consolidation Worksheet**

| | Gamma, Inc. | Hamlet Corp. | Elimination Debit | Elimination Credit |
|---|---|---|---|---|
| **Assets** | | | | |
| Cash | € 50,000 | € 19,000 | | |
| Accounts receivable, net | 79,000 | 54,000 | | |
| Note receivable from Gamma | — | 43,000 | | |
| Inventory | 55,000 | 78,000 | | |
| Investment in Hamlet | 93,000 | — | | |
| PPE, net | 284,000 | 90,000 | | |
| Other assets | 24,000 | 5,000 | | |
| Total | €585,000 | €289,000 | | |
| **Liabilities and Shareholders' Equity** | | | | |
| Accounts payable | € 48,000 | € 27,000 | | |
| Notes payable | 154,000 | 31,000 | | |
| Other liabilities | 80,000 | 138,000 | | |
| Share capital | 111,000 | 78,000 | | |
| Retained earnings | 192,000 | 15,000 | | |
| Total | €585,000 | €289,000 | | |

### *Requirements*

1. Prepare a consolidated balance sheet of Gamma, Inc. using the above consolidation worksheet.
2. What is the amount of shareholders' equity for the consolidated entity?

■ writing assignment

**E8-31B** ***(Learning Objective 4: Managing and accounting for foreign currency transactions)*** Assume that Tech Know Stores completed the following foreign currency transactions:

| | | |
|---|---|---|
| Jul | 17 | Purchased DVD players as inventory on account from Toshikar, a Japanese company. The price was 700,000 yen, and the exchange rate of the yen was \$0.0088. |
| Aug | 16 | Paid Toshikar when the exchange rate was \$0.0079. |
| | 19 | Sold merchandise on account to Magnificent, a French company, at a price of 20,000 euros. The exchange rate was \$1.19. |
| | 30 | Collected from Magnificent when the exchange rate was \$1.12. |

### *Requirements*

1. Journalize these transactions for Tech Know. Focus on the gains and losses caused by changes in foreign currency rates. (Round your answers to the nearest whole dollar.)
2. On July 18, immediately after the purchase, and on August 20, immediately after the sale, which currencies did Tech Know want to strengthen? Which currencies did in fact strengthen? Explain your reasoning.

**E8-32B** ***(Learning Objective 4: Translating a foreign currency balance sheet into dollars)*** Translate into dollars the balance sheet of Wyoming Leather Goods' Spanish subsidiary. When Wyoming Leather Goods acquired the foreign subsidiary, a euro was worth €1.07. The current exchange rate is €1.31. During the period when retained earnings were earned, the average exchange rate was €1.19 per euro.

■ **spreadsheet**

| | Euros |
|---|---|
| Assets | 700,000 |
| Liabilities | 500,000 |
| Shareholders' equity: | |
| Share capital | 65,000 |
| Retained earnings | 135,000 |
| | 700,000 |

During the period covered by this situation, which currency was stronger, the dollar or the euro?

**E8-33B** ***(Learning Objective 6: Preparing and using the statement of cash flows)*** During fiscal year 20X5, Frosted Doughnuts reported net loss of €131.1 million. Frosted received €1.8 million from the sale of other businesses. Frosted made capital expenditures of €10.9 million and sold property, plant and equipment for €7.2 million. The company purchased long-term investments at a cost of €11.4 million and sold other long-term investments for €2.2 million.

### *Requirement*

1. Prepare the investing activities section of Frosted Doughnuts' statement of cash flows. Based solely on Frosted Doughnuts' investing activities, does it appear that the company is growing or shrinking? How can you tell?

**E8-34B** ***(Learning Objective 5: Using the statement of cash flows)*** At the end of the year, Elite Properties' statement of cash flows reported the following for investment activities:

**Elite Properties**
**Consolidated Statement of Cash Flows (Partial)**

| | |
|---|---|
| Cash flows from Investing Activities: | |
| Notes receivable collected | € 3,113,000 |
| Purchases of short-term investments | (3,453,000) |
| Proceeds from sales of equipment | 1,529,000* |
| Proceeds from sales of investments (cost of €490,000) | 498,000 |
| Expenditures for property and equipment | (1,720,000) |
| Net used for investing activities | € (33,000) |

*Cost €5,200,000; Accumulated depreciation, €3,671,000.

### *Requirement*

1. For each item listed, make the journal entry that placed the item on Elite's statement of cash flows.

## Challenge Exercises

**E8-35** ***(Learning Objectives 1, 2, 3, 4: Accounting for various types of investments)*** Suppose ChatNow owns the following investments at December 31, 20X6:

**a.** 100% of the ordinary shares of ChatNow United Kingdom, which holds assets of £1,400,000 and owes a total of £1,200,000. At December 31, 20X6, the current exchange rate of the pound (£) is £1 = $2.01. The translation rate of the pound applicable to shareholders' equity is £1 = $1.64. During 20X6, ChatNow United Kingdom earned net income of £120,000 and the average exchange rate for the year was £1 = $1.92. ChatNow United Kingdom paid cash dividends of £20,000 during 20X6.

**b.** Investments that ChatNow is holding to sell. These investments cost $1,500,000 and declined in value by $350,000 during 20X6, but they paid cash dividends of $23,000 to ChatNow. One year ago, at December 31, 20X5, the market value of these investments was $1,500,000.

**c.** 45% of the ordinary shares of ChatNow Financing Associates. During 20X6, ChatNow Financing earned net income of $500,000 and declared and paid cash dividends of $25,000. The carrying amount of this investment was $500,000 at December 31, 20X5.

### *Requirements*

1. Which method is used to account for each investment?
2. By how much did each of these investments increase or decrease ChatNow's net income during 20X6?
3. For investments **b** and **c**, show how ChatNow would report these investments on its balance sheet at December 31, 20X6.

**E8-36** ***(Learning Objectives 1, 4: Explaining and analyzing other comprehensive income)*** In-the-Box Retail Corporation reported shareholders' equity on its balance sheet at December 31, as follows:

**In-the-Box Retail**
**Balance Sheet (Partial)**

| | |
|---|---|
| Shareholder's Equity: | |
| Ordinary shares, $1.00 par value— | |
| 600 million shares authorized, | |
| 200 shares issued | $ 200 |
| Additional paid-in capital | 1,080 |
| Retained earnings | 6,350 |
| Accumulated other comprehensive (loss) | (?) |
| Less: Treasury shares, at cost | (60) |

### *Requirements*

1. Identify the two components that typically make up other comprehensive income.
2. For each component of accumulated other comprehensive income, describe an example that can cause a *positive* figure and another example that can cause a *negative* figure.

## Quiz

*Test your understanding of long-term investments and international operations by answering the following questions. Select the best choice from among the possible answers given.*

**Questions 37–39 use the following data:**
Assume that Clear Networks owns the following long-term available-for-sale investments:

| Company | Number of Shares | Cost per Share | Current Market Value per Share | Dividend per Share |
|---|---|---|---|---|
| ABC Corp. | 1,200 | $60 | $74 | $2.10 |
| Good Food, Inc. | 150 | 11 | 13 | 1.40 |
| Lesley Ltd. | 700 | 22 | 26 | 0.80 |

**Q8-37** Clear's balance sheet should report
**a.** investments of $108,950.
**b.** unrealized loss of $19,900.
**c.** investments of $89,050.
**d.** dividend revenue of $3,290.

**Q8-38** Clear's income statement should report
**a.** gain on sale of investment of $19,900.
**b.** unrealized gain of $19,900.
**c.** dividend revenue of $3,290.
**d.** investments of $89,050.

**Q8-39** Suppose Clear sells the ABC shares for $73 per share. Journalize the sale.

**Q8-40** Dividends received on an equity-method investment
**a.** decrease the investment account.
**b.** increase dividend revenue.
**c.** increase the investment account.
**d.** increase owners' equity.

**Q8-41** The starting point in accounting for all investments is
**a.** cost.
**b.** equity value.
**c.** cost minus dividends.
**d.** market value on the balance-sheet date.

**Q8-42** Consolidation accounting
**a.** reports the receivables and payables of the parent company only.
**b.** eliminates all liabilities.
**c.** combines the accounts of the parent company and those of the subsidiary companies.
**d.** all of the above.

**Q8-43** On January 1, 20X0, Microspace, Inc., purchased $80,000 face value of the 5% bonds of Mail Frontier, Inc., at 107. The bonds mature on January 1, 20X5. For the year ended December 31, 20X5, Microspace received cash interest of
**a.** $2,000.
**b.** $3,000.
**c.** $4,000.
**d.** $5,000.

**Q8-44** Return to Microspace, Inc.'s bond investment in the preceding question. For the year ended December 31, 20X3, Microspace received cash interest of $4,000. What was the interest revenue that Microspace earned in this period?
**a.** $3,000
**b.** $5,000
**c.** $2,880
**d.** $2,000

**Q8-45** Providence Systems purchased inventory on account from Megasonic. The price was ¥100,000, and a yen was quoted at $0.0088. Providence paid the debt in yen a month later, when the price of a yen was $0.0093. Providence
**a.** debited Inventory for $930.
**b.** recorded a Foreign Currency Transaction Gain of $50.
**c.** debited Inventory for $880.
**d.** none of the above.

**Q8-46** One way to prevent a foreign currency transaction loss is to
**a.** offset foreign currency inventory and PPE.
**b.** collect in your own currency.
**c.** pay debts as late as possible.
**d.** pay in the foreign currency.

**Q8-47** Foreign currency transaction gains and losses are reported on the
**a.** income statement.
**b.** consolidation worksheet.
**c.** balance sheet.
**d.** statement of cash flows.

**Q8-48** Consolidation of a foreign subsidiary usually results in a
**a.** foreign currency translation adjustment.
**b.** gain or loss on consolidation.
**c.** LIFO/FIFO difference.
**d.** foreign currency transaction gain or loss.

## Problems

MyAccountingLab

All of the A and B problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

### (Group A)

**P8-49A** ***(Learning Objective 1: Accounting for a bond investment purchased at a premium)*** Insurance companies and pension plans hold large quantities of bond investments. Sea Insurance Corp. purchased $2,400,000 of 4.0% bonds of Sheehan, Inc., for 110 on January 1, 20X0. These bonds pay interest on January 1 and July 1 each year. They mature on January 1, 20X4. At October 31, 20X0, the market price of the bonds is 108.

***Requirements***

1. Journalize Sea's purchase of the bonds as a long-term investment on January 1, 20X0 (to be held to maturity), receipt of cash interest, and amortization of the bond investment at July 1, 20X0. The straight-line method is appropriate for amortizing the bond investment.
2. Show all financial statement effects of this long-term bond investment on Sea Insurance Corp.'s balance sheet and income statement at October 31, 20X0.

**P8-50A** ***(Learning Objectives 1, 2: Reporting investments on the balance sheet and the related revenue on the income statement)*** Oregon Exchange Company completed the following long-term investment transactions during 20X6:

| 20X6 | |
|---|---|
| May 12 | Purchased 17,500 shares, which make up 30% of the ordinary shares of Woburn Corporation at total cost of $380,000. |
| Jul 9 | Received annual cash dividend of $1.26 per share on the Woburn investment. |
| Sep 16 | Purchased 900 shares of Columbus, Inc., ordinary shares as an available-for-sale investment, paying $41.00 per share. |
| Oct 30 | Received cash dividend of $0.38 per share on the Columbus investment. |
| Dec 31 | Received annual report from Woburn Corporation. Net income for the year was $580,000. |

At year-end the fair market value of Columbus shares is $30,000. The fair market value of the Woburn shares is $658,000.

### Requirements

1. For which investment is fair market value used in the accounting? Why is fair market value used for one investment and not the other?
2. Show what Oregon would report on its year-end balance sheet and income statement for these investment transactions. It is helpful to use a T-account for the Long-Term Investment in Woburn account. Ignore income tax.

**P8-51A** ***(Learning Objectives 1, 2: Accounting for available-for-sale and equity-method investments)*** The beginning balance sheet of Noram Corporation included the following:

| | |
|---|---|
| Long-Term Investment in Rockaway Software (equity-method investment) ............. | $612,000 |

Noram completed the following investment transactions during the year:

| | |
|---|---|
| Mar 16 | Purchase 1,400 shares of Canton, Inc., as a long-term available-for-sale investment, paying $13.00 per share. |
| May 21 | Received cash dividend of $1.75 per share on the Canton investment. |
| Aug 17 | Received cash dividend of $86,000 from Rockaway Software. |
| Dec 31 | Received annual reports from Rockaway Software, net income for the year was $520,000. Of this amount Noram's proportion is 21%. |

At year-end, the fair market values of Noram's investments are: Canton, $26,600; Rockaway, $698,000.

### Requirements

1. Record the transactions in the journal of Noram Corporation.
2. Post entries to the T-account for Long-Term Investment in Rockaway and determine its balance at December 31.
3. Show how to report the Long-Term Available-for-Sale Investments and the Long-Term Investment in Rockaway accounts on Noram's balance sheet at December 31.

**P8-52A** ***(Learning Objective 3: Analyzing consolidated financial statements)*** This problem demonstrates the dramatic effect that consolidation accounting can have on a company's ratios. Fixed Motor Company (Fixed) owns 100% of Fixed Motor Credit Corporation (FMCC), its financing subsidiary. Fixed's main operations consist of manufacturing automotive products. FMCC mainly helps people finance the purchase of automobiles from Fixed and its dealers. The two companies' individual balance sheets are adapted and summarized as follows (amounts in billions):

| | Fixed (Parent) | FMCC (Subsidiary) |
|---|---|---|
| Total assets ...................................... | $89.7 | $170.7 |
| Total liabilities ................................. | $65.1 | $156.6 |
| Total shareholders' equity ................ | 24.6 | 14.1 |
| Total liabilities and equity ................ | $89.7 | $170.7 |

Assume that FMCC's liabilities include $1.2 billion owed to Fixed, the parent company.

### *Requirements*

1. Compute the debt ratio of Fixed Motor Company considered alone.
2. Determine the consolidated total assets, total liabilities, and shareholders' equity of Fixed Motor Company after consolidating the financial statements of FMCC into the totals of Fixed, the parent company.
3. Recompute the debt ratio of the consolidated entity. Why do companies prefer not to consolidate their financing subsidiaries into their own financial statements?

■ spreadsheet

**P8-53A** ***(Learning Objective 3: Consolidating a wholly owned subsidiary)*** Assume Rose, Inc., paid $453,000 to acquire all the share capital of Mountain Corporation, and Mountain owes Rose $175,000 on a note payable. Immediately after the purchase on September 30, 20X6, the two companies' balance sheets follow.

| | Rose | Mountain |
|---|---|---|
| **Assets** | | |
| Cash | $ 60,000 | $ 59,000 |
| Accounts receivable, net | 194,000 | 86,000 |
| Note receivable from Mountain | 175,000 | — |
| Inventory | 305,000 | 458,000 |
| Investment in Mountain | 453,000 | — |
| PPE, net | 403,000 | 524,000 |
| Total | $1,590,000 | $1,127,000 |
| **Liabilities and Shareholders' Equity** | | |
| Accounts payable | $ 122,000 | $ 67,000 |
| Notes payable | 410,000 | 312,000 |
| Other liabilities | 216,000 | 295,000 |
| Share capital | 556,000 | 268,000 |
| Retained earnings | 286,000 | 185,000 |
| Total | $1,590,000 | $1,127,000 |

### *Requirement*

1. Prepare the worksheet for the consolidated balance sheet of Rose, Inc.

**P8-54A** ***(Learning Objective 4: Recording foreign currency transactions and reporting the transaction gain or loss)*** Suppose Turquoise Corporation completed the following international transactions:

| | |
|---|---|
| May 1 | Sold inventory on account to Fiat, the Italian automaker, for €65,000. The exchange rate of the euro was $1.32, and Fiat demands to pay in euros. |
| 10 | Purchased supplies on account from a Canadian company at a price of Canadian $59,000. The exchange rate of the Canadian dollar was $0.77, and the payment will be in Canadian dollars. |
| 17 | Sold inventory on account to an English firm for 134,000 British pounds. Payment will be in pounds, and the exchange rate of the pound was $1.97. |
| 22 | Collected from Fiat. The exchange rate is €1 = $1.35. |
| Jun 18 | Paid the Canadian company. The exchange rate of the Canadian dollar is $0.76. |
| 24 | Collected from the English firm. The exchange rate of the British pound was $1.94. |

### *Requirements*

1. Record these transactions in Turquoise's journal and show how to report the transaction gain or loss on the income statement.
2. How will what you learned in this problem help you structure international transactions?

**P8-55A** ***(Learning Objective 4: Measuring and explaining the foreign currency translation adjustment)*** Assume that Folgate has a subsidiary company based in Japan.

### *Requirements*

1. Translate into dollars the foreign currency balance sheet of the Japanese subsidiary of Folgate.

| | Yen |
|---|---|
| Assets | 480,000,000 |
| | |
| Liabilities | 115,000,000 |
| Shareholders' equity: | |
| Share capital | 40,000,000 |
| Retained earnings | 325,000,000 |
| | 480,000,000 |

   When Folgate acquired this subsidiary, the Japanese yen was worth \$0.0095. The current exchange rate is \$0.0110. During the period when the subsidiary earned its income, the average exchange rate was \$0.0100 per yen. Before you perform the foreign currency translation calculations, indicate whether Folgate has experienced a positive or a negative translation adjustment. State whether the adjustment is a gain or a loss, and show where it is reported in the financial statements.
2. In which company's financial statements will the translation adjustment be reported?

## (Group B)

**P8-56B** ***(Learning Objective 1: Accounting for a bond investment purchased at a premium)*** Insurance companies and pension plans hold large quantities of bond investments. Safe Insurance Corp. purchased €2,700,000 of 8.0% bonds of Sherman, Inc., for 118 on January 1, 20X0. These bonds pay interest on January 1 and July 1 each year. They mature on January 1, 20X4. At October 31, 20X0, the market price of the bonds is 104.

### *Requirements*

1. Journalize Safe's purchase of the bonds as a long-term investment on January 1, 20X0 (to be held to maturity), receipt of cash interest, and amortization of the bond investment at July 1, 20X0. The straight-line method is appropriate for amortizing the bond investment.
2. Show all financial statement effects of this long-term bond investment on Safe Insurance Corp.'s balance sheet and income statement at October 31, 20X0.

**P8-57B** ***(Learning Objectives 1, 2: Reporting investments on the balance sheet and the related revenue on the income statement)*** Amsterdam Exchange Company completed the following long-term investment transactions during 20X6:

| 20X6 | |
|---|---|
| May 12 | Purchased 18,200 shares, which make up 40% of the ordinary shares of Brentwood Corporation at total cost of €330,000. |
| Jul 9 | Received annual cash dividend of €1.24 per share on the Brentwood investment. |
| Sep 16 | Purchased 900 shares of Bangkok, Inc., ordinary shares as an available-for-sale investment, paying €42.00 per share. |
| Oct 30 | Received cash dividend of €0.33 per share on the Bangkok investment. |
| Dec 31 | Received annual report from Brentwood Corporation. Net income for the year was €530,000. |

At year-end the fair market value of the Bangkok shares is €30,300. The fair market value of the Brentwood shares is €655,000.

### *Requirements*

1. For which investment is fair market value used in the accounting? Why is fair market value used for one investment and not the other?
2. Show what Colorado would report on its year-end balance sheet and income statement for these investment transactions. It is helpful to use a T-account for the Long-Term Investment in Brentwood account. Ignore income tax.

**P8-58B** ***(Learning Objectives 1, 2: Accounting for available-for-sale and equity-method investments)*** The beginning balance sheet of Segui Corporation included the following:

| | |
|---|---|
| Long-Term Investment in NEW Software (equity-method investment) ...................... | €616,000 |

Segui completed the following investment transactions during the year:

| | |
|---|---|
| Mar 16 | Purchase 1,600 shares of Hubbardston, Inc., ordinary share as a long-term available-for-sale investment, paying €12.75 per share. |
| May 21 | Received cash dividend of €1.50 per share on the Hubbardston investment. |
| Aug 17 | Received cash dividend of €85,000 from NEW Software. |
| Dec 31 | Received annual reports from NEW Software, net income for the year was €500,000. Of this amount Segui's proportion is 23%. |

At year-end, the fair market values of Segui's investments are: Hubbardston, €26,100; NEW, €701,000.

### *Requirements*

1. Record the transactions in the journal of Segui Corporation.
2. Post entries to the T-account for Long-Term Investment in NEW and determine its balance at December 31.
3. Show how to report the Long-Term Available-for-Sale Investments and the Long-Term Investment in NEW accounts on Segui's balance sheet at December 31.

**P8-59B** ***(Learning Objective 3: Analyzing consolidated financial statements)*** This problem demonstrates the dramatic effect that consolidation accounting can have on a company's ratios. Space Motor Company (Space) owns 100% of Space Motor Credit Corporation (SMCC), its financing subsidiary. Space's main operations consist of manufacturing automotive products. SMCC mainly helps people finance the purchase of automobiles from Space and its dealers. The two companies' individual balance sheets are adapted and summarized as follows (amounts in billions):

| | Space (Parent) | SMCC (Subsidiary) |
|---|---|---|
| Total assets ...................................... | €89.5 | €170.8 |
| Total liabilities ................................. | €65.7 | €156.1 |
| Total shareholders' equity ................ | 23.8 | 14.7 |
| Total liabilities and equity ................ | €89.5 | €170.8 |

Assume that SMCC's liabilities include €1.7 billion owed to Space, the parent company.

## Requirements

1. Compute the debt ratio of Space Motor Company considered alone.
2. Determine the consolidated total assets, total liabilities, and shareholders' equity of Space Motor Company after consolidating the financial statements of SMCC into the totals of Space, the parent company.
3. Recompute the debt ratio of the consolidated entity. Why do companies prefer not to consolidate their financing subsidiaries into their own financial statements?

**P8-60B** ***(Learning Objective 3: Consolidating a wholly owned subsidiary)*** Assume Ronny, Inc., paid €346,000 to acquire all the share capital of Dinette Corporation, and Dinette owes Ronny €192,000 on a note payable. Immediately after the purchase on September 30, 2010, the two companies' balance sheets follow.

■ **spreadsheet**

| | Ronny | Dinette |
|---|---|---|
| **Assets** | | |
| Cash | € 54,000 | € 52,000 |
| Accounts receivable, net | 195,000 | 89,000 |
| Note receivable from Dinette | 192,000 | — |
| Inventory | 278,000 | 452,000 |
| Investment in Dinette | 346,000 | — |
| PPE, net | 397,000 | 457,000 |
| Total | €1,462,000 | €1,050,000 |
| **Liabilities and Shareholders' Equity** | | |
| Accounts payable | € 127,000 | € 79,000 |
| Notes payable | 399,000 | 329,000 |
| Other liabilities | 249,000 | 296,000 |
| Share capital | 577,000 | 259,000 |
| Retained earnings | 110,000 | 87,000 |
| Total | €1,462,000 | €1,050,000 |

## Requirement

1. Prepare the worksheet for the consolidated balance sheet of Ronny, Inc.

**P8-61B** ***(Learning Objective 4: Recording foreign currency transactions and reporting the transaction gain or loss)*** Suppose Lavender Corporation completed the following international transactions:

| | |
|---|---|
| May 1 | Sold inventory on account to Palermo, the Italian automaker, for €60,000. The exchange rate of the euro was $1.38, and Palermo demands to pay in euros. |
| 10 | Purchased supplies on account from a Canadian company at a price of Canadian $57,000. The exchange rate of the Canadian dollar was $0.78, and the payment will be in Canadian dollars. |
| 17 | Sold inventory on account to an English firm for 148,000 British pounds. Payment will be in pounds, and the exchange rate of the pound was $1.94. |
| 22 | Collected from Palermo. The exchange rate is €1 = $1.41. |
| Jun 18 | Paid the Canadian company. The exchange rate of the Canadian dollar is $0.77. |
| 24 | Collected from the English firm. The exchange rate of the British pound was $1.91. |

## Requirements

1. Record these transactions in Lavender's journal and show how to report the transaction gain or loss on the income statement.
2. How will what you learned in this problem help you structure international transactions?

**P8-62B** ***(Learning Objective 4: Measuring and explaining the foreign currency translation adjustment)*** Assume that Mason has a subsidiary company based in Japan.

### *Requirements*

1. Translate into dollars the foreign currency balance sheet of the Japanese subsidiary of Mason.

| | Yen |
|---|---|
| Assets | 410,000,000 |
| Liabilities | 100,000,000 |
| Shareholders' equity: | |
| Share capital | 18,000,000 |
| Retained earnings | 292,000,000 |
| | 410,000,000 |

   When Mason acquired this subsidiary, the Japanese yen was worth €0.0075. The current exchange rate is €0.0090. During the period when the subsidiary earned its income, the average exchange rate was €0.0088 per yen. Before you perform the foreign currency translation calculations, indicate whether Mason has experienced a positive or a negative translation adjustment. State whether the adjustment is a gain or a loss, and show where it is reported in the financial statements.
2. In which company's financial statements will the translation adjustment be reported?

# APPLY YOUR KNOWLEDGE

## Decision Cases

**Case 1.** ***(Learning Objectives 1, 5: Making an investment decision)*** Infografix Corporation's consolidated sales for 20X6 were $26.6 billion, and expenses totaled $24.8 billion. Infografix operates worldwide and conducts 37% of its business outside Taiwan, its country of incorporation. During 20X6, Infografix reported the following items in its financial statements (amounts in millions):

| | |
|---|---|
| Foreign currency translation adjustments | $(202) |
| Unrealized holding ____ on available-for-sale investments | (328) |

As you consider an investment in Infografix shares, some concerns arise. Answer each of the following questions:

1. What do the parentheses around the two dollar amounts signify?
2. Are these items reported as assets, liabilities, shareholders' equity, revenues, or expenses? Are they normal-balance accounts, or are they contra accounts?
3. Did Infografix include these items in net income? In retained earnings? In the final analysis, how much net income did Infografix report for 20X6?
4. Should these items scare you away from investing in Infografix shares? Why or why not? (Challenge)

**Case 2.** ***(Learning Objectives 1, 2, 4: Making an investment sale decision)*** Cathy Talbert is the general manager of Barham Company, which provides data-management services for physicians in the United Arab Emirates area. Barham Company uses USD as its functional currency and account for its business transactions in USD. Barham is having a rough year. Net income trails projections for the year by almost $75,000. This shortfall is especially important. Barham plans to issue shares early next year and needs to show investors that the company can meet its earnings targets.

Barham holds several investments purchased a few years ago. Even though investing in shares is outside Barham's core business of data-management services, Talbert thinks these investments may hold the key to helping the company meet its net income goal for the year. She is considering what to do with the following investments:

1. Barham owns 50% of the ordinary shares of Jafar Office Systems, which provides the business forms that Barham uses. Jafar Office Systems has lost money for the past two years but still has a retained earnings balance of $550,000. Talbert thinks she can get Jafar's treasurer to declare a $160,000 cash dividend, half of which would go to Barham.
2. Barham owns a bond investment purchased eight years ago for $250,000. The purchase price represents a discount from the bonds' maturity value of $400,000. These bonds mature two years from now, and their current market value is $380,000. Ms Talbert has checked with a Citibank investment representative, and Talbert is considering selling the bonds. Citibank would charge a 1% commission on the sale transaction.
3. Barham owns 5,000 SABIC's shares valued at $53 per share. One year ago, SABIC's share was worth only $28 per share. Barham purchased the shares for $37 per share. Talbert wonders whether Barham should sell the shares.

*Requirement*

1. Evaluate all three actions as a way for Barham Company to generate the needed amount of income. Recommend the best way for Barham to achieve its net income goal.

## Ethical Issue

**writing assignment**

Media One owns 18% of the voting shares of Web Talk, Inc. The remainder of the Web Talk shares are held by numerous investors with small holdings. Austin Cohen, president of Media One and a member of Web Talk's board of directors, heavily influences Web Talk's policies.

Under the market value method of accounting for investments, Media One's net income increases as it receives dividend revenue from Web Talk. Media One pays President Cohen a bonus computed as a percentage of Media One's net income. Therefore, Cohen can control his personal bonus to a certain extent by influencing Web Talk's dividends.

A recession occurs in 20X6, and Media One's income is low. Cohen uses his power to have Web Talk pay a large cash dividend. The action requires Web Talk to borrow in order to pay the dividend.

*Requirements*

1. What are the ethical issues in the Media One case?
2. Who are the stakeholders? What are the possible consequences to each?
3. What are the alternatives for Austin Cohen to consider? Analyze each alternative from the following standpoints: (a) economic, (b) legal, (c) ethical.
4. If you were Cohen, what would you do?
5. Discuss how using the equity method of accounting for investment would decrease Cohen's potential for manipulating his bonus.

## Focus on Financials: Vodafone Corporation

This case spans all 12 chapters and is based on the consolidated financial statements of **Vodafone Corporation**. As you work with Vodafone throughout this course, you will develop the confidence and ability to use the financial statements of other companies as well. Refer to Vodafone's financial statements in Appendix A. Alternatively, you may choose to obtain the full annual report from Vodafone's website at www.vodafone.com.

*Requirements*

1. How does Vodafone account for its available-for-sale investments? Does it adjust for periodic changes in fair market value of these investments? If so, where do these adjustments appear?
2. Look at Note 15—Other investments. Note that the 2011 ending balance for current available-for-sale investments totals £674 million. Make a T-account for current available-for-sale investments. Record £388 million as the balance in the account as at the end of 2010.

Using information in the investments section of the consolidated statement of cash flows, record the cash purchases and sales of current available-for-sale investments during 2011. Assume that all investments purchased and sold during the year were classified as current available-for-sale. Challenge: Why doesn't the ending balance equal the amount shown on the balance sheet as of the end of 2011?

3. What indicates that Vodafone owns foreign subsidiaries? Identify the item that proves your point and the financial statement on which the item appears.
4. Which currency, the Sterling Pound or the currency of foreign countries in which Vodafone did business, was stronger in each fiscal year 2011 and 2010? Give the evidence to support each answer.
5. At March 31, 2011, did Vodafone have a cumulative net gain or a cumulative net loss from translating its foreign subsidiaries' financial statements into dollars? How can you tell?
6. What do you understand by the "Equity method?" Under what circumstances would we use it? How much income did Vodafone recognize in 2011 from its associated companies? Show the journal entry for recording income from associates. Assume that Vodafone received £190 million of dividend income from its holdings of associates. Journalize this transaction from the point of view of the Group.

## Group Project

You are a group of investors with $10 million in available funds. You are choosing to make investments in a number of companies.

### *Requirements*

1. Select three entities that you think are appropriate to invest in, as a trading security investment, as an available-for-sale investment and as a held-to-maturity investment. Briefly explain why you think the companies you selected could be suitable investments.
2. Track the share or bond prices for these three companies for a period specified by your instructor. Over the specified period, keep a daily record of the price of the share to see how well your investment has performed. End the period of your analysis with a month end, such as September 30 or December 31.
3. Journalize all transactions that you have experienced, including the initial purchase, any dividends or interest received, and any year-end adjustment required by the accounting method that is appropriate for your investment.
4. At the end of the period, you will need to report on your selected investments to your own investors. Show what you will report them on your company's balance sheet, income statement, and statement of cash flows as a result of your investment transactions.

## Quick Check Answers

1. *a*
2. *b* (1,500 shares × $27 = $40,500)
3. *d* (unrealized gain less 20% tax, $4,500 – 20% of $4,500 = $3,600)
4. *c* ($45,000 – $36,000)
5. *d* [$180,000 + 0.30 ($50,000 – $20,000) = $189,000]
6. *c* {$200,000 + 0.70 [$64,000 + 0.70($55,000)] = $271,750}
7. *d*
8. *c*
9. *d* ($1,600,000 Canadian × $0.90 = $1,440,000)
10. *a*

# 9 Liabilities

*Source*: GSK R&D Scientist

**SPOTLIGHT: GlaxoSmithKline (GSK)** **www.gsk.com**

GlaxoSmithKline, better known by its abbreviation GSK, is one of the largest pharmaceutical companies in the world. Headquartered in London (United Kingdom), GSK is a global organization with offices in over 100 countries and major research centers in the UK, USA, Spain, Belgium, and China. GSK sold £27 billion of goods and services across its three business lines: over 100 prescription medicines, over 30 vaccines, and various consumer healthcare products, including Panadol, Ribena, Horlicks, and Sensodyne.

To be able to do this, GSK required a significant amount of resources, from physical assets such as research labs and manufacturing plants, to services from its employees and scientists. In fact, GSK had over £41 billion of assets at the end of its 2011 financial year. These resources are, in turn, provided by shareholders and creditors of GSK. GSK's shareholders contributed less than £9 billion in equity, so the majority of GSK's assets are funded by liabilities. Some are short-term, some are long-term. GSK has a number of interest-bearing debts, and others that arise from trading activities. GSK also has a number of estimated liabilities, such as provisions, pensions, and post-employment benefits. Let's see how the various types of liabilities play a role in GSK's ability to offer prescription medicines, vaccines, and other consumer healthcare products to the world.

**GlaxoSmithKline (GSK) plc**
**Consolidated Balance Sheet (Adapted)**
As at December 31

| | (In millions £, Pounds Sterling) | 2011 | 2010 |
|---|---|---|---|
| | **Assets** | | |
| 1 | Total assets | 41,080 | 42,230 |
| | **Liabilities and Equity** | | |
| | Current liabilities: | | |
| 2 | Short-term borrowings | 2,698 | 291 |
| 3 | Trade and other payables | 7,359 | 6,888 |
| 4 | Short-term provisions | 3,135 | 4,380 |
| 5 | Tax payable | 1,643 | 1,047 |
| 6 | Other current liabilities | 175 | 188 |
| 7 | Total current liabilities | 15,010 | 12,794 |
| | Non-current liabilities: | | |
| 8 | Long-term borrowings | 12,203 | 14,809 |
| 9 | Pensions and other post-employment benefits | 3,091 | 2,672 |
| 10 | Other provisions | 499 | 904 |
| 11 | Other non-current liabilities | 1,450 | 1,306 |
| 12 | Total non-current liabilities | 17,243 | 19,691 |
| 13 | Total liabilities | 32,253 | 32,485 |
| 14 | Total equity | 8,827 | 9,745 |
| 15 | Total liabilities and equity | 41,080 | 42,230 |

*Source*: GSK

This chapter shows how to account for liabilities—both current and long-term. We begin with a refresher on liabilities and then proceed with our discussions on current liabilities.

## LEARNING OBJECTIVES

1 **Account** for liabilities and contingent liabilities

2 **Account** for bonds payable and measure interest expense

3 **Account** for capital and operating leases

4 **Understand** the advantages and disadvantages of borrowing

5 **Report** liabilities on the balance sheet

## Liabilities

**OBJECTIVE**

**1** **Account** for liabilities and contingent liabilities

You have seen many examples of liability accounts, but let's first recall what a liability is. The *Conceptual Framework* defines liability as a present obligation which will be settled through an outflow of resources embodying economic benefits. Liabilities are recognized on the balance sheet when it is probable that such an outflow will occur and the amount of which can be measured reliably. The general principle is for short-term liability to be expressed in nominal amounts and for long-term liability to be expressed in present values, taking into account the time value of money.

Liabilities are classified into current (short-term) and non-current (long-term). Current liabilities are obligations due within one year or within a company's normal operating cycle (see Chapter 4). Obligations due beyond that period of time are classified as non-current or long-term liabilities. Lines 2 to 6 are GSK's current liabilities, and lines 8 to 11 are its non-current liabilities. GSK has a total of £15 billion in current liabilities (line 7) and its non-current liabilities totaled £17 billion. Notice that there are many similar account names in both sections, only differentiated with current versus non-current descriptions. For example, there are short-term and long-term borrowings, and short-term and long-term provisions. We will discuss liabilities by their most common headings, but remember they can be classified as either current or non-current depending on the timing of expected outflow of economic resources.

**Accounts Payable.** Amounts owed for products or services purchased on account are called accounts payable or trade payables. You have seen earlier examples of accounts payable in preceding chapters. They are typically short-term, as credit terms are usually between 30 and 90 days. One of a merchandiser's most common transactions is the credit purchase of inventory. All businesses make the majority of their purchases on account, typically for raw materials, supplies, inventory, as well as for various services. For example, as you can see from its balance sheet, GSK's trade and other payables (line 3) amounted to £7,359 million on December 31, 2011.

Note that GSK has chosen to group "trade" and "other payables" in one heading on its balance sheet. Other entities may decide to use different account names and different ways of aggregating its liabilities. Let's continue to use GSK's examples of trade and other payables in our discussion, and we will add on other types of liabilities you may see disclosed by other companies. GSK's notes to the accounts provided the following additional information about its trade and other payable balances.

**EXCERPTS (ADAPTED) FROM GSK NOTES TO THE 2011 FINANCIAL STATEMENTS**

| **Trade and other payable (in £ million)** | **2011** | **2010** |
|---|---|---|
| Trade payables | 2,568 | 2,141 |
| Wages and salaries | 974 | 931 |
| Deferred income | 38 | 70 |
| Other payables | 416 | 411 |
| Customer return and rebate accruals | 1,669 | 1,632 |
| Other accruals | 1,694 | 1,703 |
| | **7,359** | **6,888** |

*Source*: GSK

**Accrued Liabilities (Accrued Expenses).** An **accrued liability** usually results from an expense the business has incurred but not yet paid. Therefore, an accrued expense creates a liability, which explains why it is also called an **accrued expense**. Most accruals are short-term liabilities and will be shown as part of current liabilities. GSK's accruals include wages and salary payable, customer returns and rebate accruals and other accruals. You have seen wages and salary payable and other accruals—such as interest payable—earlier (in Chapter 3).

"Customer returns and rebate accruals" perhaps require additional explanations. When GSK sells its products to pharmacies, hospitals, medical practices, and retailers, it often offers rebate, discount or other allowance incentives to its customers. For example, GSK may offer a rebate of 5% of total purchases during a year for major client accounts, or may offer customers the option to return products that are about to expire. This accrual affects the amount of revenue recognized by GSK, which is shown net of returns and rebates.

**Unearned Revenues.** Unearned revenues are also called deferred revenues or revenues collected in advance. For all unearned revenue the business has received cash from customers before earning the revenue. The company has a liability—an obligation to provide goods or services to the customer. GSK has deferred income amounting to £38 million on December 31, 2011. Unearned revenue is typically a current liability. Let's consider another example.

**Thai Airways** sells tickets and collects cash in advance. Thai Airways therefore reports Unearned Ticket Revenue for airline tickets sold in advance. Let's see how Thai Airways would account for unearned ticket revenue.

Assume that Thai Airways collects $1,000 for a round-trip ticket from Bangkok (Thailand) to Madrid (Spain) and back. Thai Airways records the cash collection and related liability as follows:

| | | | |
|---|---|---|---|
| 20X0 | | | |
| Dec 15 | Cash | 1,000 | |
| | Unearned Ticket Revenue | | 1,000 |
| | *Received cash in advance for ticket sales.* | | |

| Unearned Ticket Revenue | |
|---|---|
| | 1,000 |

Suppose the customer flies to Madrid late in December. Thai Airways records the revenue earned as follows:

| | | | |
|---|---|---|---|
| | | | |
| | Unearned Ticket Revenue | 500 | |
| | Ticket Revenue ($1,000 × 1/2) | | 500 |
| | *Earned revenue that was collected in advance.* | | |

The liability decreases and the revenue goes up.

| Unearned Ticket Revenue | |
|---|---|
| 500 | 1,000 |
| | Bal 500 |

| Ticket Revenue | |
|---|---|
| | 500 |

At year-end, Thai Airways reports:

- $500 of unearned ticket revenue (a liability) on the balance sheet; and
- $500 of ticket revenue on the income statement.

The customer returns to Bangkok in January 20X1, and Thai Airways records the revenue earned with this journal entry:

| | | | |
|---|---|---|---|
| 20X1 | | | |
| Jan 4 | Unearned Ticket Revenue | 500 | |
| | Ticket Revenue ($1,000 × 1/2) | | 500 |
| | *Earned revenue that was collected in advance.* | | |

Now the liability balance is zero because Thai Airways has earned all the revenue it collected in advance.

| Unearned Ticket Revenue | |
|---|---|
| 500 | 1,000 |
| 500 | |
| | Bal 0 |

**Payroll-related Liabilities.** **Payroll**, also called employee compensation, is a substantial expense for many companies. For service organizations—such as law firms, real estate companies, and airlines—employee compensation is the major expense, just as cost of goods sold is the largest expense for a merchandising company.

Employee compensation takes many different forms. A salary is employee pay stated at a monthly or yearly rate. A wage is employee pay stated at an hourly rate. Sales employees usually earn a commission, which is a percentage of the sales the employee has made. A bonus is an amount over and above regular compensation. In some jurisdictions, employee's income tax is deducted from employee's salaries as they are paid, or the employer may be required to pay some form of payroll tax. There may be also other kinds of deductions, such as employee's contribution to a provident or superannuation fund. Salary expense thus represents gross pay (that is, employee pay before subtractions for taxes and other deductions). Your instructor may give you additional information about your local payroll regulations. Accounting for all forms of compensation follows the general pattern illustrated in Exhibit 9-1 (using assumed figures). The entries depict payment to a staff member with a monthly salary of $5,000, employee's "pay as you earn" income tax of 20%, and an employer's contribution to superannuation of 10% on top of monthly salary.

**EXHIBIT 9-1 | Accounting for Payroll Expenses and Liabilities**

| | | | |
|---|---|---|---|
| 20X1 | Salary Expense | 5,500 | |
| Dec 31 | Cash (to tax office on behalf of employee) | | 1,000 |
| | Cash (to staff) | | 4,000 |
| | Cash (to superannuation fund) | | 500 |
| | *Salary payment to staff, tax office and fund* | | |

In countries where businesses provide pension or other post-employment benefits, they must recognize such obligations on each balance sheet date and record such expenses for each period. GSK, for example, has over £3 billion of pension and other post-employment benefit liabilities.

Broadly speaking, there are two basic schemes in relation to employees' post-retirement obligations: defined contribution and defined benefits. In defined contribution schemes, employers contribute a fixed amount of money to an employee's pension (also known as provident, or superannuation) funds. The employer's obligation ends once the contribution has been made. As members of the pension fund, the employees are able to use, invest or withdraw the contribution accumulated, subject to the fund's rules and regulations.

In a defined benefit plan, the employee is promised some post-retirement benefits, usually referred to as **pensions**. Companies may also provide other post-retirement benefits, such as medical insurance for retired former employees. Because employees earn these benefits by their service, the company records pension and retirement-benefit expenses while employees work for the company.

Pensions are one of the most complex areas of accounting, and beyond the scope of this textbook. As employees earn their pensions and the company pays into the pension plan, the plan's assets grow. The obligation for future pension payments to employees also accumulates. At the end of each period, the company compares:

- the fair market value of the assets in the retirement plans—cash and investments—with
- the plans' accumulated benefit obligation, which is the present value of promised future payments to retirees.

If the plan assets exceed the accumulated benefit obligation, the plan is said to be overfunded. In this case, the asset and obligation amounts are to be reported only in the notes to the financial statements. However, if the accumulated benefit obligation (the liability) exceeds plan assets, the plan is underfunded, and the company must report the excess liability amount as a long-term liability on the balance sheet.

## A CLOSER LOOK

The accounting for pension and other post-employment benefits requires a significant amount of detailed record keeping and estimates. They are termed "defined benefits plans" because you promise your employees post-employment benefits when they retire. Imagine how you would go about recording an obligation to pay a lifelong pension to a young 25-year-old employee who just started work for you today. You promise him that when he retires at, say, 65, you will pay 25% of his annual salary for life. You don't know exactly how long he will work for you, you don't know exactly what his salary will be when he retires, and you don't know exactly how long he will live after 65! *IAS 19—Employee Benefits* provide guidance on this topic but it is an area that is clearly beyond an introductory financial accounting textbook.

**Sales Tax Payable.** Most countries have some form of consumption tax. This tax is usually called Goods and Services Tax (GST), Value-Added Tax (VAT), or simply sales tax. Retailers collect the tax from customers and thus owe the tax authority for sales tax collected. Suppose one Saturday's sales at an **IKEA** store totaled $200,000. IKEA collected an additional 5% ($10,000) of sales tax. The store would record that day's sales as follows:

| | | | |
|---|---|---|---|
| | Cash ($200,000 × 1.05) | 210,000 | |
| | Sales Revenue | | 200,000 |
| | Sales Tax Payable ($200,000 × 0.05) | | 10,000 |
| | *To record cash sales and the related sales tax.* | | |

Assets, liabilities, and equity all increase—equity because of the sales.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| + 210,000 | = | + 10,000 | + | + 200,000 | (sales revenue) |

When the sales tax payable is remitted to the tax authority, IKEA would perform the following entry. Note that there is no impact on revenue or equity.

| | | | |
|---|---|---|---|
| | Sales tax payable | 10,000 | |
| | Cash | | 10,000 |
| | *To record payment of sales tax.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| − 10,000 | = | − 10,000 | + | 0 |

**Tax Payable.** Business entities are expected to pay tax on their income. Taxation rules vary from one jurisdiction to another, and in most cases, taxable income may not equal net profit. For example, in Chapter 7 we described how a company may be able to use an accelerated depreciation method for tax purposes whilst using straight-line depreciation for financial reporting purposes. Ignoring such differences, tax payable can be calculated as the prevailing tax rates multiplied by the profit before tax of the business. For example, GSK's profit before taxation is £7,698 million and its tax expense is £2,240 million, roughly about 29% of income. Depending on the tax collection schedule, corporate tax may be paid in installments during the year and finalized at the tax submission dateline. GSK owed £1,643 tax payable to the various tax authorities (line 5 of its balance sheet at the start of this chapter).

## A CLOSER LOOK

Differences in taxable income and profit before tax are caused by differences between tax bases of assets and liabilities and their carrying amounts on the balance sheet. The tax base of an asset or liability is the amount attributed to the asset or liability for tax purposes, as opposed to its carrying amount on the balance sheet. These differences create deferred tax assets and deferred tax liabilities. If you are an accounting major, you are likely to be studying *IAS 12—Income Taxes* in your future courses.

**Provisions.** A business may know that a liability exists but not know its exact amount. The business must still report the liability on the balance sheet based on the best estimates possible on reporting date. Estimated liabilities vary among businesses.

**EXCERPTS (ADAPTED) FROM GSK NOTES TO THE 2011 FINANCIAL STATEMENTS**

Provision is made when an obligation exists for a future liability in respect of a past event and where the amount of the obligation can be reliably estimated. . . . Provision is made for the anticipated settlement costs of legal or other disputes against the Group where an outflow of resources is considered probable and a reliable estimate can be made of the likely outcome. In addition, provision is made for legal or other expenses arising from claims received or other disputes. In respect of product liability claims related to certain products, there is sufficient history of claims made and settlements to enable management to make a reliable estimate of the provision required to cover unasserted claims.

| **Provisions (in £ million)** | **2011** | **2010** |
|---|---|---|
| Legal and other disputes | 2,772 | 4,000 |
| Major restructuring programs | 404 | 674 |
| Employee related provisions | 232 | 251 |
| Integration and manufacturing reorganization | 21 | 27 |
| Other provisions | 332 | 205 |
| | **3,634** | **5,284** |

*Source*: GSK

As you can see, GSK has provision totaling £3,634 on December 31, 2011, of which £3,135 is current and £499 is non-current. You can tally these totals to its balance sheet at the start of this chapter (lines 4 and 10).

## A CLOSER LOOK

Provisions are covered under *IAS 37—Provisions, Contingent Assets and Contingent Liabilities*. They are defined as liabilities of uncertain timing and amount. In other words, they meet the definition of a liability. Sometimes you see businesses use the word "provision" to describe an allowance, for example "provision for bad debts" or "provision for inventory obsolescence." This is technically incorrect.

Let's have a look at a very common provision that is not relevant for GSK's business. Many businesses, especially manufacturers, guarantee their products under some form of warranty agreements. The warranty period may extend from a short period (e.g. 30 days to 12 months warranty for consumer products) to multiple years for major assets (such as bridges, airplanes, and other infrastructure assets). For example, automobile companies—**Peugeot Citroën**, **BMW**, and **Toyota**—all make provisions for vehicle warranties.

Whatever the warranty's life, businesses need to recognize that they have an obligation to perform services or repairs should the need arise. This increase in liability results in a decrease in equity, and thus an expense (usually called warranty expense) is created and recognized in each reporting period. At the time of the sale, however the company doesn't know which products are (or will be) defective. The exact amount of warranty expense cannot be known with certainty, so the business must estimate warranty expense and the related liability.

Assume that **Black & Decker Corporation**, which manufactures power tools, made sales of 100,000 power tools subject to product warranties in a financial year. Black and Decker has information based on product testing and historical experience that 1% of the power tools may require warranty service costing an average of \$50 within the warranty period, and a further 0.25% may require warranty service costing an average of \$100. Black and Decker could use the "probability-weighted expected value" in *IAS 37* to work out that it has warranty obligation amounting to \$75,000 (1% × 100,000 units × \$50 + 0.25% × 100,000 units × \$100). In this case, Black and Decker would recognize a warranty expense of \$75,000 and make the following entry:

| | | | |
|---|---|---|---|
| | Warranty Expense | 75,000 | |
| | Provision for Warranty Repairs | | 75,000 |
| | *To accrue warranty expense.* | | |

| Provision for Warranty Repairs | |
|---|---|
| | 75,000 |

| Warranty Expense | |
|---|---|
| 75,000 | |

If in the following year, Black and Decker actually spent \$72,000 repairing these faulty products (assuming it took spare parts or replacement units from its inventory), it would then record the following:

| | | | |
|---|---|---|---|
| | Provision for Warranty Repairs | 72,000 | |
| | Inventory | | 72,000 |
| | *To replace defective products sold under warranty.* | | |

| Provision for Warranty Repairs | | |
|---|---|---|
| 72,000 | | 75,000 |
| | Bal | 3,000 |

At the end of the year Black and Decker will repeat the process. It starts by re-estimating the required amount of provision, compares it to the current level of provision, and the difference would be the warranty expense for the year. The Estimated Warranty Payable account probably won't ever zero out. And obviously in real life, product sales (and warranty repairs) often happen within the same period.

**Notes Payable.** Notes are common form of borrowing in some parts of the world. Depending on the maturity or term of the note, you may have short-term notes (due within one year) or occasionally medium-term notes, usually up to two or three years but they can be longer as well. We will discuss long-term notes payable together with bonds in the next section.

For example, a business may issue **short-term notes payable** to borrow cash or to purchase assets. On its notes payable, the business must accrue interest expense and interest payable at the end of the period. The following sequence of entries covers the purchase of inventory, accrual of interest expense, and payment of a 10% short-term note payable that's due in one year.

| | | | |
|---|---|---|---|
| 20X0 | | | |
| Mar 1 | Inventory | 8,000 | |
| | Note Payable, Short-Term | | 8,000 |
| | *Purchase of inventory by issuing a note payable.* | | |

This transaction increases both an asset and a liability.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 8,000 | = | + 8,000 | + | 0 |

At year-end, the business must accrue interest expense at 10% for March through December:

| | | | |
|---|---|---|---|
| Dec 31 | Interest Expense ($8,000 × 0.10 × 9/12) | 600 | |
| | Interest Payable | | 600 |
| | *Accrual of interest expense at year-end.* | | |

Liabilities increase and equity decreases because of the expense.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| 0 | = | + 600 | + | − 600 | (interest expense) |

The balance sheet at year-end will report the Note Payable of $8,000 and the related Interest Payable of $600 as current liabilities. The income statement will report interest expense of $600.

The following entry records the note's payment at maturity on March 1, 20X1:

| | | | |
|---|---|---|---|
| 20X1 | | | |
| Mar 1 | Note Payable, Short-Term | 8,000 | |
| | Interest Payable | 600 | |
| | Interest Expense ($8,000 × 0.10 × 3/12) | 200 | |
| | Cash [$8,000 + ($8,000 × 0.10)] | | 8,800 |
| | *Payment of a note payable and interest at maturity.* | | |

The debits zero out the payables and also record the business's interest expense for January, February, and March 20X1.

**Debt.** There are many forms of borrowings, from a simple term loan to complex financing structure. Some long-term debt must be paid in installments. Some only require interest payments during the term of the loan, with payment of the loan amount at a specific time in the future. Whatever the case may be, the part of the loan that is due in the coming financial year is called **current portion of long-term debt** and is shown as a current liability. At the end of each year, an entity reclassifies (from long-term debt to a current liability) the amount of its long-term debt that must be paid next year.

GSK's balance sheet at the start of this chapter showed that its interest-bearing liabilities and borrowings consist of a current portion of £2,698 million (line 2) and a non-current portion of £12,203 million (line 8). Long-term debt refers to long-term notes payable and bonds payable, which we will cover in the second half of this chapter.

## Contingent Liabilities

A contingent liability is *not* an actual liability. Contingent liability is a disclosure item in the notes to the financial statement. *IAS 37* states that a contingent liability arises when:

- there is a possible obligation to be confirmed by a future event that is outside the control of the entity; or
- a present obligation may, but probably will not, require an outflow of resources; or
- a sufficiently reliable estimate of the amount of a present obligation cannot be made.

Note that in each instance, contingent liabilities fail to meet one aspect of the definition of liability. Examples of contingent liabilities include corporate guarantees, lawsuits, tax disputes, or alleged violations of environmental protection laws. GSK, for example, disclosed the following contingent liability:

**EXCERPTS (ADAPTED) FROM GSK NOTES TO THE 2011 FINANCIAL STATEMENTS**

At 31 December 2011, contingent liabilities, comprising guarantees . . . and other items arising in the normal course of business, amounted to £205 million (2010—£165 million). At 31 December 2011, other than for those disputes where provision has been made, it was not possible to make a reliable estimate of the potential outflow of funds that might be required to settle disputes where the possibility of there being an outflow was more than remote.

The Group is involved in significant legal and administrative proceedings, principally product liability, intellectual property, tax, anti-trust and governmental investigations, as well as related private litigation. The Group makes provision for these proceedings on a regular basis. The Group may become involved in significant legal proceedings in respect of which it is not possible to make a reliable estimate of the expected financial effect, if any, that could result from ultimate resolution of the proceedings. In these cases, appropriate disclosures about such cases would be included but no provision would be made.

*Source*: GSK

It is important to remember that there is no need to report a contingent loss that is unlikely to occur. Instead, an entity should wait until new information is available to provide further clarity on the situation. For example, suppose **Del Monte Foods** grows vegetables in Nicaragua, and the Nicaraguan government threatens to confiscate the assets of all foreign companies. Del Monte will report nothing about the contingency if the probability of a loss is considered remote.

## Are All Liabilities Reported in the Balance Sheet?

The big danger with liabilities is that you may fail to report a large debt on your balance sheet. What is the consequence of missing a large liability? You will definitely understate your liabilities and your debt ratio (the percentage of your assets financed by liabilities—more on this later in the chapter). By failing to accrue interest on the liability, you'll probably overstate your net income as well. In short, your financial statements will make you look better than you really are. Any such error, if significant, hurts a company's credibility.

Contingent liabilities are very easy to overlook because they aren't actual debts. How would you feel if you owned shares in a company that failed to report a contingency that eventually caused the company to go out of business? If you had known of the contingency, you could have sold the shares and avoided the loss.

**COOKING THE BOOKS with Liabilities**

**Crazy Eddie, Inc.**

Accidentally understating liabilities is one thing, but doing it intentionally is quite another. When unethical management decides to cook the books in the area of liabilities, its strategy is to deliberately understate recorded liabilities. This can be done by intentionally under-recording the amount of existing liabilities, or by omitting certain liabilities altogether.

**Crazy Eddie, Inc.** (first discussed in Chapter 6) used multiple tactics to overstate its financial position from 1984 through 1987. In addition to overstating inventory (thus understating cost of goods sold and overstating income), the management of the company deliberately understated accounts payable by issuing fictitious (false) debit memoranda from suppliers (vendors). A debit memo is issued for goods returned to a vendor, such as Sony. When a debit memorandum is issued, accounts payable are debited (reduced), thus reducing current liabilities and increasing the current ratio. Eventually, expenses are also decreased, and profits are correspondingly increased through reduction of expenses. Crazy Eddie, Inc., issued $3 million of fictitious debit memoranda in 1985, making the company's current ratio and debt ratio look better than they actually were, and eventually overstating profits.

## Summary of Current Liabilities

Let's summarize what we've covered thus far. A company can report its current liabilities on the balance sheet as follows:

**Accounting, Inc.**
**Balance Sheet**
December 31, 20X0

| Assets | | Liabilities | |
|---|---|---|---|
| Current Assets: | | **Current liabilities:** | |
| Cash | | Accounts payable | |
| Short-term investments | | Salary payable* | |
| Etc. | | Interest payable* | |
| | | Income tax payable* | |
| Non-current Assets: | | Unearned revenue | |
| PPE | | Provision for warranty repairs* | |
| Intangibles | | Notes payable, short-term | |
| Etc. | | Current portion of long-term debt | |
| | | **Total current liabilities** | |
| | | Long-term liabilities | |
| | | **Shareholders' Equity** | |
| | | Share capital | |
| | | Retained earnings | |
| Total assets | $XXX | Total liabilities and shareholders equity | $XXX |

*These items are often combined and reported in a single total as "Accrued liabilities" or "Accrued expenses payable."

# MID-CHAPTER SUMMARY PROBLEM

Assume that **Estée Lauder** faced the following liability situations at June 30, 20X1, the end of the company's fiscal year. Show how Estée Lauder would report these liabilities on its balance sheet at June 30, 20X1.

**a.** Salary expense for the last payroll period of the year was $900,000. Of this amount, employees' withheld income tax totaled $88,000 and employer's payroll taxes were $61,000. These payroll amounts will be paid in early July.

**b.** In fiscal year 20X1, management estimates new warranty obligation of $8 million arising from sales in 20X1. One year ago, at June 30, 20X0, provision for warranty stood at $3 million. Warranty payments were $9 million during the year ended June 30, 20X1.

**c.** The company pays royalties on its purchased trademarks. Royalties for the trademarks are equal to a percentage of Estée Lauder's sales. Assume that sales in 20X1 were $400 million and were subject to a royalty rate of 3%. At June 30, 20X1, Estée Lauder owes two-thirds of the year's royalty, to be paid in July.

**d.** Long-term debt totals $100 million and is payable in annual installments of $10 million each. The interest rate on the debt is 7%, and the interest is paid each December 31.

## Answer

| | |
|---|---|
| Liabilities at June 30, 20X1: | |
| a. Current liabilities: | |
| Salary payable ($900,000 – $88,000 – $61,000) | $ 751,000 |
| Employee income tax payable | 88,000 |
| Employer payroll tax payable | 61,000 |
| b. Current liabilities: | |
| Estimated warranty payable | 2,000,000 |
| [$3,000,000 + ($400,000,000 × 0.02) – $9,000,000] | |
| c. Current liabilities: | |
| Royalties payable ($400,000,000 × 0.03 × 2/3) | 8,000,000 |
| d. Current liabilities: | |
| Current installment of long-term debt | 10,000,000 |
| Interest payable ($100,000,000 × 0.07 × 6/12) | 3,500,000 |
| Long-term debt ($100,000,000 – $10,000,000) | 90,000,000 |

# Long-Term Liabilities: Bonds

**OBJECTIVE**

**2** **Account** for bonds payable and measure interest expense

Large companies such as **Unilever**, **Procter & Gamble**, and **Daimler Chrysler** cannot borrow billions of dollars from a single lender. So how do corporations borrow huge amounts? They issue (sell) bonds to the public. **Bonds payable** are groups of notes payable issued to multiple lenders, called bondholders. GSK needs financing for its operations and can borrow large amounts by issuing bonds or notes payable to thousands of individual investors, who each lend GSK a modest amount. GSK receives the cash it needs, and individual investors limit risk by diversifying their funds. Here we treat bonds payable and notes payable together because their underlying accounting treatment is similar.

## Bonds: An Introduction

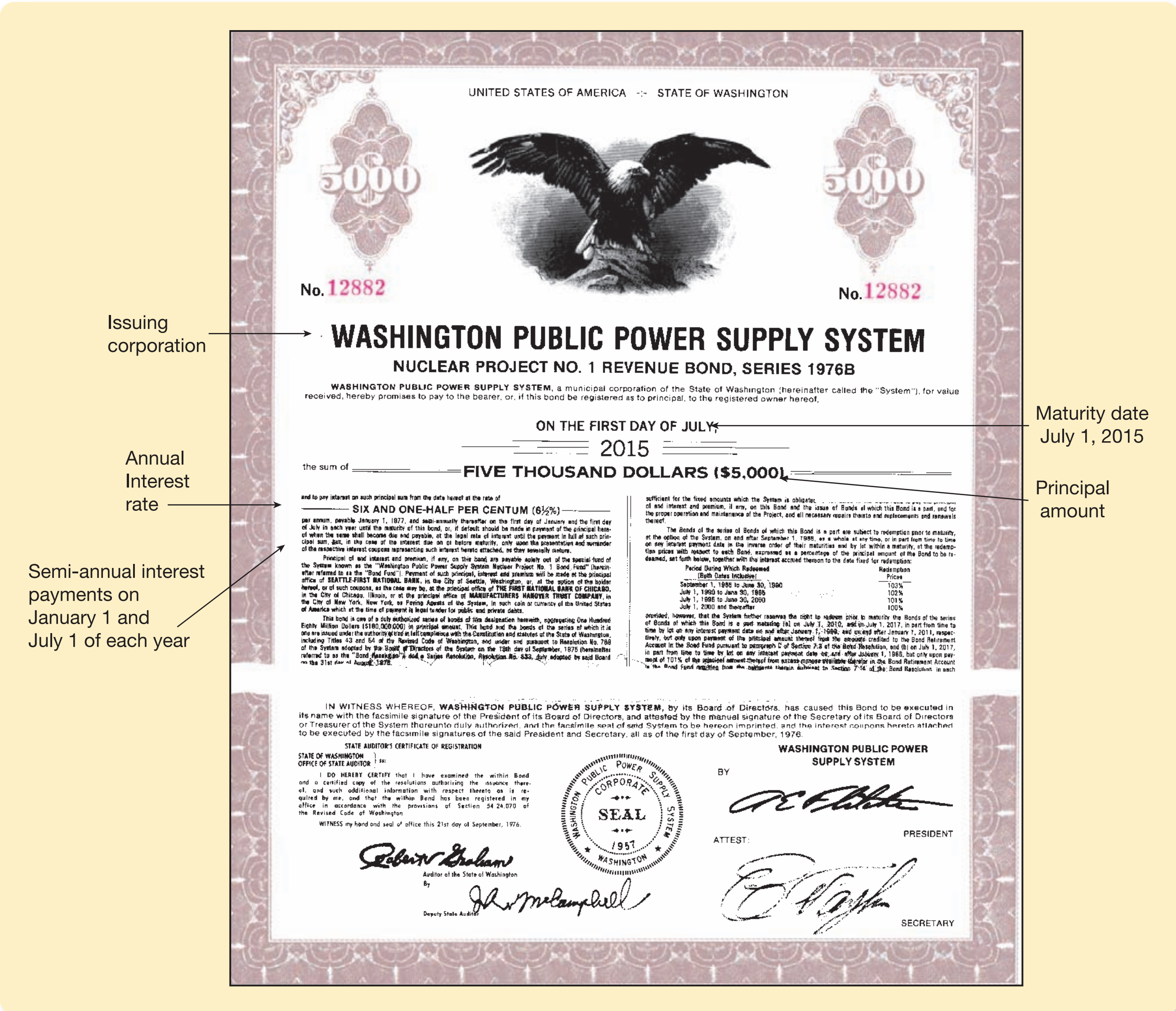
Each bond payable is, in effect, a note payable. Bonds payable are debts of the issuing company.

Purchasers of bonds receive a bond's certificate, which carries the issuing company's name. The certificate also states the principal, which is typically stated in units of $1,000; principal is also called the bond's face value, maturity value, or par value. The bond obligates the issuing company to pay the debt at a specific future time called the maturity date.

Interest expense is the rental fee on borrowed money. The bond certificate states the interest rate that the issuer will pay the holder and the dates that the interest payments are due (generally twice a year). Exhibit 9-2 shows an actual bond certificate.

Issuing bonds usually requires the services of a securities firm, such as **Merrill Lynch** (now part of **Bank of America**), to act as the underwriter of the bond issue. The **underwriter** purchases the bonds from the issuing company and resells them to its clients, or it may sell the bonds to its clients and earn a commission on the sale.

**EXHIBIT 9-2 | Bond Certificate (Adapted)**



**Types of Bonds.** All the bonds in a particular issue may mature at the same time (**term bonds**) or in installments over a period of time (**serial bonds**). Serial bonds are like installment notes payable. Some long-term debts are serial in nature because they are payable in installments.

Secured, or mortgage, bonds give the bondholder the right to take specified assets of the issuer if the company defaults—that is, fails to pay interest or principal. Unsecured bonds, called **debentures**, are backed only by the good faith of the borrower. Debentures carry a higher rate of interest than secured bonds because debentures are riskier investments.

**Bond Prices.** Investors may buy and sell bonds through bond markets. Bond prices are quoted at a percentage of their maturity value. For example:

- A \$1,000 bond quoted at 100 is bought or sold for \$1,000, which is 100% of its face value.
- The same bond quoted at 101.5 has a market price of \$1,015 (101.5% of face value = \$1,000 × 1.015).
- A \$1,000 bond quoted at 88.375 is priced at \$883.75 (\$1,000 × 0.88375).

Whilst the price of a bond on the market may change, it is important to remember that the face value and interest payments do not change. The accounting for bonds from issuer perspective ignores fluctuations of market price but it is disclosed in the notes.

**Bond Premium and Bond Discount.** A bond issued at a price above its face (par) value is said to be issued at a **premium**, and a bond issued at a price below face (par) value has a **discount**.

Premium on Bonds Payable has a credit balance and Discount on Bonds Payable carries a debit balance. Bond Discount is therefore a contra liability account.

As a bond nears maturity, its market price moves toward par value. Therefore, the price of a bond issued at a:

- premium decreases towards face value;
- discount increases towards face value.

On the maturity date, a bond's market value exactly equals its face value because the company that issued the bond pays that amount to retire the bond.

**The Time Value of Money.** A dollar received today is worth more than a dollar to be received in the future. You can invest today's dollar immediately and earn income from it. But if you must wait to receive the dollar, you forgo the interest revenue. Money earns income over time, we call this "time value of money" (see Appendix B). Let's examine how the time value of money affects the pricing of bonds.

Assume that a GSK bond with a face value of \$1,000 reaches maturity three years from today and carries no interest. Would you pay \$1,000 today to purchase this bond? No, because the payment of \$1,000 today to receive the same amount in the future provides you with no income on the investment. Just how much would you pay today to receive \$1,000 at the end of three years? The answer is some amount less than \$1,000. Let's suppose that you feel \$750 is a good price. By investing \$750 now to receive \$1,000 later, you earn \$250 interest revenue over the three years. The issuing company, such as GSK, sees the transaction this way: GSK will pay you \$250 interest to use your \$750 for three years.

The amount to invest now to receive more later is called the **present value** of a future amount. In our example, \$750 is the present value, and \$1,000 is the future amount.

Our $750 bond price is a reasonable estimate. The exact present value of any future amount depends on:

- the amount of the future payment ($1,000 in our example);
- the length of time from the investment date to the date when the future amount is to be collected (three years);
- the interest rate during the period (say 10%).

In this case the present value is very close to $750. Present value is always less than the future amount. We discuss how present value is computed in Appendix B at the end of the book.

**Bond Interest Rates Determine Bond Prices.** Bonds are always sold at their market price, which is the amount investors will pay for the bond. Market price is the bond's present value, which equals the present value of the principal payment plus the present value of the cash interest payments. Interest is usually paid semi-annually (twice a year). Some companies pay interest annually or quarterly.

Two interest rates work to set the price of a bond:

1. The **stated interest rate**, also called the coupon rate, is the interest rate printed on the bond certificate. The stated interest rate determines the amount of cash interest the borrower pays—and the investor receives—each year. Suppose GSK bonds have a stated interest rate of 9%. GSK would pay $9,000 of interest annually on each $100,000 bond. Each semi-annual payment would be $4,500 ($100,000 × 0.09 × 6/12).
2. The **market interest rate**, or effective interest rate, is the rate that investors demand for loaning their money. The market interest rate can fluctuate after issuance of a bond.

A company may issue bonds with a stated interest rate that differs from the prevailing market interest rate. In fact, the two interest rates often differ.

Exhibit 9-3 shows how the stated interest rate and the market interest rate interact to determine the issue price of a bond payable for three separate cases.

**EXHIBIT 9-3 | How the Stated Interest Rate and the Market Interest Rate Interact to Determine The Price of a Bond**

| Issue Price of Bonds Payable | | | | |
|---|---|---|---|---|
| **Case A:** | | | | |
| Stated interest rate on a bond payable | equals | Market interest rate | Therefore, | Price of face (par, or maturity) value |
| Example: 9% | = | 9% | → | *Par: $1,000 bond issued for $1,000* |
| **Case B:** | | | | |
| Stated interest rate on a bond payable | less than | Market interest rate | Therefore, | Discount price (price below face value) |
| Example: 9% | < | 10% | → | *Discount: $1,000 bond issued for a price below $1,000* |
| **Case C:** | | | | |
| Stated interest rate on a bond payable | greater than | Market interest rate | Therefore, | Premium price (price above face value) |
| Example: 9% | > | 8% | → | *Premium: $1,000 bond issued for a price above $1,000* |

GSK may issue 9% bonds when the market rate is at 10%. Will the GSK's 9% bonds attract investors in this market? No, because investors can earn 10% on other bonds of similar risk. Therefore, investors will purchase GSK bonds only at a price less than their face value. The difference between the lower price and face value is a discount (Exhibit 9-3). Conversely, if the market interest rate is 8%, GSK's 9% bonds will be so attractive that investors will pay more than face value to purchase them. The difference between the higher price and the face value is a premium.

## Issuing Bonds Payable at Par (Face Value)

We start with the most straightforward situation—issuing bonds at their par value. There is no premium or discount on these bonds payable.

Suppose GSK issues $50,000, 9% bonds at par on January 1, 20X1. The bonds pay interests on a semi-annual basis (July 1 and January 1 each year following issuance) and are of five years' duration, i.e. they will mature on January 1, 20X6. The issuance entry is:

| | | | |
|---|---|---|---|
| 20X1 | | | |
| Jan 1 | Cash | 50,000 | |
| | Bonds Payable | | 50,000 |
| | *To issue bonds at par.* | | |

| Bonds Payable | |
|---|---|
| | 50,000 |

Assets and liabilities increase when a company issues bonds payable.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 50,000 | = | + 50,000 | + | 0 |

GSK, the borrower, makes a one-time entry to record the receipt of cash and the issuance of bonds. Afterward, investors buy and sell the bonds through the bond markets. These later buy-and-sell transactions between outside investors do not involve GSK at all.

Interest payments occur each January 1 and July 1. GSK's entry to record the first semi-annual interest payment is:

| | | | |
|---|---|---|---|
| 20X1 | | | |
| Jul 1 | Interest Expense ($50,000 × 0.09 × 6/12) | 2,250 | |
| | Cash | | 2,250 |
| | *To pay semi-annual interest.* | | |

The payment of interest expense decreases assets and equity. Bonds payable are not affected.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| − 2,250 | = | 0 | + | − 2,250 | (interest expense) |

At year-end, GSK accrues interest expense and interest payable for six months (July through December), as follows:

| | | | |
|---|---|---|---|
| 20X1 | | | |
| Dec 31 | Interest Expense ($50,000 × 0.09 × 6/12) | 2,250 | |
| | Interest Payable | | 2,250 |
| | *To accrue interest.* | | |

Liabilities increase, and equity decreases.

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| 0 | = | +2,250 | + | − 2,250 | (interest expense) |

On January 1, GSK will pay the interest, debiting Interest Payable and crediting Cash. Then, at maturity, GSK pays off the bonds as follows:

| | | | |
|---|---|---|---|
| 20X6 | | | |
| Jan 1 | Bonds Payable | 50,000 | |
| | Cash | | 50,000 |
| | *To pay bonds payable at maturity.* | | |

**Bonds Payable**

| | |
|---|---|
| 50,000 | 50,000 |
| | Bal 0 |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| − 50,000 | = | − 50,000 | + | 0 |

## Issuing Bonds Payable at a Discount

Market conditions may force a company to issue bonds at a discount. Suppose GSK issued $100,000 of 9%, five-year bonds when the market interest rate is 10%. The issuance price of the bonds drops, and GSK receives $96,149[1] at issuance. The transaction is recorded as follows:

| | | | |
|---|---|---|---|
| 20X1 | | | |
| Jan 1 | Cash | 96,149 | |
| | Discount on Bonds Payable | 3,851 | |
| | Bonds Payable | | 100,000 |
| | *To issue bonds at a discount.* | | |

[1] Appendix B shows how to determine the price of this bond.

The accounting equation shows that GSK has a net liability of $96,149—not $100,000.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 96,149 | = | − 3,851 | + | 0 |
| | | + 100,000 | | |

The bonds payable accounts have a net balance of $96,149 as follows:

| Bonds Payable | | | Discount on Bonds Payable | | | |
|---|---|---|---|---|---|---|
| | 100,000 | − | 3,851 | | = | Net carrying amount of bonds payable $96,149 |

GSK's balance sheet immediately after issuance of the bonds would report the following:

| | | |
|---|---|---|
| Non-current liabilities: | | |
| Bonds payable, 9%, due 2015.................... | $100,000 | |
| Less: Discount on bonds payable............... | (3,851) | 96,149 |

Discount on Bonds Payable is a contra account to Bonds Payable, a decrease in the company's liabilities. Subtracting the discount from Bonds Payable yields the carrying amount of the bonds. Thus, GSK's liability is $96,149, which is the amount the company effectively borrowed.

## What Is the Interest Expense on These Bonds Payable?

GSK pays interest on bonds semi-annually, which is common practice. Each semi-annual interest payment is set by the bond contract and therefore remains the same over the life of the bonds:

$$\text{Semi-annual interest payment} = \$100{,}000 \times 0.09 \times 6/12 = \$4{,}500$$

But GSK's interest expense increases as the bonds march toward maturity. Remember: these bonds were issued at a discount.

Panel A of Exhibit 9-4 repeats the GSK bond example we've been using. Panel B provides an amortization table that does two things:

1. determines the periodic interest expense (column B); and
2. shows the bond carrying amount (column E).

Study Exhibit 9.4 carefully because the amounts we'll be using come directly from the amortization table. This exhibit shows the effective-interest method of amortization, which is required by *IAS 39* to measure interest expense.

**EXHIBIT 9-4 | Debt Amortization for a Bond Discount**

**Panel A—Bond Data**

| | |
|---|---|
| Issue date—January 1, 20X1 | Maturity date—January 1, 20X6 |
| Face (par or *maturity*) value—$100,000 | Market interest rate at time of issue—10% annually, 5% semi-annually |
| Stated interest rate—9% | Issue price—$96,149 |
| Interest paid—4½% semi-annually, $4,500 = $100,000 × 0.09 × 6/12 | |

**Panel B—Amortization Table**

| | A | B | C | D | E |
|---|---|---|---|---|---|
| Semi-annual Interest Date | Interest Payment (4½% of Maturity Value) | Interest Expense (5% of Preceding Bond Carrying Amount) | Discount Amortization (B – A) | Discount Account Balance (Preceding D – C) | Bond Carrying Amount ($100,000 – D) |
| Jan 1, 20X1 | | | | $3,851 | $ 96,149 |
| Jul 1, 20X1 | $4,500 | $4,807 | $307 | 3,544 | 96,456 |
| Jan 1, 20X2 | 4,500 | 4,823 | 323 | 3,221 | 96,779 |
| Jul 1, 20X2 | 4,500 | 4,839 | 339 | 2,882 | 97,118 |
| Jan 1, 20X3 | 4,500 | 4,856 | 356 | 2,526 | 97,474 |
| Jul 1, 20X3 | 4,500 | 4,874 | 374 | 2,152 | 97,848 |
| Jan 1, 20X4 | 4,500 | 4,892 | 392 | 1,760 | 98,240 |
| Jul 1, 20X4 | 4,500 | 4,912 | 412 | 1,348 | 98,652 |
| Jan 1, 20X5 | 4,500 | 4,933 | 433 | 915 | 99,085 |
| Jul 1, 20X5 | 4,500 | 4,954 | 454 | 461 | 99,539 |
| Jan 1, 20X6 | 4,500 | 4,961* | 461 | -0- | 100,000 |

*Adjusted for effect of rounding

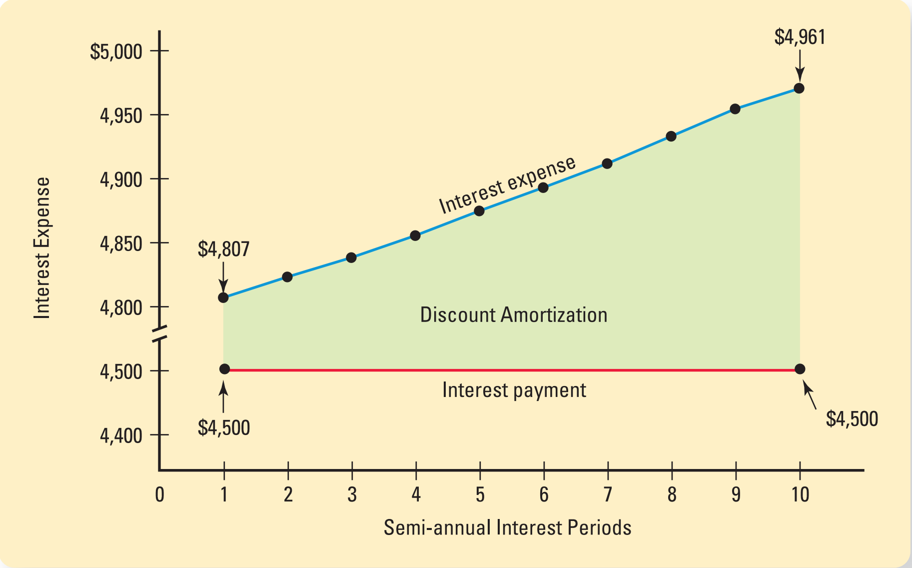
Notes
- Column A The semi-annual interest payments are constant—fixed by the bond contract.
- Column B The interest expense each period = the preceding bond carrying amount × the market interest rate. Interest expense increases as the bond carrying amount (E) increases.
- Column C The discount amortization (C) is the excess of interest expense (B) over interest payment (A).
- Column D The discount balance (D) decreases when amortized.
- Column E The bond carrying amount (E) increases from $96,149 at issuance to $100,000 at maturity.

## Interest Expense on Bonds Issued at a Discount

In Exhibit 9-4, GSK borrowed $96,149 cash but must pay $100,000 when the bonds mature. What happens to the $3,851 balance of the discount account over the life of the bond issue?

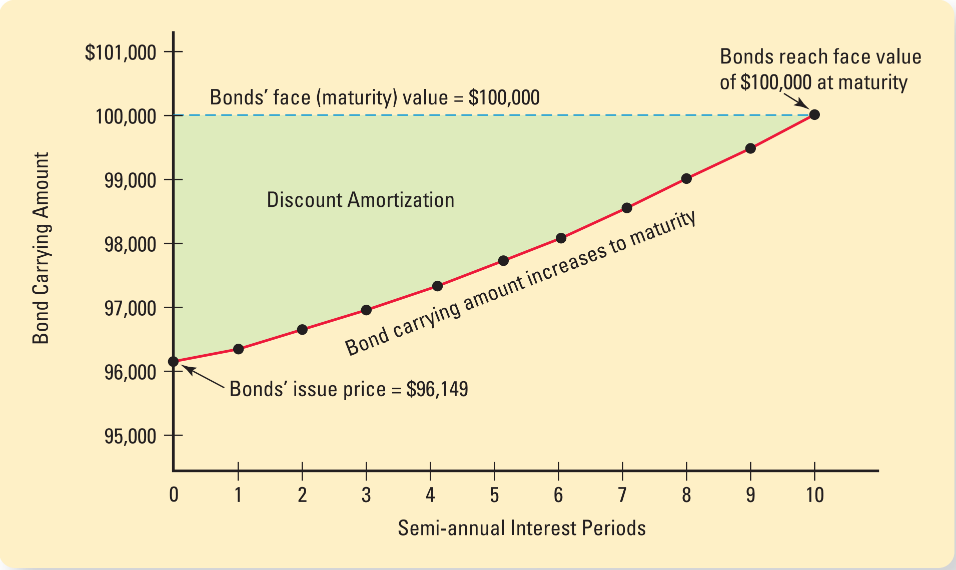
The $3,851 is an additional interest expense to GSK over and above the stated interest that GSK pays each six months. Exhibit 9-5 graphs the interest expense and the interest payment on the GSK bonds over their lifetime. Observe that the semi-annual interest payment is fixed—by contract—at $4,500. But the amount of interest expense increases as the discount bond marches upward towards maturity.

**EXHIBIT 9-5 | Interest Expense on Bonds Payable Issued at a Discount**




The discount is allocated to interest expense through amortization over the term of the bonds. Exhibit 9-6 illustrates the amortization of the bonds from $96,149 at the start to $100,000 at maturity. These amounts come from Exhibit 9-4, column E.

**EXHIBIT 9-6 | Amortizing Bonds Payable Issued At a Discount**




Now let's see how GSK would account for these bonds issued at a discount. In our example, GSK issued its bonds on January 1, 20X1. On July 1, GSK made the first semi-annual interest payment. But GSK's interest expense is greater than its payment of $4,500. GSK's journal entry to record interest expense and the interest payment for the first 6 months is as follows (with all amounts taken from Exhibit 9-4):

| | | | |
|---|---|---|---|
| 20X1 | | | |
| Jul 1 | Interest Expense | 4,807 | |
| | Discount on Bonds Payable | | 307 |
| | Cash | | 4,500 |
| | *To pay semi-annual interest and amortize bond discount.* | | |

The credit to Discount on Bonds Payable accomplishes two purposes:

1. It adjusts the carrying value of the bonds as they march upward towards maturity value.
2. It amortizes the discount to interest expense.

At December 31, 20X1, GSK accrues interest and amortizes the bonds for July through December with this entry (amounts from Exhibit 9-4):

| | | | |
|---|---|---|---|
| 20X1 | | | |
| Dec 31 | Interest Expense | 4,823 | |
| | Discount on Bonds Payable | | 323 |
| | Interest Payable | | 4,500 |
| | *To accrue semi-annual interest and amortize bond discount.* | | |

At December 31, 20X1, GSK's bond accounts appear as follows:

| Bonds Payable | | Discount on Bonds Payable | |
|---|---|---|---|
| | 100,000 | 3,851 | 307 |
| | | | 323 |
| | | Bal 3,221 | |

Bond carrying amount, $96,779 = $100,000 – $3,221 from Exhibit 9-4, page 556.

## STOP & THINK . . .

What would GSK's 20X1 income statement and year-end balance sheet report for these bonds?

*Answer:*

| | | |
|---|---|---|
| **Income Statement for 20X1** | | |
| Interest expense ($4,807 + $4,823) | | $ 9,630 |
| **Balance Sheet at December 31, 20X1** | | |
| Current liabilities: | | |
| Interest payable | | $ 4,500 |
| Long-term liabilities: | | |
| Bonds payable | $100,000 | |
| Less: Discount on bonds payable | (3,221) | 96,779 |

At maturity on January 1, 20X6, the discount would have been amortized to zero, and the bonds' carrying amount will be face value of $100,000. GSK will retire the bonds by paying $100,000 to the bondholders.

## Partial-Period Interest Amounts

Companies don't always issue bonds at the beginning or the end of their accounting year. They issue bonds when market conditions are most favorable, and that may be on May 16, August 1, or any other date. To illustrate partial-period interest, assume **Fuji-Xerox** issues $100,000 of 8% bonds payable at 96 on August 31, 20X0. The market rate of interest was 9%, and these bonds pay semi-annual interest on February 28 and August 31 each year. The first few lines of Fuji-Xerox's amortization table are:

| Semi-annual Interest Date | 4% Interest Payment | 4½% Interest Expense | Discount Amortization | Discount Account Balance | Bond Carrying Amount |
|---|---|---|---|---|---|
| Aug 31, 20X1 | | | | $4,000 | $96,000 |
| Feb 28, 20X2 | $4,000 | $4,320 | $320 | 3,680 | 96,320 |
| Aug 31, 20X2 | 4,000 | 4,334 | 334 | 3,346 | 96,654 |

Fuji-Xerox's accounting year ends on December 31, so at year-end Fuji-Xerox must accrue interest and amortize bond discount for four months (September through December). At December 31, 20X0, Fuji-Xerox will make this entry:

| | | | |
|---|---|---|---|
| 20X0 | | | |
| Dec 31 | Interest Expense ($4,320 × 4/6) | 2,880 | |
| | Discount on Bonds Payable ($320 × 4/6) | | 213 |
| | Interest Payable ($4,000 × 4/6) | | 2,667 |
| | *To accrue interest and amortize discount at year-end.* | | |

The year-end entry at December 31, 20X0, uses 4/6 of the upcoming semi-annual amounts at February 28, 20X1. This example clearly illustrates the benefit of an amortization schedule.

## Issuing Bonds Payable at a Premium

Let's modify the GSK bond example to illustrate issuance of the bonds at a premium. Assume that GSK issues $100,000 of five-year, 9% bonds that pay interest semi-annually. If the 9% bonds are issued when the market interest rate is 8%, their issue price is $104,100.[2] The premium on these bonds is $4,100, and Exhibit 9-7 shows how to amortize the bonds by the effective-interest method. In practice, bond premiums are rare because few companies issue their bonds to pay cash interest above the market interest rate. We cover bond premiums for completeness.

GSK's entries to record issuance of the bonds on January 1, 20X1, and to make the first interest payment and amortize the bonds on July 1, are as follows:

| | | | |
|---|---|---|---|
| 20X1 | | | |
| Jan 1 | Cash | 104,100 | |
| | Bonds Payable | | 100,000 |
| | Premium on Bonds Payable | | 4,100 |
| | *To issue bonds at a premium.* | | |

[2] Appendix B shows how to determine the price of this bond.

At the beginning, GSK's liability is $104,100—not $100,000. The accounting equation makes this clear.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 104,100 | = | + 100,000 | + | 0 |
| | | + 4,100 | | |

| | | | |
|---|---|---|---|
| 20X1 | | | |
| Jul 1 | Interest Expense (from Exhibit 9-7) | 4,164 | |
| | Premium on Bonds Payable | 336 | |
| | Cash | | 4,500 |
| | *To pay semi-annual interest and amortize bond premium.* | | |

## EXHIBIT 9-7 | Debt Amortization For a Bond Premium

**Panel A—Bond Data**

| | |
|---|---|
| Issue date—January 1, 20X1 | Maturity date—January 1, 20X6 |
| Face (par or *maturity*) value—$100,000 | Market interest rate at time of issue—8% annually, 4% semi-annually |
| Stated interest rate—9% | Issue price—$104,100 |
| Interest paid—4½% semi-annually, $4,500 = $100,000 × 0.09 × 6/12 | |

**Panel B—Amortization Table**

| | A | B | C | D | E |
|---|---|---|---|---|---|
| Semi-annual Interest Date | Interest Payment (4½% of Maturity Value) | Interest Expense (4% of Preceding Bond Carrying Amount) | Premium Amortization (A – B) | Premium Account Balance (Preceding D – C) | Bond Carrying Amount ($100,000 + D) |
| Jan 1, 20X1 | | | | $4,100 | $ 104,100 |
| Jul 1, 20X1 | $4,500 | $4,164 | $336 | 3,764 | 103,764 |
| Jan 1, 20X2 | 4,500 | 4,151 | 349 | 3,415 | 103,415 |
| Jul 1, 20X2 | 4,500 | 4,137 | 363 | 3,052 | 103,052 |
| Jan 1, 20X3 | 4,500 | 4,122 | 378 | 2,674 | 102,674 |
| Jul 1, 20X3 | 4,500 | 4,107 | 393 | 2,281 | 102,281 |
| Jan 1, 20X4 | 4,500 | 4,091 | 409 | 1,872 | 101,872 |
| Jul 1, 20X4 | 4,500 | 4,075 | 425 | 1,447 | 101,447 |
| Jan 1, 20X5 | 4,500 | 4,058 | 442 | 1,005 | 101,005 |
| Jul 1, 20X5 | 4,500 | 4,040 | 460 | 545 | 100,545 |
| Jan 1, 20X6 | 4,500 | 3,955* | 545 | -0- | 100,000 |

*Adjusted for effect of rounding

Notes
- Column A The semi-annual interest payments are constant—fixed by the bond contract.
- Column B The interest expense each period = the preceding bond carrying amount × the market interest rate. Interest expense decreases as the bond carrying amount (E) decreases.
- Column C The premium amortization (C) is the excess of interest payment (A) over interest expense (B).
- Column D The premium balance (D) decreases when amortized.
- Column E The bond carrying amount (E) decreases from $104,100 at issuance to $100,000 at maturity.

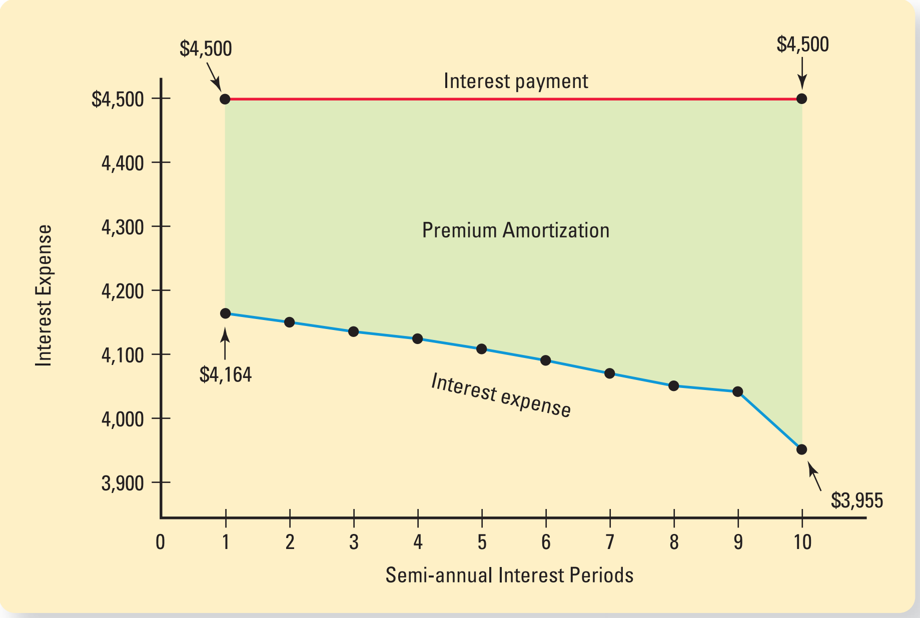
Immediately after issuing the bonds at a premium on January 1, 20X1, GSK would report the bonds payable on the balance sheet as follows:

| | | |
|---|---|---|
| Non-current liabilities: | | |
| Bonds payable | $100,000 | |
| Premium on bonds payable | 4,100 | 104,100 |

A premium is added to the balance of bonds payable to determine the carrying amount.

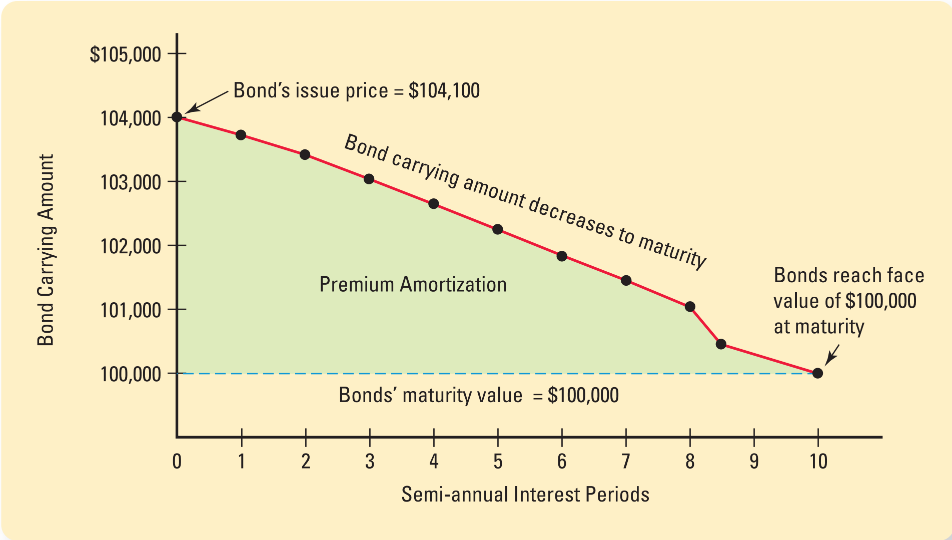
In Exhibit 9-7 GSK borrowed $104,100 cash but must pay back only $100,000 at maturity. The $4,100 premium is a reduction in GSK's interest expense over the term of the bonds. Exhibit 9-8 graphs GSK's interest payments (column A from Exhibit 9-7) and interest expense (column B).

**EXHIBIT 9-8 | Interest Expense on Bonds Payable Issued at a Premium**




Amortization of the bond's premium decreases interest expense each period over the term of the bonds. Exhibit 9-9 illustrates the amortization of the bonds from the issue price of $104,100 to a maturity value of $100,000. All amounts are taken from Exhibit 9-7.

**EXHIBIT 9-9 | Amortizing Bonds Payable Issued At a Premium**




## The Straight-line Amortization Method: A Quick Way to Measure Interest Expense

Whilst not allowed by *IAS 39*, there's a less precise way to amortize bond discount or premium. The straight-line amortization method divides a bond discount (or premium) into equal periodic amounts over the bond's term. The amount of interest expense is the same for each interest period. This method is a simply a "quick and dirty" way to estimate interest expense when you do not have the tools to use the effective interest rate method as required by *IAS 39*. Unless otherwise stated, you should always use the effective interest method as previously discussed.

Let's apply the effective interest method to the GSK bonds issued at a discount and illustrated in Exhibit 9-4. Suppose GSK's Chief Financial Officer is considering issuing the 9% bonds at $96,149. To quickly estimate semi-annual interest expense on the bonds, she can use the straight-line interest amortization method for the bond discount, as an approximation, as follows:

| | |
|---|---|
| Semi-annual cash interest payment ($100,000 × 0.09 × 6/12) | $4,500 |
| + Semi-annual amortization of discount ($3,851 ÷ 10) | 385 |
| = Estimated semi-annual interest expense | $4,885 |

The straight-line interest amortization method uses this same amortization amount for every period over the term of the bonds.

GSK's entry to record interest and amortization of the bond discount under the straight-line interest amortization method would be:

| | | | |
|---|---|---|---|
| 20X1 | | | |
| Jul 1 | Interest Expense | 4,885 | |
| | Discount on Bonds Payable | | 385 |
| | Cash | | 4,500 |
| | *To pay semi-annual interest and amortize bond discount.* | | |

## Should We Retire Bonds Payable Before Their Maturity?

Normally, companies wait until maturity to pay off, or retire, their bonds payable. But companies sometimes retire bonds early. The main reason for retiring bonds early is to relieve the pressure of making high interest payments. Also, the company may be able to borrow at a lower interest rate.

Some bonds are **callable**, which means that the issuer may call, or pay off, those bonds at a prearranged price (this is the call price) whenever the issuer chooses. The call price is often a percentage point or two above the par value, perhaps 101 or 102. Callable bonds give the issuer the benefit of being able to pay off the bonds whenever it is most favorable to do so. The alternative to calling the bonds is to purchase them in the open market at their current market price.

Assume that GSK has $300 million of debenture bonds outstanding and the unamortized discount is $30 million. The bonds are callable at the discretion of the management at 101. Lower interest rates may convince management to pay off these bonds now. If the market price of the bonds is 99, will GSK call the bonds at 101 or purchase them for 99 in the open market? Market price is the better choice because the market price is lower than the call price. Let's see how to account for an early retirement of bonds payable. Retiring the bonds at 99 results in a loss of $27 million, computed as follows:

| | Millions |
|---|---|
| Par value of bonds being retired | $300 |
| Less: Unamortized discount | (30) |
| Carrying amount of the bonds being retired | 270 |
| Market price ($300 × 0.99) | 297 |
| Loss on retirement of bonds payable | $ 27 |

Gains and losses on early retirement of bonds payable are usually reported as Other income (loss) on the income statement.

## Convertible Bonds and Notes

Some corporate bonds may be converted into the issuing company's share capital. These bonds are called **convertible bonds** (or convertible notes). For investors these bonds combine the safety of (a) assured receipt of interest and principal on the bonds with (b) the opportunity for gains on the shares. The conversion feature can be so attractive that investors are willing to accept a lower interest rate than they would on non-convertible bonds. The lower cash interest payments benefit the issuer. If the market price of the issuing company's shares gets high enough, the bondholders will convert the bonds into shares.

Suppose GSK has convertible notes payable of $100 million. If GSK's share price rises high enough, the noteholders will convert the notes into the company's shares. Conversion of the notes payable into shares will decrease GSK's liabilities and increase its equity.

Assume the noteholders convert the notes into 4 million shares of GSK shares ($1 par) on May 14. GSK makes the following entry in its accounting records:

| | | | |
|---|---|---|---|
| May 14 | Notes Payable | 100,000,000 | |
| | Share Capital (4,000,000 × $1 par) | | 4,000,000 |
| | Capital in Excess of Par | | 96,000,000 |
| | *To record conversion of notes payable.* | | |

The accounting equation shows that liabilities decrease and equity goes up.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| 0 | = | − 100,000,000 | + | + 4,000,000 |
| | | | | + 96,000,000 |

The carrying amount of the notes ($100 million) ceases to be debt and becomes shareholders' equity. Share Capital is recorded at its par value, which is a dollar amount assigned to each share. In this case, the credit to Share Capital is $4,000,000 (4,000,000 shares × $1 par value per share). The extra carrying amount of the notes payable ($96,000,000) is credited to another shareholders' equity account, Capital in Excess of Par. We'll be discussing equity transactions in the next chapter.

# Leases

**OBJECTIVE**

**3** **Account** for capital and operating leases

A **lease** is a rental agreement in which the tenant (**lessee**) agrees to make rent payments to the property owner (**lessor**) in exchange for the use of the asset. Leasing allows the lessee to acquire the use of a needed asset without having to make the large up-front payment that purchase agreements require.

## Types of Leases

*IAS 17—Leases* provides for two categories of leases: operating lease and capital lease (sometimes referred to as financing or finance lease). The accounting treatments for the two types of leases are vastly different. It is therefore important to understand the criteria that would make a lease agreement classified as an operating lease or a capital lease. *IAS 17* states that if the terms of the lease meet *any* of the following conditions, it will be recognized as a capital lease:

- The lease transfers substantially all risks and rewards of the asset to the lessee.
- The lease transfers ownership of the asset to the lessee at the end of the lease.
- The lease term represents a substantial part of the asset's useful life.
- The present value of the lease payments represents a substantial part of the fair value of the asset.

### A CLOSER LOOK

This is a good example of how the overall approaches of IFRSs differ from US GAAPs. Rather than specific rules or "bright lines," IFRSs employs a principle-based approach that focuses on the overall substance of the transaction, rather than on the mechanical form, and that leaves more to the judgment of the preparer of the financial statement. For example, the recognition of a lease as a capital lease under US GAAP would be that the term of the lease exceeds 75% of the asset's useful life, and the present value of the lease payments exceeds 90% of the asset's fair value, as opposed to the use of the "substantial part" principle in IFRS.

As of the date of this text, the FASB and IASB have issued a new draft standard on leases that will substantially change the way we account for leases. The new standard (expected to be finalized in a few years' time, with an effective date at least two more years after issuance) would be likely to focus on "rights of use" as the key decision factor in determining the appropriate accounting treatment for leases. This means doing away with the capital versus operating lease classifications. It is expected that as long as an entity has a rights of use of an asset with an accompanying commitment to make payments, they will be recognized on the books as assets and liabilities, respectively.

## EXCERPTS (ADAPTED) FROM GSK NOTES TO THE 2011 FINANCIAL STATEMENTS

Leasing agreements which transfer to the Group substantially all the benefits and risks of ownership of an asset are treated as finance leases, as if the asset had been purchased outright. The assets are included in PP&E or computer software and the capital elements of the leasing commitments are shown as obligations under finance leases. Assets held under finance leases are depreciated on a basis consistent with similar owned assets, or the lease term if shorter. The interest element of the lease rental is included in the income statement. All other leases are operating leases and the rental costs are charged to the income statement on a straight-line basis over the lease term.

*Source*: GSK

**Operating leases.** These are basically rental agreements between the lessor and lessee. Many operating leases are non-cancellable (or cancellable with substantial penalties), and require the lessee to commit funds to pay the lessor for use of the leased asset for years. They give the lessee the right to use the asset but provide no continuing rights to the asset. Instead, the lessor retains the usual risks and rewards of owning the leased asset. To account for an operating lease, the lessee debits Rent Expense (or Lease Expense) and credits Cash for the amount of the lease payment.

GSK incurred a total of £154 million operating lease expense during the financial year ended December 31, 2011. GSK would have performed a journal entry similar to the entry below:

| | | | |
|---|---|---|---|
| 31 Dec | Lease expense | 154 million | |
| | Cash | | 154 million |
| | *To record operating lease payments* | | |

| Assets | = | Liabilities | + | Shareholders' Equity | |
|---|---|---|---|---|---|
| − 154 million | = | 0 | + | − 154 million | (lease expense) |

The properties or equipment being leased (via operating lease) are not reported as GSK's assets on its balance sheet. Similarly, GSK's non-cancellable future payments for its operating leases are also not recorded as liabilities on its balance sheet. Nevertheless, *IAS17* imposes an additional disclosure requirement on these operating lease commitments. GSK's operating lease commitments are shown below.

**EXCERPTS (ADAPTED) FROM GSK NOTES TO THE 2011 FINANCIAL STATEMENTS**

| Non-cancellable operating lease commitments (in £ million) | 2011 | 2010 |
|---|---|---|
| Rental payments due within one year | 113 | 123 |
| Rental payments due between one and two years | 65 | 73 |
| Rental payments due between two and three years | 46 | 46 |
| Rental payments due between three and four years | 30 | 32 |
| Rental payments due between four and five years | 17 | 25 |
| Rental payments due after five years | 83 | 116 |
| Total commitments under operating lease | **354** | **415** |

*Source*: GSK

**Capital leases.** Accounting for a **capital lease** is much like accounting for the purchase of an asset. The lessee enters the asset into the lessee's long-term asset accounts and records a long-term lease liability at the beginning of the lease term. Thus, the lessee capitalizes the asset even though the lessee may never take legal title to the asset, because the lease agreement makes the lessee assume the risks and rewards of ownership of the assets and the associated obligations.

When a capital lease is signed, the lessee will record the present value of its lease payments on its books. The original entry is a debit to lease assets and lease liability. As the asset is being used, it is depreciated in accordance to the entity's usual depreciation policy. When lease payments are made, it is first made against lease interest expense, and the remaining balance reduces the outstanding lease payments.

Let's assume on July 1, 20X1, GSK signed a capital lease that requires a payment of $10,000 per year for the next five years. The present value of the lease payments is determined to be $43,295 (using a 5% interest rate). On signing this lease agreement, GSK would record the following:

| | | | |
|---|---|---|---|
| 20X1 | | | |
| July 1 | Lease Asset | 43,295 | |
| | Lease Liability | | 43,295 |
| | *To record capital lease ($10,000 per year for 5 years @ 5%).* | | |

When the first payment is made, on June 30, 20X2, the $10,000 payment is first applied to the interest for the lease liability for the period, which is $2,165 ($43,295 × 5%), and the balance of $7,835 ($10,000 less $2,165) reduces the lease liability.

| | | | |
|---|---|---|---|
| 20X2 | | | |
| June 30 | Lease Liability | 7,835 | |
| | Interest Expense | 2,165 | |
| | Cash | | 10,000 |
| | *To record first capital lease payment.* | | |

The balance of the lease liability is now $43,295 less $7,835, or $35,460. In the subsequent period, less and less interest will be charged, and higher portions of the lease payments will go towards reducing the lease liability. This schedule is called a lease amortization schedule, as shown below.

| Period | Begin LL | Payment | Interest | Principal | End LL |
|---|---|---|---|---|---|
| 1 | $ 43,295 | $ 10,000 | $ 2,165 | $ 7,835 | $ 35,460 |
| 2 | $ 35,460 | $ 10,000 | $ 1,773 | $ 8,227 | $ 27,232 |
| 3 | $ 27,232 | $ 10,000 | $ 1,362 | $ 8,638 | $ 18,594 |
| 4 | $ 18,594 | $ 10,000 | $ 930 | $ 9,070 | $ 9,524 |
| 5 | $ 9,524 | $ 10,000 | $ 476 | $ 9,524 | $ -0- |

For the financial year ended December 31, 2011, GSK disclosed the following in regard to its capital leases.

**EXCERPTS (ADAPTED) FROM GSK NOTES TO THE 2011 FINANCIAL STATEMENTS**

| Finance lease obligations (in £ million) | 2011 | 2010 |
|---|---|---|
| Rental payments due within one year | 37 | 123 |
| Rental payments due between one and two years | 27 | 73 |
| Rental payments due between two and three years | 18 | 46 |
| Rental payments due between three and four years | 12 | 32 |
| Rental payments due between four and five years | 4 | 25 |
| Rental payments due after five years | 8 | 116 |
| Total future lease payments | **106** | **415** |
| Future finance charges | (11) | (16) |
| Total finance lease obligations | **95** | **103** |

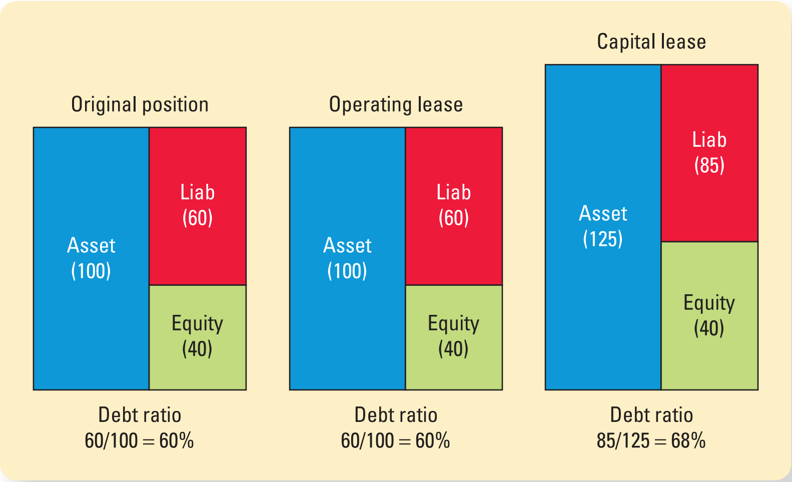
*Source*: GSK

Note that whilst the disclosures for finance lease and operating lease are very similar, there are a number of key differences. First, finance lease obligation is netted against expected future finance charges. In other words, only the present value of the lease payments is recognized as liability. Second, the choice of words is very clear: finance lease obligations versus operating lease commitments. Obligations are recognized on the balance sheet, whereas commitment is not recognized on the balance sheet but a required disclosure.

## Do Lessees Prefer Operating Leases or Capital Leases?

Suppose you were the chief financial officer (CFO) of a company contemplating a lease agreement. Your total assets are now $100, funded by liability of $60 and equity of $40. The leases can be structured either as operating leases or as capital leases, with total lease payments of $25. Which type of lease would you prefer? Why?

Let's use a general measure of indebtedness called **debt ratio** to illustrate the difference between operating and capital lease. We will discuss debt ratio at the end of the chapter, but for now, it is calculated as total liabilities divided by total assets. It shows how much of the operations are funded by non-shareholders. The basic impact of this lease is as follows:




Computing the debt ratio two ways (operating leases versus reclassifying them as capital leases) clearly shows that the addition of assets and liabilities when treated as capital lease will result in a higher debt ratio. You can see that a capital lease increases the debt ratio—by about eight percentage points in this example, but potentially a lot more for other companies. By contrast, notice that operating leases don't affect the debt ratio. For this reason, many companies prefer operating leases because they allow them to obtain the use of an asset without showing the obligations for the contractual payments.

Another way to think about it, you will see most businesses having far more operating lease commitments than capital lease obligations. For example, for GSK, it was £354 million of operating lease commitments versus £95 million of capital lease obligations.

## Financing Operations with Bonds or Shares?

**OBJECTIVE**

**4 Understand** the advantages and disadvantages of borrowing

Managers must decide how to get the money they need to pay for assets. There are three main ways to finance operations:

- by retained earnings
- by issuing shares
- by issuing bonds (or notes) payable

Each strategy has its advantages and disadvantages.

1. ***Financed by retained earnings*** means that the company already has enough cash to purchase the needed assets. There's no need to issue more shares or to borrow money. This strategy is low-risk to the company.
2. ***Issuing shares*** creates no liabilities or interest expense and is less risky to the issuing corporation. But issuing shares is more costly, as we shall see.

3. ***Issuing bonds or notes payable*** does not dilute control of the corporation. It often results in higher earnings per share because the earnings on borrowed money can potentially exceed interest expense. But creating more debt increases the risk of the company.

**Earnings per share (EPS)** is the amount of a company's net income for each of its shares outstanding. EPS is the single most important statistic for evaluating companies because EPS is a standard measure of operating performance that applies to companies of different sizes and from different industries. We will cover EPS in more detail in Chapter 10.

Suppose your business needs $500,000 for expansion. Assume that it has net income of $300,000 and 100,000 shares outstanding. You are considering two financing plans. Plan 1 is to issue $500,000 of 6% bonds payable, and plan 2 is to issue 50,000 shares for $500,000. You believe the new cash can be invested in operations to earn income of $200,000 before interest and taxes.

Exhibit 9-10 shows the earnings-per-share advantage of borrowing. As you can see, your EPS amount is higher if you borrow by issuing bonds (compare lines 9 and 10). You will earn more on the investment ($102,000) than the interest it pays on the bonds ($30,000). This is called **trading on the equity**, or using **leverage**. It is widely used to increase earnings per share.

**EXHIBIT 9-10 | Earnings-Per-Share Advantage of Borrowing**

| | Plan 1 | | Plan 2 | |
|---|---|---|---|---|
| | Borrow $500,000 at 6% | | Issue 50,000 Shares of Share Capital for $500,000 | |
| 1 Net income before expansion | | $300,000 | | $300,000 |
| 2 Expected project income before interest and income tax | $200,000 | | $200,000 | |
| 3 Less interest expense ($500,000 × 0.06) | (30,000) | | 0 | |
| 4 Expected project income before income tax | 170,000 | | 200,000 | |
| 5 Less income tax expense (40%) | (68,000) | | (80,000) | |
| 6 Expected project net income | | 102,000 | | 120,000 |
| 7 Total company net income | | $402,000 | | $420,000 |
| 8 Earnings per share after expansion: | | | | |
| 9 Plan 1 Borrow ($402,000/100,000 shares) | | $4.02 | | |
| 10 Plan 2 Issue Shares ($420,000/150,000 shares) | | | | $2.80 |

In this case borrowing results in higher earnings per share than issuing new shares. Borrowing has its disadvantages, however. Interest expense may be high enough to eliminate net income and lead to losses. Also, borrowing creates liabilities that must be paid during bad years as well as good years. In contrast, a company that issues shares can omit its dividends during a bad year. The Decision Guidelines provide some help in deciding how to finance operations.

# DECISION GUIDELINES

## FINANCING WITH DEBT OR WITH SHARES

**Nando's** is the leading chain of Portuguese/Mozambique-themed restaurants, famous for its flame-grilled chicken and "Peri-Peri" sauces. Originated in South Africa, Nando's is now present in over 26 countries and has continued its expansion plan. Suppose Nando's is expanding into a new country or region. Take the role of Fernando Duarte and Robert Brozin, founders of Nando's, and assume you must make some key decisions about how to finance the expansion.

| Decision | Guidelines |
|---|---|
| How will you finance Nando's expansion? | Your financing plan depends on Nando's ability to generate cash flow, your willingness to give up some control of the business, the amount of financing risk you are willing to take, and Nando's credit rating. |
| Do Nando's operations generate enough cash to meet all its financing needs? | If yes, the business needs little outside financing. There is no need to borrow.<br>If no, the business will need to issue additional shares or borrow the money. |
| Are you willing to give up some of your control of the business? | If yes, then issue shares to other shareholders, who can vote their shares to elect the company's directors.<br>If no, then borrow from bondholders, or financial institution, who have no vote in the management of the company. |
| How much financing risk are you willing to take? | If much, then borrow as much as you can, and you may increase Nando's earnings per share. But this will increase the business's debt ratio and the risk of being unable to pay its debts.<br>If little, then borrow sparingly. This will hold the debt ratio down and reduce the risk of default on borrowing agreements. But Nando's earnings per share may be lower than if you were to borrow. |
| How good is the business's credit rating? | The better the credit rating, the easier it is to borrow on favorable terms. A good credit rating also makes it easier to issue shares. Neither shareholders nor creditors will entrust their money to a company with a bad credit rating. |

## Debt Ratio

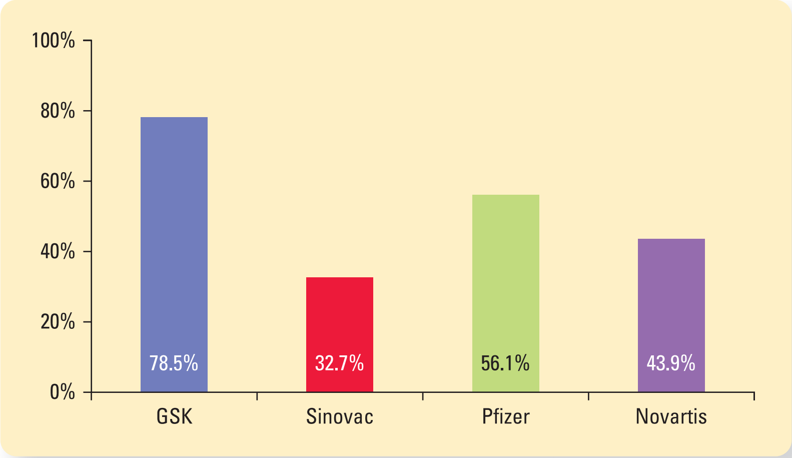
We have just seen how borrowing can increase EPS. But too much debt can lead to bankruptcy if the business cannot pay liabilities as they come due. Many companies in the recent financial crisis fell into the debt trap because they leveraged (borrowed) too much, in anticipation of an unending booming economy, which ran into a crisis eventually.

The debt ratio is a general measure of an entity's indebtedness. A simple version of the ratio expresses this indebtedness as the percentage of the assets that are financed by creditors. GSK's 2011 debt ratio, for example, is its total liabilities (£32,253, line 13 of its balance sheet, see earlier) divided by its total assets (£41,080, line 1), which is 78.5%. As you can see, GSK's debt ratio has increased slightly from 2010.

| Debt Ratio | GSK 2011 | GSK 2010 |
|---|---|---|
| $\frac{\text{Total liabilities}}{\text{Total assets}}$ | $\frac{32{,}253}{41{,}080} = 78.5\%$ | $\frac{32{,}485}{42{,}230} = 76.9\%$ |

Let's compare this to other pharmaceutical companies. **Sinovac Biotech** is a China-based pharmaceutical company listed on the NASDAQ, the first company in the world to receive approval for its H1N1 ("bird flu") vaccine in 2009. **Novartis** and **Pfizer**, two other leading pharmaceutical companies, complete our comparisons (see Exhibit 9-11).

EXHIBIT 9-11 | Debt Ratio Comparisons



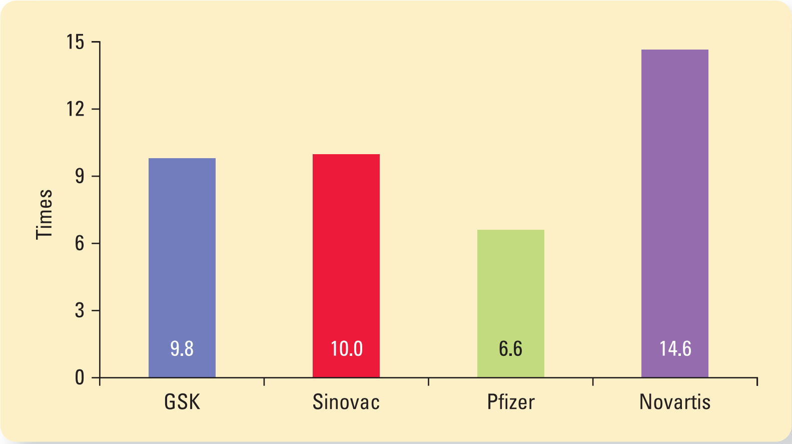

It appears that GSK is more leveraged compared to Sinovac, Pfizer and Novartis. Different businesses borrow different amounts based on their current needs, expansion plans, and financing model.

## The Times-Interest-Earned Ratio

The debt ratio measures the effect of debt on the company's financial position but says nothing about the ability to pay interest expense. Analysts use a second ratio—the **times-interest-earned ratio**—to relate income to interest expense. To compute this ratio, we divide income from operations (also called operating income) by interest expense. This ratio measures the number of times that operating income can cover interest expense. The times-interest-earned ratio is also called the **interest-coverage ratio**. A high times-interest-earned ratio indicates ease in paying interest expense; a low value suggests difficulty. GSK's times-interest-earned ratios for the last two years are shown below, followed by comparisons to the other pharmaceutical companies (see Exhibit 9-12).

| Times Interest Earned | GSK 2011 | GSK 2010 |
|---|---|---|
| $\frac{\text{Operating income}}{\text{Interest expense}}$ | $\frac{7,807}{799} = 9.8$ times | $\frac{3,783}{831} = 4.6$ times |

EXHIBIT 9-12 | Times-Interest-Earned Ratio Comparisons



GSK's times-interest-earned has improved significantly from 2010, and is comparable to that of Sinovac's. In contrast, Novartis' times-interest-earned ratio was the highest, at almost 15 times and Pfizer's is the lowest at 6.6 times. So whilst GSK's debt ratio is highest, it appears to have adequate ability to cover its interest expense.

# Reporting Liabilities

## Reporting on the Balance Sheet

**OBJECTIVE**

**5** **Report** liabilities on the balance sheet

This chapter began with the liabilities reported on the consolidated balance sheets of GSK. Exhibit 9-13 reproduces the liabilities section of its balance sheet.

**EXHIBIT 9-13 | GSK's Consolidated Balance Sheet**

**GlaxoSmithKline (GSK) plc**
**Consolidated Balance Sheet (Adapted)**
As at December 31

| (In millions £, Pounds Sterling) | | 2011 | 2010 |
|---|---|---|---|
| **Assets** | | | |
| 1 | Total assets | 41,080 | 42,230 |
| **Liabilities and Equity** | | | |
| Current liabilities: | | | |
| 2 | Short-term borrowings | 2,698 | 291 |
| 3 | Trade and other payables | 7,359 | 6,888 |
| 4 | Short-term provisions | 3,135 | 4,380 |
| 5 | Tax payable | 1,643 | 1,047 |
| 6 | Other current liabilities | 175 | 188 |
| 7 | Total current liabilities | 15,010 | 12,794 |
| Non-current liabilities: | | | |
| 8 | Long-term borrowings | 12,203 | 14,809 |
| 9 | Pensions and other post-employment benefits | 3,091 | 2,672 |
| 10 | Other provisions | 499 | 904 |
| 11 | Other non-current liabilities | 1,450 | 1,306 |
| 12 | Total non-current liabilities | 17,243 | 19,691 |
| 13 | Total liabilities | 32,253 | 32,485 |
| 14 | Total equity | 8,827 | 9,745 |
| 15 | Total liabilities and equity | 41,080 | 42,230 |

*Source*: GSK

Each of these line items has explanatory notes to the financial statements that further detail the breakdown and nature of the liabilities. You saw earlier how the notes to the financial statements provided further details on components of trade and account payables. Here's another example of such disclosures. Note 32 (extracted below) provides a listing of all of GSK's borrowings.

Working back and forth between the financial statements and the related notes is an important part of reading financial statements. You now have an understanding of the major categories of liabilities reported on an actual balance sheet and how to account for them.

**EXCERPTS (ADAPTED) FROM GSK NOTES TO THE 2011 FINANCIAL STATEMENTS**

| Short-term borrowings (in £ million) | 2011 | 2010 |
|---|---|---|
| Bank loans and overdrafts | 165 | 259 |
| Obligations under finance lease | 34 | 32 |
| 3.000% € European Medium Term Note 2012 @ LSE | 626 | 0 |
| 5.125% € European Medium Term Note 2012 @ LSE | 1,873 | 0 |
| | **2,698** | **291** |
| **Long-term borrowings (in £ million)** | | |
| 3.000% € European Medium Term Note 2012 @ LSE | 0 | 640 |
| 5.125% € European Medium Term Note 2012 @ LSE | 0 | 1,919 |
| 4.850% US$ Medium Term Note 2013 @ NYSE | 1,611 | 1,599 |
| 4.375% US$ US Medium Term Note 2014 @ LSE | 1,046 | 1,049 |
| 3.875% € European Medium Term Note 2015 @ LSE | 1,326 | 1,358 |
| 5.625% € European Medium Term Note 2017 @ LSE | 1,037 | 1,062 |
| 5.65% US$ US Medium Term Note 2018 @ NYSE | 1,768 | 1,756 |
| 4.00% € European Medium Term Note 2025 @ LSE | 616 | 632 |
| 5.25% £ European Medium Term Note 2033 @ LSE | 981 | 981 |
| 5.375% US$ US Medium Term Note 2034 @ LSE | 320 | 318 |
| 6.375% US$ US Medium Term Note 2038 @ NYSE | 1,756 | 1,744 |
| 6.375% £ European Medium Term Note 2039 @ LSE | 694 | 694 |
| 5.25% £ European Medium Term Note 2042 @ LSE | 986 | 985 |
| Bank loans | 1 | 1 |
| Obligations under finance leases | 61 | 71 |
| | **12,203** | **14,809** |
| **Total borrowings** | **14,901** | **15,100** |

*Note: LSE = London Stock Exchange, NYSE = New York Stock Exchange*

*Source*: GSK

## Reporting the Fair Market Value of Long-Term Debt

*IFRS 7—Financial Instruments: Disclosures* requires companies to report the fair market value of their financial liabilities. At December 31, 2011, GSK's Note 41 included this excerpt:

**EXCERPTS (ADAPTED) FROM GSK NOTES TO THE 2011 FINANCIAL STATEMENTS**

The fair values of the financial liabilities are included at the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

The following methods and assumptions were used to estimate the fair values:

- Short-term loans and overdrafts – approximates to the carrying amount because of the short maturity of these instruments
- Long-term loans – based on quoted market prices in the case of the Eurobonds and other fixed rate borrowings; approximates to the carrying amount in the case of floating rate bank loans and other loans

| Financial liabilities (in £ million) | Carrying Amount 2011 | Fair Values 2011 |
|---|---|---|
| Bonds | 14,640 | 16,917 |
| Bank loan and overdrafts | 166 | 166 |
| Obligations under finance leases | 95 | 95 |
| | **14,901** | **17,178** |

*Source*: GSK

Overall, the fair market value of GSK's interest-bearing liabilities and borrowings is higher than the carrying amounts on its books. What does it means? If GSK wants to buy the bonds back from the bondholders, GSK must be prepared to pay £2,277 million more than their carrying amounts. We discussed earlier how the prices of the bonds after issuance are something that the bondholder cares very much about, but from an accounting perspective, we only account for the bonds based on a bond was originally issued, not any subsequent price changes. As the bonds mature, all else being equal, you will see that the gap between fair value and carrying amount of the bonds will diminish.

## Reporting Financing Activities on the Statement of Cash Flows

The GSK consolidated balance sheet (p. 572) shows that the company finances 78.5% of its operations with debt. Let's examine GSK's financing activities as reported on its statement of cash flows. Exhibit 9-14 is an excerpt from GSK's consolidated statement of cash flows.

### EXHIBIT 9-14 | GSK's Consolidated Statement of Cash Flows

**GlaxoSmithKline (GSK) plc**
**Consolidated Cash Flow Statements (Adapted)**
For the year ended December 31

| | (In millions £, Pounds Sterling) | 2011 | 2010 |
|---|---|---|---|
| 1 | **Cash flow from operating activities** | | |
| 2 | Net profits after tax | 5,458 | 1,853 |
| 3 | Increase/(decrease) in trade payables | 442 | 154 |
| 4 | Increase/(decrease) in other payables | 2 | (179) |
| 5 | Increase/(decrease) in pension and other provisions | (2,181) | 1,653 |
| 6 | All other adjustments | 2,529 | 3,316 |
| 7 | | 6,250 | 6,797 |
| 8 | **Cash flow from investing activities** | (112) | (1,868) |
| 9 | **Cash flow from financing activities** | | |
| 10 | Increase in loans | 45 | 6 |
| 11 | Repayment of loans | (8) | (1,296) |
| 12 | Repayment of obligations under finance leases | (38) | (45) |
| 13 | All other financing cash flow | (6,231) | (4,236) |
| 14 | | (6,232) | (5,571) |
| 15 | **Net cash flow** | (94) | (642) |

*Source*: GSK

We will be looking at the Cash Flow Statement in detail in Chapter 11, but let's just have a quick look at GSK's cash flow from operating and financing activities. During the 2011 financial year, GSK has increases in trade and other payables that added to cash flow from operating activities, as well as a big decrease in its pensions and other provisions that resulted in cash outflows for operating activities. There was not much movement in 2011 on loans and lease obligations under financing activities. There was a significant cash outflow for repayment of loans in 2010 amounting to £1,296 million.

# END-OF-CHAPTER SUMMARY PROBLEM

The **Cessna Aircraft Company** has an outstanding issue of 8% convertible bonds that mature in 20X8. Suppose the bonds are issued on October 1, 20X0, and pay interest each April 1 and October 1.

### *Requirements*

1. Complete the following effective-interest amortization table through October 1, 20X2.
   **Bond Data**
   Maturity (face) value—$100,000
   Stated interest rate—8%
   Interest paid—4% semi-annually, $4,000 ($100,000 × 0.08 × 6/12)
   Market interest rate at the time of issue—9% annually, $4\frac{1}{2}$% semi-annually
   Issue price—93.5

Amortization Table

| | A | B | C | D | E |
|---|---|---|---|---|---|
| Semi-annual Interest Date | Interest Payment (4% of Maturity Amount) | Interest Expense (4½% of Preceding Bond Carrying Amount) | Discount Amortization (B – A) | Discount Account Balance (Preceding D – C) | Bond Carrying Amount ($100,000 – D) |
| 10-1-X0 | | | | | |
| 4-1-X1 | | | | | |
| 10-1-X1 | | | | | |
| 4-1-X2 | | | | | |
| 10-1-X2 | | | | | |

2. Using the amortization table, record the following transactions:
   a. Issuance of the bonds on October 1, 20X0.
   b. Accrual of interest and amortization of the bonds on December 31, 20X0.
   c. Payment of interest and amortization of the bonds on April 1, 20X1.
   d. Conversion of one-third of the bonds payable into no-par share on October 2, 20X2. For no-par share, transfer the bond carrying amount into the Share Capital account. There is no Additional Paid-in Capital account.
   e. Retirement of two-thirds of the bonds payable on October 2, 20X2. Purchase price of the bonds was based on their call price of 102.

## Answers

### *Requirement 1*

| | A | B | C | D | E |
|---|---|---|---|---|---|
| Semi-annual Interest Date | Interest Payment (4% of Maturity Amount) | Interest Expense (4½% of Preceding Bond Carrying Amount) | Discount Amortization (B – A) | Discount Account Balance (Preceding D – C) | Bond Carrying Amount ($100,000 – D) |
| 10-1-X0 | | | | $6,500 | $93,500 |
| 4-1-X1 | $4,000 | $4,208 | $208 | 6,292 | 93,708 |
| 10-1-X1 | 4,000 | 4,217 | 217 | 6,075 | 93,925 |
| 4-1-X2 | 4,000 | 4,227 | 227 | 5,848 | 94,152 |
| 10-1-X2 | 4,000 | 4,237 | 237 | 5,611 | 94,389 |

*Requirement 2*

| | | | | |
|---|---|---|---|---|
| a. | 20X0 | | | |
| | Oct 1 | Cash ($100,000 × 0.935) | 93,500 | |
| | | Discount on Bonds Payable | 6,500 | |
| | | Bonds Payable | | 100,000 |
| | | *To issue bonds at a discount.* | | |
| | | | | |
| b. | Dec 31 | Interest Expense ($4,208 × 3/6) | 2,104 | |
| | | Discount on Bonds Payable ($208 × 3/6) | | 104 |
| | | Interest Payable ($4,000 × 3/6) | | 2,000 |
| | | *To accrue interest and amortize the bonds.* | | |
| | | | | |
| c. | 20X1 | | | |
| | Apr 1 | Interest Expense ($4,208 × 3/6) | 2,104 | |
| | | Interest Payable | 2,000 | |
| | | Discount on Bonds Payable ($208 × 3/6) | | 104 |
| | | Cash | | 4,000 |
| | | *To pay semi-annual interest, part of which was* | | |
| | | *accrued, and amortize the bonds.* | | |
| | | | | |
| d. | 20X2 | | | |
| | Oct 2 | Bonds Payable ($100,000 × 1/3) | 33,333 | |
| | | Discount on Bonds Payable ($5,611 × 1/3) | | 1,870 |
| | | Share Capital ($94,389 × 1/3) | | 31,463 |
| | | *To record conversion of bonds payable.* | | |
| | | | | |
| e. | Oct 2 | Bonds Payable ($100,000 × 2/3) | 66,667 | |
| | | Loss on Retirement of Bonds | 5,074 | |
| | | Discount on Bonds Payable ($5,611 × 2/3) | | 3,741 |
| | | Cash ($100,000 × 2/3 × 1.02) | | 68,000 |
| | | *To retire bonds payable before maturity.* | | |

# REVIEW LIABILITIES

## Quick Check (Answers are given at the end of the chapter.)

1. Which of the following is not an estimated liability?
   **a.** Product warranties
   **b.** Retirement obligations
   **c.** Income taxes
   **d.** Allowance for bad debts
2. The estimated warranty obligation at the end of the financial year is best described as a . . .
   **a.** Contingent liability
   **b.** Constructive liability
   **c.** Unrecognized liability
   **d.** Uncertain liability
   **e.** Liability

3. Crank the Volume grants a 120-day warranty on all stereos. Historically, approximately 1% of all units sold prove to be defective, requiring an average repair bill of $100. Sales in March are $450,000 for 4,500 units. In March, $3,800 of defective units are returned for replacement. What entry must Crank the Volume make at the end of March to record the warranty expense?
   **a.** Debit Warranty Expense and credit Provision for Warranty Repairs, $3,800
   **b.** Debit Warranty Expense and credit Provision for Warranty Repairs, $4,500
   **c.** Debit Warranty Expense and credit Cash, $4,500
   **d.** No entry is needed at March 31
4. Expedition Camera Co. was organized to sell a single product that carries a 45-day warranty against defects. Engineering estimates indicate that 4% of the units sold will prove defective and require an average repair cost of $25 per unit. During Expedition's first month of operations, total sales were 900 units; by the end of the month, 15 defective units had been repaired. The liability for product warranties at month-end should be
   **a.** $1,275.
   **b.** $375.
   **c.** $525.
   **d.** $900.
   **e.** none of these.
5. A contingent liability should be recorded in the accounts
   **a.** if the amount can be reasonably estimated.
   **b.** if the amount is due in cash within one year.
   **c.** if the related future event will probably occur.
   **d.** Both b and c
   **e.** Both a and c
6. An unsecured bond is a
   **a.** mortgage bond.
   **b.** debenture bond.
   **c.** registered bond.
   **d.** serial bond.
   **e.** term bond.
7. The Discount on Bonds Payable account
   **a.** is expensed at the bond's maturity.
   **b.** is a miscellaneous revenue account.
   **c.** has a normal credit balance.
   **d.** is a contra account to Bonds Payable.
   **e.** is an expense account.
8. The discount on a bond payable becomes
   **a.** a reduction in interest expense over the life of the bonds.
   **b.** a liability in the year the bonds are sold.
   **c.** additional interest expense over the life of the bonds.
   **d.** a reduction in interest expense the year the bonds mature.
   **e.** additional interest expense the year the bonds are sold.
9. A bond that matures in installments is called a
   **a.** term bond.
   **b.** secured bond.
   **c.** serial bond.
   **d.** zero coupon.
   **e.** callable bond.
10. The carrying value of Bonds Payable equals
   **a.** Bonds Payable + Accrued Interest.
   **b.** Bonds Payable + Discount on Bonds Payable.
   **c.** Bonds Payable − Premium on Bonds Payable.
   **d.** Bonds Payable − Discount on Bonds Payable.
11. A corporation issues bonds that pay interest each May 1 and November 1. The corporation's December 31 adjusting entry may include a
   **a.** credit to Discount on Bonds Payable.
   **b.** credit to Cash.
   **c.** credit to Interest Expense.
   **d.** debit to Interest Payable.
   **e.** debit to Cash.

**Use this information to answer questions 12–16.**
McCabe Corporation issued $550,000 of 7% 10-year bonds. The bonds are dated and sold on January 1, 20X1. Interest payment dates are January 1 and July 1. The bonds are issued for $512,408 to yield the market interest rate of 8%. Use the effective-interest method for questions 12–16.

**12.** What is the amount of interest expense that McCabe Corporation will record on July 1, 20X1, the first semi-annual interest payment date? (All amounts rounded to the nearest dollar.)
**a.** $20,496 **c.** $19,250
**b.** $38,500 **d.** $22,000

**13.** What is the amount of discount amortization that McCabe Corporation will record on July 1, 20X1, the first semi-annual interest payment date?
**a.** $0 **c.** $1,246
**b.** $2,562 **d.** $1,504

**14.** What is the total cash payment for interest for each 12-month period? (All amounts rounded to the nearest dollar.)
**a.** $22,000 **c.** $40,993
**b.** $38,500 **d.** $44,000

**15.** What is the total interest expense for the year ended December 31, 20X1?
**a.** $19,250 **c.** $40,942
**b.** $38,500 **d.** $41,042

**16.** What is the carrying amount of the bonds on the January 1, 20X2 balance sheet?
**a.** $514,950 **c.** $512,408
**b.** $513,654 **d.** $516,167

## Accounting Vocabulary

**accrued expense** (p. 540) An expense incurred but not yet paid in cash. Also called accrued liability.

**accrued liability** (p. 540) A liability for an expense that has not yet been paid. Also called accrued expense.

**bonds payable** (p. 549) Groups of notes payable issued to multiple lenders called bondholders.

**callable bond** (p. 563) Bonds that are paid off early at a specified price at the option of the issuer.

**capital lease** (p. 566) Lease agreement in which the lessee assumes, in substance, the risks and rewards of asset ownership.

**convertible bonds (or notes)** (p. 563) Bonds or notes that may be converted into the issuing company's share capital at the investor's option.

**current portion of long-term debt** (p. 546) The amount of the principal that is payable within one year.

**debentures** (p. 551) Unsecured bonds—bonds backed only by the good faith of the borrower.

**debt ratio** (p. 568). A measure of indebtedness or leverage. Measured by total liabilities divided by total assets.

**discount (on a bond)** (p. 551) Excess of a bond's face (par) value over its issue price.

**earnings per share (EPS)** (p. 569) Amount of a company's net income per share of its outstanding share capital.

**interest-coverage ratio** (p. 571) Another name for the times-interest-earned ratio.

**lease** (p. 564) Rental agreement in which the tenant (lessee) agrees to make rent payments to the property owner (lessor) in exchange for the use of the asset.

**lessee** (p. 564) Tenant or recipient of the leased asset in a lease agreement.

**lessor** (p. 564) Property owner of the leased asset in a lease agreement.

**leverage** (p. 569) Using borrowed funds to increase the return on equity. Successful use of leverage means earning more income on borrowed money than the related interest expense, thereby increasing the earnings for the owners of the business. Also called trading on the equity.

**market interest rate** (p. 552) Interest rate that investors demand for loaning their money. Also called effective interest rate.

**operating lease** (p. 565) A lease in which the lessee does not assume the risks or rewards of asset ownership.

**payroll** (p. 541) Employee compensation, a major expense of many businesses.

**pension** (p. 542) Employee compensation that will be paid during the employee's retirement.

**premium (on a bond)** (p. 551) Excess of a bond's issue price over its face (par) value.

**present value** (p. 551) Amount a person would invest now to receive a greater amount at a future date.

**serial bonds** (p. 551) Bonds that mature in installments over a period of time.

**short-term notes payable** (p. 546) Note payable due within one year.

**stated interest rate** (p. 552) Interest rate that determines the amount of cash interest the borrower pays and the investor receives each year.

**term bonds** (p. 551) Bonds that all mature at the same time for a particular issue.

**times-interest-earned ratio** (p. 571) Ratio of income from operations to interest expense. Measures the number of times that operating income can cover interest expense. Also called the interest-coverage ratio.

**trading on the equity** (p. 569) Earning more income on borrowed money than the related interest expense, thereby increasing the earnings for the owners of the business. Also called leverage.

**underwriter** (p. 550) Organization that purchases the bonds from an issuing company and resells them to its clients or sells the bonds for a commission, agreeing to buy all unsold bonds.

# ASSESS YOUR PROGRESS

## Short Exercises

**S9-1** ***(Learning Objective 1: Accounting for a note payable)*** Franklin Sports Authority purchased inventory costing $5,000 by signing an 8% short-term note payable. The purchase occurred on September 30, 20X0. Franklin pays annual interest each year on September 30. Journalize the company's (a) purchase of inventory, (b) accrual of interest expense on June 30, 20X1, which is the year-end, and (c) payment of the note plus interest on September 30, 20X1. (Round your answers to the nearest whole number.)

**S9-2** ***(Learning Objective 1: Reporting a short-term note payable and the related interest in the financial statements)*** This short exercise works with Short Exercise 9-1.

1. Refer to the data in Short Exercise 9-1. Show what the company would report on its balance sheet at June 30, 20X1, and on its income statement for the year ended on that date.
2. What single item will the financial statements for the year ended June 30, 20X2, report? Identify the financial statement, the item, and its amount.

**S9-3** ***(Learning Objective 1: Accounting for warranty expense and provision for warranty repairs)*** Trekster guarantees automobiles against defects for five years or 55,000 miles, whichever comes first. Assume that a Trekster dealer in Paris, France, made sales of $483,000 during 20X0. Trekster expects warranty costs during the five-year period to add up to about $28,980. Trekster received cash for 30% of the sales and took notes receivable for the remainder. Payments to satisfy customer warranty claims totaled $19,000 during 20X0.

1. Record the sales, warranty expense, and warranty payments for Trekster.
2. Post to the Provision for Warranty Repairs T-account. The beginning balance was $11,000. At the end of 20X0, how much in provision for warranty repairs does Trekster owe to its customers?

**S9-4** ***(Learning Objective 1: Applying accounting standards; reporting warranties in the financial statements)*** Refer to the data given in Short Exercise 9-3. What amount of warranty expense will Trekster report during 20X0? Which accounting principle addresses this situation? Does the warranty expense for the year equal the year's cash payments for warranties? Explain the relevant accounting principle as it applies to measuring warranty expense.

**S9-5** ***(Learning Objective 1: Interpreting a company's contingent liabilities)*** PB Petroleum Inc., an oil company, included a disclosure in its annual report stating that it was denying a variety of litigations from environmental groups that arose following an incident on one of their rigs in the Gulf of Mexico.

How can a contingency liability become a real liability for the company? What would be the impact on the financial statements if these claims are recognized as a provision instead of contingent liability?

**S9-6** ***(Learning Objective 2: Pricing bonds)*** Compute the cash received from the issuance of the following bonds:

**a.** $300,000 issued at 75.75
**b.** $300,000 issued at 102.75
**c.** $300,000 issued at 94.50
**d.** $300,000 issued at 104.50

**S9-7** ***(Learning Objective 2: Determining bond prices at par, discount, or premium)*** Determine whether the following bonds payable will be issued at maturity value, at a premium, or at a discount:

**a.** The market interest rate is 5%. Carlisle Corp. issues bonds payable with a stated rate of 4.5%.
**b.** Oiler, Inc., issued 7% bonds payable when the market rate was 6.75%.
**c.** Toronto Corp. issued 5% bonds when the market interest rate was 5%.
**d.** Ontario Company issued bonds payable that pay stated interest of 6%. At issuance, the market interest rate was 7.25%.

**S9-8** ***(Learning Objective 2: Journalizing basic bond payable transactions; bonds issued at par)*** Deer Corp. issued 15-year bonds payable with a face amount of $80,000, when the market interest rate was 5.5%. The bonds were isued at par. Assume that the accounting year of Deer ends on December 31. Journalize the following transactions for Deer. Include an explanation for each entry.

**a.** Issuance of the bonds payable at par on July 1, 20X0.
**b.** Accrual of interest expense on December 31, 20X0 (rounded to the nearest dollar).
**c.** Payment of cash interest on January 1, 20X1.
**d.** Payment of the bonds payable at maturity.

**S9-9** ***(Learning Objectives 2: Issuing bonds payable; amortizing bonds by the effective-interest method)*** GIT, Inc., issued $600,000 of 5%, 12-year bonds payable on March 31, 20X0. The market interest rate at the date of issuance was 8%, and the GIT bonds pay interest semi-annually.

1. Prepare an effective-interest amortization table for the bonds through the first three interest payments. Round amounts to the nearest dollar.
2. Record GIT, Inc.'s issuance of the bonds on March 31, 20X0, and payment of the first semi-annual interest amount and amortization of the bond discount on September 30, 20X0. Explanations are not required.

**S9-10** ***(Learning Objectives 2, 3: Accounting for bonds payable; analyzing data on long-term debt)*** Use the amortization table that you prepared for GIT's bonds in Short Exercise 9-9 to answer the following questions:

1. How much cash did GIT borrow on March 31, 20X0? How much cash will GIT pay back at maturity on March 31, 20Y2 (i.e. 12 years later).
2. How much cash interest will GIT pay each six months?
3. How much interest expense will GIT report on September 30, 20X0, and on March 31, 20X1? Why does the amount of interest expense increase each period?

**S9-11** ***(Learning Objectives 2: Issuing bonds payable; accruing interest; amortizing bonds by the effective interest method)*** Sunset Drive-Ins Ltd. issued a $500,000, 8%, 10-year bond payable on July 1, 20X0 when market rate was 10%. Also assume that Sunset's accounting year ends on December 31. Journalize the following transactions for Sunset Drive-Ins Ltd., including an explanation for each entry:

**a.** Issuance of the bond payable on July 1, 20X0.
**b.** Accrual of interest expense and amortization of bonds on December 31, 20X0. (Use the effective interest amortization method, and round amounts to the nearest dollar.)
**c.** Payment of the first semi-annual interest amount on January 1, 20X1.

**S9-12** ***(Learning Objective 3: Recording Operating and Capital lease)*** Gary Pan Enterprises entered into two lease agreements for 5 years on January 1, 20X0. Both leases require a payment of $10,000 per year at the end of each year. Lease 1 is structured as an operating lease whilst Lease 2 is structured as a capital lease with an implicit interest rate of 5%. Prepare all relevant journal entries for both leases on:

**a.** The day of signing the lease contract
**b.** The day of the first lease payment

**S9-13** ***(Learning Objective 4: Computing earnings-per-share effects of financing with bonds versus shares)*** Speedtown Marina needs to raise $3 million to expand the company. Speedtown Marina is considering the issuance of either:

- $3,000,000 of 8% bonds payable to borrow the money, or
- 100,000 shares of share capital at $30 per share.

Before any new financing, Speedtown Marina expects to earn net income of $300,000, and the company already has 100,000 shares of share capital outstanding. Speedtown Marina believes the expansion will increase income before interest and income tax by $500,000. The income tax rate is 35%.

Prepare an analysis to determine which plan is likely to result in the higher earnings per share. Based solely on the earnings-per-share comparison, which financing plan would you recommend for Speedtown Marina?

**■ writing assignment**

**S9-14** ***(Learning Objective 4: Computing the times-interest-earned ratio)*** Houle Plumbing Products Ltd. reported the following data in 20X0 (in billions):

| | 20X0 |
|---|---|
| Net operating revenues | $29.7 |
| Operating expenses | 24.7 |
| Operating income | 5.0 |
| Non-operating items: | |
| Interest expense | (1.6) |
| Other | (0.1) |
| Net income | $ 3.3 |

Compute Houle's times-interest-earned ratio, and write a sentence to explain what the ratio value means. Would you be willing to lend Houle $1 billion? State your reason.

**S9-15** ***(Learning Objective 5: Reporting liabilities, including capital lease obligations)*** Like Home, Inc., includes the following selected accounts in its general ledger at December 31, 20X0:

| | |
|---|---|
| Bonds payable | $400,000 |
| Equipment | 112,000 |
| Current portion of bonds payable | 51,000 |
| Notes payable, long-term | 300,000 |
| Interest payable (due March 1, 20X1) | 1,000 |
| Accounts payable | 36,000 |
| Discount on bonds payable (all long-term) | 12,000 |
| Accounts receivable | 27,000 |

Prepare the liabilities section of Like Home, Inc.'s balance sheet at December 31, 20X0, to show how the company would report these items. Report total current liabilities and total liabilities.

## Exercises

All of the A and B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

MyAccountingLab

### (Group A)

**E9-16A** *(Learning Objective 1: Accounting for warranty expense and the related liability)* The accounting records of From the Earth Ceramics included the following balances at the end of the period:

| Provision for Warranty Repairs | | Warranty Expense | |
|---|---|---|---|
| | Beg bal 3,000 | | |

From the Earth has determined that its warranty obligations at the end of the period are equal to $11,000. During 20X0, the business paid $4,000 to satisfy the warranty claims.

#### Requirements

1. Journalize From the Earth's warranty expense for the period and the company's cash payments to satisfy warranty claims. Explanations are not required.
2. Show what From the Earth will report on its income statement and balance sheet for this situation.
3. Which data item from Requirement 2 will affect From the Earth's current ratio? Will From the Earth's current ratio increase or decrease as a result of this item?

**E9-17A** *(Learning Objective 1: Recording and reporting current liabilities)* TransWorld Publishing completed the following transactions for one subscriber during 20X0:

| | |
|---|---|
| Oct 1 | Sold a one-year subscription, collecting cash of $1,400, plus sales tax of 8%. |
| Nov 15 | Remitted (paid) the sales tax to the TianJin Municipality. |
| Dec 31 | Made the necessary adjustment at year-end. |

#### Requirement

1. Journalize these transactions (explanations not required). Then report any liability on the company's balance sheet at December 31, 20X0.

**E9-18A** *(Learning Objective 1: Reporting payroll expense and liabilities)* Perform Talent Search has an annual payroll of $200,000. In addition, the company incurs a payroll tax expense of 8%. At December 31, Perform owes salaries of $8,100 and payroll tax of $800. The company will pay these amounts early next year. Show what Perform will report for the foregoing on its income statement and year-end balance sheet.

**E9-19A** *(Learning Objective 1: Recording note payable transactions)* Assume that Crandell Company completed the following note-payable transactions.

| | |
|---|---|
| **20X0** | |
| May 1 | Purchased delivery truck costing $83,000 by issuing a one-year, 6% note payable. |
| Dec 31 | Accrued interest on the note payable. |
| **20X1** | |
| May 1 | Paid the note payable at maturity. |

### Requirements

1. How much interest expense must be accrued at December 31, 20X0? (Round your answer to the nearest whole dollar.)
2. Determine the amount of Crandell's final payment on May 1, 20X1.
3. How much interest expense will Crandell report for 20X0 and for 20X1? (Round your answer to the nearest whole dollar.)

**E9-20A** ***(Learning Objective 1: Accounting for income tax)*** At December 31, 20X0, Souza Real Estate reported a current liability for income tax payable of $180,000. During 20X1, Souza earned income of $1,200,000 before income tax. The company's income tax rate during 20X1 was 36%. Also during 20X1, Souza paid income taxes of $370,000.

How much income tax payable did Souza Real Estate report on its balance sheet at December 31, 20X1? How much income tax expense did Souza report on its 20X1 income statement?

**writing assignment**

**E9-21A** ***(Learning Objectives 1, 5: Analyzing liabilities)*** Mountainside Manors, Inc., builds environmentally sensitive structures. The company's 20X1 revenues totaled $2,760 million, and at December 31, 20X1, the company had $650 million in current assets. The December 31, 20X1 and 20X0 balance sheets reported the liabilities and shareholders' equity as follows:

| At year-end (in millions) | 20X1 | 20X0 |
|---|---|---|
| Liabilities and Shareholders' Equity | | |
| Current Liabilities | | |
| Accounts payable | $ 138 | $ 179 |
| Accrued expenses | 155 | 172 |
| Employee compensation and benefits | 38 | 20 |
| Current portion of long-term debt | 9 | 24 |
| Total Current Liabilities | 340 | 395 |
| Long-Term Debt | 1,494 | 1,323 |
| Post-Retirement Benefits Payable | 122 | 123 |
| Other Liabilities | 12 | 8 |
| Shareholders' Equity | 2,027 | 1,784 |
| Total Liabilities and Shareholders' Equity | $3,995 | $3,633 |

### Requirements

1. Describe each of Mountainside Manors, Inc.'s liabilities and state how the liability arose.
2. What were the company's total assets at December 31, 20X1? Was the company's debt ratio at the end of 20X1 high, low, or in a middle range?

**E9-22A** ***(Learning Objective 1: Reporting a contingent liability)*** Roden Security Systems' revenues for 20X0 totaled $6.3 million. As with most companies, Roden is a defendant in lawsuits related to its products. Note 14 of the Roden Annual Report for 20X0 explains the company's policy on legal proceedings, stating that they will accrue for amounts related to legal matters if liability is probable and if it is reasonable to estimate an amount.

### Requirements

1. Suppose Roden's lawyers believe that a significant legal judgment against the company is reasonably possible. How should Roden report this situation in its financial statements?
2. Suppose Roden's lawyers believe it is probable that a $1.5 million judgment will be rendered against the company. Report this situation in Roden's financial statements. Journalize any entry requirements by IFRS. Explanations are not required.

**E9-23A** ***(Learning Objectives 1, 5: Reporting current and long-term liabilities)*** Assume that McKinley Electronics completed these selected transactions during June 20X0:

- **a.** Sales of $2,200,000 are subject to estimated warranty cost of $154,000. The provision for warranty repairs at the beginning of the year was $34,000, and warranty payments for the year totaled $50,000.
- **b.** On June 1, McKinley Electronics signed a $55,000 note payable that requires annual payments of $13,750 plus 6% interest on the unpaid balance each June 2.
- **c.** Music For You, Inc., a chain of music stores, ordered $125,000 worth of CD players. With its order, Music For You, Inc., sent a cheque for $125,000 in advance, and McKinley shipped $70,000 of the goods. McKinley will ship the remainder of the goods on July 3, 20X0.
- **d.** The June payroll of $260,000 is subject to employee withheld income tax of $30,000 and payroll tax of 7.65%. On June 30, McKinley pays employees their take-home pay and accrues all tax amounts.

***Requirement***

1. Report these items on McKinley Electronics' balance sheet at June 30, 20X0.

**E9-24A** ***(Learning Objectives 2: Issuing bonds payable (discount); paying and accruing interest; amortizing the bonds by the effective interest method)*** On January 31, Driftwood Logistics, Inc., issued 10-year, 6% bonds payable with a face value of $13,000,000. The bonds were issued at 94 when the market rate was 5% and pay interest on January 31 and July 31. Driftwood Logistics, Inc., amortizes bonds by the effective interest method.

***Requirements***

1. Record issuance of the bonds on January 31.
2. Record the semi-annual interest payment and amortization of bond discount on July 31.
3. Record the interest accrual and discount amortization on December 31.

**E9-25A** ***(Learning Objectives 2: Measuring cash amounts for a bond payable (premium); amortizing the bonds by the straight-line method)*** Federal Bank has $500,000 of 7% debenture bonds outstanding. The bonds were issued at 103 in 20X0 and mature in 20Z0 (i.e. 20 years later).

***Requirements***

1. How much cash did Federal Bank receive when it issued these bonds?
2. How much cash in total will Federal Bank pay the bondholders through the maturity date of the bonds?
3. Take the difference between your answers to Requirements 1 and 2. What does this number represent?
4. Estimate the Federal Bank's interest expense using the straight-line amortization method for the first two interest payments.

**E9-26A** ***(Learning Objective 2: Issuing bonds payable (discount); recording interest payments and the related bond amortization)*** Goal Sports Ltd. is authorized to issue $3,000,000 of 10%, 10-year bonds payable. On December 31, 20X0, when the market interest rate is 12%, the company issues $2,400,000 of the bonds. Goal Sports Ltd. amortizes bond discounts by the effective-interest method. The semi-annual interest dates are June 30 and December 31.

■ **spreadsheet**

***Requirements***

1. Prepare a bond amortization table for the first four semi-annual interest periods.
2. Record issuance of the bonds payable on December 31, 20X0, the first semi-annual interest payment on June 30, 20X1, and the second payment on December 31, 20X1.

**E9-27A** ***(Learning Objective 2: Issuing bonds payable (premium); recording interest accrual and payment and the related bond amortization)*** On June 30, 20X0, the market interest rate is 4%. Score Sports Ltd. issues $800,000 of 5%, 30-year bonds payable. The bonds pay interest on June 30 and December 31. Score Sports Ltd. amortizes bonds by the effective-interest method.

■ **spreadsheet**

### *Requirements*

1. Prepare a bond amortization table for the first four semi-annual interest periods.
2. Record the issuance of bonds payable on June 30, 20X0, the payment of interest on December 31, 20X0, and the payment of interest on June 30, 20X1.

■ **spreadsheet**

**E9-28A** ***(Learning Objective 2: Creating a bond amortization schedule (discount))*** Dracut Co. issued $100,000 of 8%, 10-year bonds payable on January 1, 20X0, when the market interest rate was 10%. The company pays interest annually at year-end.

### *Requirement*

1. Create a spreadsheet model to prepare a schedule to amortize the bonds. Use the effective-interest method of amortization. (Round to the nearest dollar.)

**E9-29A** ***(Learning Objective 3: Recording operating and capital lease, preparing lease amortization schedule)*** Big Billy Guff entered into a lease agreement for an asset on the following terms:

- Lease period = 4 years
- Lease payment = $20,000 at the end of each period
- Lease interest rate = 10%

### *Requirements*

1. Assuming that this lease qualifies as a capital lease, prepare the lease amortization table, starting from the signing of the lease to the final lease payments. Prepare the journal entry for first lease payment.
2. Assuming that this lease qualifies as an operating lease, prepare the journal entry for the first lease payment.
3. Explain how a lease for the same item may be treated so differently by two companies.

**E9-30A** ***(Learning Objective 4: Measuring the times-interest-earned ratio)*** Companies that operate in different industries may have very different financial ratio values. These differences may grow even wider when we compare companies located in different countries.

| (Amounts in millions or billions) | Company A | Company N | Company S |
|---|---|---|---|
| **Income data** | | | |
| Total revenues | $9,723 | ¥7,311 | €136,431 |
| Operating income | 291 | 222 | 5,581 |
| Interest expense | 42 | 31 | 671 |
| Net income | 27 | 15 | 441 |
| **Asset and liability data** | | | |
| (Amounts in millions or billions) | | | |
| Total current assets | 431 | 5,932 | 170,140 |
| Long-term assets | 139 | 39 | 45,315 |
| Total current liabilities | 197 | 2,197 | 72,400 |
| Long-term liabilities | 137 | 2,341 | 110,737 |
| Shareholders' equity | 236 | 1,433 | 32,318 |

Compare three leading companies on their current ratio, debt ratio, and times-interest-earned ratio. Compute three ratios for Company A, Company N, and Company S.

Based on your computed ratio values, which company looks the least risky?

**E9-31A** ***(Learning Objective 4: Analyzing alternative plans for raising money)*** First Bank Financial Services is considering two plans for raising $800,000 to expand operations. Plan A is to borrow at 10%, and plan B is to issue 200,000 shares of share capital at $4.00 per share. Before any new financing, First Bank Financial Services has net income of $600,000 and 200,000 shares of share capital outstanding. Assume you own most of First Bank Financial Services' existing shares. Its management believes the company can use the new funds to earn additional income of $800,000 before interest and taxes. First Bank Financial Services' income tax rate is 25%.

■ **writing assignment**

### *Requirements*

1. Analyze First Bank Financial Services' situation to determine which plan will result in higher earnings per share.
2. Which plan results in the higher earnings per share? Which plan allows you to retain control of the company? Which plan creates more financial risk for the company? Which plan do you prefer? Why? Present your conclusion in a memo to First Bank Financial Services' board of directors.

## (Group B)

**E9-32B** ***(Learning Objective 1: Accounting for warranty expense and the related liability)*** The accounting records of Made from Clay Ceramics included the following balances at the end of the period:

| Provision for Warranty Repairs | | Warranty Expense | |
|---|---|---|---|
| | Beg bal 4,000 | | |

Made from Clay has determined that its warranty obligations at the end of the year are equal to €12,000. During 20X0, the business paid €5,000 to satisfy the warranty claims.

### *Requirements*

1. Journalize Made from Clay's warranty expense for the period and the company's cash payments to satisfy warranty claims. Explanations are not required.
2. Show what Made from Clay will report on its income statement and balance sheet for this situation.
3. Which data item from Requirement 2 will affect Made from Clay's current ratio? Will Made from Clay's current ratio increase or decrease as a result of this item?

**E9-33B** ***(Learning Objective 1: Recording and reporting current liabilities)*** Trevor Publishing completed the following transactions for one subscriber during 20X0:

| | |
|---|---|
| Oct 1 | Sold a one-year subscription, collecting cash of €1,300, plus sales tax of 9%. |
| Nov 15 | Remitted (paid) the sales tax to the Limburg Provincial Office. |
| Dec 31 | Made the necessary adjustment at year-end. |

### *Requirement*

1. Journalize these transactions (explanations not required). Then report any liability on the company's balance sheet at December 31.

**E9-34B** ***(Learning Objective 1: Reporting payroll expense and liabilities)*** Potvin Talent Search has an annual payroll of €160,000. In addition, the company incurs a payroll tax expense of 9%. At December 31, Potvin owes salaries of €7,900 and payroll tax of €850. The company will pay these amounts early next year.

Show what Potvin will report for the foregoing on its income statement and year-end—balance sheet.

**E9-35B** ***(Learning Objective 1: Recording note payable transactions)*** Assume that Concilio Company completed the following note-payable transactions:

| | |
|---|---|
| **20X0** | |
| Mar 1 | Purchased delivery truck costing €82,000 by issuing a one-year, 5% note payable. |
| Dec 31 | Accrued interest on the note payable. |
| **20X1** | |
| Mar 1 | Paid the note payable at maturity. |

### *Requirements*

1. How much interest expense must be accrued at December 31, 20X0? (Round your answer to the nearest whole dollar.)
2. Determine the amount of Concilio's final payment on March 1, 20X1.
3. How much interest expense will Concilio report for 20X0 and for 20X1? (Round your answer to the nearest whole dollar.)

**E9-36B** ***(Learning Objective 1: Accounting for income tax)*** At December 31, 20X0, Saglio Real Estate reported a current liability for income tax payable of €190,000. During 20X1, Saglio earned income of €1,500,000 before income tax. The company's income tax rate during 20X1 was 25%. Also during 20X1, Saglio paid income taxes of €300,000.

How much income tax payable did Saglio Real Estate report on its balance sheet at December 31, 20X1? How much income tax expense did Saglio report on its 20X1 income statement?

■ **writing assignment**

**E9-37B** ***(Learning Objectives 1, 5: Analyzing liabilities)*** New Planet Structures, Inc., builds environmentally sensitive structures. The company's 20X1 revenues totaled €2,815 million, and at December 31, 20X1, the company had €654 million in current assets. The December 31, 20X1 and 20X0, balance sheets reported the liabilities and shareholders' equity as follows.

| At year-end (in millions) | 20X1 | 20X0 |
|---|---|---|
| Liabilities and Shareholders' Equity | | |
| Current Liabilities | | |
| Accounts payable | € 145 | € 183 |
| Accrued expenses | 161 | 182 |
| Employee compensation and benefits | 131 | 15 |
| Current portion of long-term debt | 3 | 9 |
| Total Current Liabilities | 340 | 389 |
| Long-Term Debt | 1,488 | 1,317 |
| Post-Retirement Benefits Payable | 129 | 135 |
| Other Liabilities | 11 | 7 |
| Shareholders' Equity | 2,030 | 1,776 |
| Total Liabilities and Shareholders' Equity | €3,998 | €3,624 |

### *Requirements*

1. Describe each of New Planet Structures, Inc.'s liabilities and state how the liability arose.
2. What were the company's total assets at December 31, 20X1? Was the company's debt ratio at the end of 20X1 high, low, or in a middle range?

**E9-38B** ***(Learning Objective 1: Reporting a contingent liability)*** Peterson Security Systems' revenues for 20X0 totaled €26.2 million. As with most companies, Peterson is a defendant in lawsuits related to its products. Note 14 of the Peterson Annual Report for 20X0 explains the company's policy on legal proceedings, stating that they will accrue for amounts related to legal matters if liability is probable and if it is reasonable to estimate an amount.

### *Requirements*

1. Suppose Peterson's lawyers believe that a significant legal judgment against the company is reasonably possible. How should Peterson report this situation in its financial statements?
2. Suppose Peterson's lawyers believe it is probable that a €2.5 million judgment will be rendered against the company. Report this situation in Peterson's financial statements. Journalize any entry required by IFRS. Explanations are not required.

**E9-39B** ***(Learning Objectives 1, 5: Reporting current and long-term liabilities)*** Assume Five Mile Electronics completed these selected transactions during September 20X0.

- **a.** Sales of €2,150,000 are subject to estimated warranty cost of €107,500. The provision for warranty repairs at the beginning of the year was €33,000, and warranty payments for the year totaled €57,000.
- **b.** On September 1, Five Mile Electronics signed a €40,000 note payable that requires annual payments of €10,000 plus 4% interest on the unpaid balance each September 2.
- **c.** Music For You, Inc., a chain of music stores, ordered €110,000 worth of CD players. With its order, Music For You, Inc., sent a cheque for €110,000, and Five Mile Electronics shipped €90,000 of the goods. Five Mile Electronics will ship the remainder of the goods on October 3, 20X0.
- **d.** The September payroll of €240,000 is subject to employee withheld income tax of €30,000 and payroll tax of 7.65%. On September 30, Five Mile Electronics pays employees their take-home pay and accrues all tax amounts.

### *Requirement*

1. Report these items on Five Mile Electronics' balance sheet at September 30, 20X0.

**E9-40B** ***(Learning Objectives 2: Issuing bonds payable (discount); paying and accruing interest; amortizing the bonds by the effective interest method)*** On January 31, Daughtry Logistics, Inc., issued five-year, 5% bonds payable with a face value of €11,000,000. The bonds were issued when the market interest rate was 6% and pay interest on January 31 and July 31. Daughtry Logistics, Inc., amortizes bond discounts by the effective interest method.

### *Requirements*

1. Record issuance of the bonds on January 31.
2. Record the semi-annual interest payment and amortization of bond discount on July 31.
3. Record the interest accrual and discount amortization on December 31.

**E9-41B** ***(Learning Objectives 2: Measuring cash amounts for a bond payable (premium); amortizing the bonds using the straight-line method)*** Commonwealth Bank has €400,000 of 9% debenture bonds outstanding. The bonds were issued at 104 in 20X0 and mature in 20Z0 (i.e. 20 years from now).

### *Requirements*

1. How much cash did Commonwealth Bank receive when it issued these bonds?
2. How much cash in total will Commonwealth Bank pay the bondholders through the maturity date of the bonds?
3. Take the difference between your answers to Requirements 1 and 2. What does this number represent?
4. Estimate Commonwealth Bank's annual interest expense by the effective interest amortization method.

■ spreadsheet

**E9-42B** ***(Learning Objectives 2: Issuing bonds payable (discount); recording interest payments and the related bond amortization)*** First Place Sports Ltd. is authorized to issue €1,000,000 of 9%, 10-year bonds payable. On December 31, 20X0, when the market interest rate is 10%, the company issues €800,000 of the bonds. First Place Sports amortizes bonds by the effective-interest method. The semi-annual interest dates are June 30 and December 31.

***Requirements***

1. Prepare a bond amortization table for the first four semi-annual interest periods.
2. Record issuance of the bonds payable on December 31, 20X0, the first semi-annual interest payment on June 30, 20X1, and the second payment on December 31, 20X1.

■ spreadsheet

**E9-43B** ***(Learning Objectives 2: Issuing bonds payable (premium); recording interest accrual and payment and the related bond amortization)*** On June 30, 20X0, the market interest rate is 9%. Team Sports Ltd. issues €3,200,000 of 10%, 10-year bonds payable. The bonds pay interest on June 30 and December 31. Team Sports Ltd. amortizes bonds by the effective-interest method.

***Requirements***

1. Prepare a bond amortization table for the first four semi-annual interest periods.
2. Record the issuance of bonds payable on June 30, 20X0, the payment of interest on December 31, 20X0, and the payment of interest on June 30, 20X1.

**spreadsheet**

■ spreadsheet

**E9-44B** ***(Learning Objective 2: Creating a bond amortization schedule (discount))*** Tewksbury Co. issued €720,000 of 11%, 10-year bonds payable on January 1, 20X0, when the market interest rate was 12%. The company pays interest annually at year-end.

***Requirement***

1. Create a spreadsheet model to prepare a schedule to amortize the bonds. Use the effective-interest method of amortization. (Round to the nearest dollar.)

**E9-45B** ***(Learning Objective 3: Recording operating and capital lease, preparing lease amortization schedule)*** Small Billy Guff entered into a lease agreement for an asset on the following terms:

- Lease period = 4 years
- Lease payment = €12,000 at the end of each period
- Lease interest rate = 8%

***Requirements***

1. Assuming that this lease qualifies as a capital lease, prepare the lease amortization table, starting from the signing of the lease to the final lease payments. Prepare the journal entry for first lease payment.
2. Assuming that this lease qualifies as an operating lease, prepare the journal entry for the first lease payment.
3. Explain how a lease for the same item may be treated so differently by two companies.

**E9-46B** ***(Learning Objective 4: Measuring the times-interest-earned ratio)*** Companies that operate in different industries may have very different financial ratio values. These differences may grow even wider when we compare companies located in different countries.

Compare three leading companies on their current ratio, debt ratio, and times-interest-earned ratio. Compute three ratios for Company F, Company L, and Company V.
Based on your computed ratio values, which company looks the least risky?

| (Amounts in millions or billions) | Company F | Company L | Company V |
|---|---|---|---|
| **Income data** | | | |
| Total revenues | $9,723 | ¥7,312 | €136,377 |
| Operating income | 294 | 229 | 5,627 |
| Interest expense | 43 | 29 | 687 |
| Net income | 25 | 12 | 443 |
| **Asset and liability data** | | | |
| (Amounts in millions or billions) | | | |
| Total current assets | 433 | 5,414 | 147,378 |
| Long-term assets | 137 | 731 | 61,153 |
| Total current liabilities | 227 | 2,237 | 72,600 |
| Long-term liabilities | 107 | 2,310 | 110,907 |
| Shareholders' equity | 236 | 1,598 | 25,024 |

■ **writing assignment**

**E9-47B** ***(Learning Objective 4: Analyzing alternative plans for raising money)*** First Federal Financial Services is considering two plans for raising €600,000 to expand operations. Plan A is to borrow at 5%, and plan B is to issue 100,000 shares of share capital at €6.00 per share. Before any new financing, First Federal Financial Services has a net income of €400,000 and 100,000 shares of share capital outstanding. Assume you own most of First Federal Financial Services' existing shares. Its management believes the company can use the new funds to earn additional income of €550,000 before interest and taxes. First Federal Financial Services' income tax rate is 40%.

***Requirements***

1. Analyze First Federal Financial Services' situation to determine which plan will result in the higher earnings per share.
2. Which plan results in the higher earnings per share? Which plan allows you to retain control of the company? Which plan creates more financial risk for the company? Which plan do you prefer? Why? Present your conclusion in a memo to First Federal Financial Services' board of directors.

## Challenge Exercises

**E9-48** ***(Learning Objectives 1, 5: Reporting current liabilities)*** The top management of Pratt Marketing Services examines the following company accounting records at August 29, immediately before the end of the year, August 31:

| | |
|---|---|
| Total current assets | $ 324,700 |
| Non-current assets | 1,067,500 |
| | $1,392,200 |
| Total current liabilities | $ 193,400 |
| Non-current liabilities | 253,400 |
| Owners' equity | 945,400 |
| | $1,392,200 |

Suppose Pratt's management wants to achieve a current ratio of 2.25. How much in current liabilities should Pratt's pay off within the next two days in order to achieve its goal?

**E9-49** ***(Learning Objectives 2, 5: Refinancing old bonds payable with new bonds)*** Great Brands completed one of the most famous debt refinancings in history. A debt refinancing occurs when a company issues new bonds payable to retire old bonds. The company debits the old bonds payable and credits the new bonds payable.

Great Brands had $140 million of 5.75% bonds payable outstanding, with 21 years to maturity. Great retired these old bonds by issuing $77 million of new 11% bonds payable to the holders of the old bonds and paying the bondholders $8 million in cash. Great issued both groups of bonds at face value. At the time of the debt refinancing, Great Brands had total assets of $497 million and total liabilities of $357 million. Net income for the most recent year was $6.2 million on sales of $1 billion.

***Requirements***

1. Journalize the debt refinancing transaction.
2. Compute annual interest expense for both the old and the new bond issues.
3. Why did Great Brands refinance the old bonds 5.75% payable with the new 11% bonds? Consider interest expense, net income, and the debt ratio.

**writing assignment**

**E9-50** ***(Learning Objectives 2, 3: Analyzing bond transactions)*** This (adapted) advertisement for a 20-year bond appeared in the *Wall Street Chronicle*.

> New issue on March 15, 20X0
>
> $700,000
>
> **HOLIDAY CORPORATION**
>
> **12% Subordinated Debentures due March 15, 20Y0**
> interest payable March 15 and September 15
>
> **Price 94.5%**

(Note: A *subordinated debenture* is an unsecured bond payable whose rights are less than the rights of other bondholders.)

***Requirements***

1. Journalize Holiday's issuance of these bonds payable on March 15, 20X0.
2. Compute the semi-annual cash interest payment on the bonds.
3. Compute the semi-annual interest expense under the effective interest amortization method.
4. Compute both the first-year (from March 15, 20X0, to March 15, 20X1) and the second-year interest expense (March 15, 20X1, to March 15, 20X2) under the effective-interest amortization method. The market rate for similar bonds at the date of issuance was 13%. Why is interest expense greater in the second year?

## Quiz

Test your understanding of accounting for liabilities by answering the following questions. Select the best choice from among the possible answers given.

**Q9-51** For the purpose of classifying liabilities as current or non-current, the term operating cycle refers to

**a.** the average time period between business recessions.
**b.** the time period between date of sale and the date the related revenue is collected.
**c.** the time period between purchase of merchandise and the conversion of this merchandise back to cash.
**d.** a period of one year.

**Q9-52** Failure to accrue interest expense results in
**a.** an understatement of net income and an understatement of liabilities.
**b.** an understatement of net income and an overstatement of liabilities.
**c.** an overstatement of net income and an overstatement of liabilities.
**d.** an overstatement of net income and an understatement of liabilities.

**Q9-53** Fastscars Warehouse operates in a state with a 5.5% sales tax. For convenience, Fastscars Warehouse credits Sales Revenue for the total amount (selling price plus sales tax) collected from each customer. If Fastscars Warehouse fails to make an adjustment for sales taxes,
**a.** net income will be overstated and liabilities will be understated.
**b.** net income will be understated and liabilities will be overstated.
**c.** net income will be understated and liabilities will be understated.
**d.** net income will be overstated and liabilities will be overstated.

**Q9-54** What kind of account is Unearned Revenue?
**a.** Asset account
**b.** Liability account
**c.** Expense account
**d.** Revenue account

**Q9-55** An end-of-period adjusting entry that debits Unearned Revenue most likely will credit
**a.** an asset.
**b.** a liability.
**c.** a revenue.
**d.** an expense.

**Q9-56** Alexander, Inc., manufactures and sells computer monitors with a three-year warranty. When calculated using the expected value approach, Alexander found that expected warranty costs are roughly equal to about 7% of sales during the warranty period. The following table shows the sales and actual warranty payments during the first two years of operations:

| Year | Sales | Warranty Payments |
|---|---|---|
| 20X0 | $450,000 | $ 3,150 |
| 20X1 | 750,000 | 30,000 |

Based on these facts, what amount of warranty liability should Alexander, Inc., report on its balance sheet at December 31, 20X1?
**a.** $33,150
**b.** $30,000
**c.** $84,000
**d.** $50,850

**Q9-57** Yesterday's Fashions has a debt that has been properly reported as a long-term liability up to the present year (20X0). Some of this debt comes due in 20X0. If Yesterday's Fashions continues to report the current position as a long-term liability, the effect will be to
**a.** overstate net income.
**b.** understate total liabilities.
**c.** overstate the current ratio.
**d.** understate the debt ratio.

**Q9-58** A bond with a face amount of $10,000 has a current price quote of 104.885. What is the bond's price?
**a.** $10,488.50
**b.** $1,048,850
**c.** $1,048.85
**d.** $10,104.89

**Q9-59** Bond carrying value equals Bonds Payable
**a.** minus Premium on Bonds Payable.
**b.** plus Discount on Bonds Payable.
**c.** minus Discount on Bonds Payable.
**d.** plus Premium on Bonds Payable.
**e.** Both a and b
**f.** Both c and d

**Q9-60** What type of account is Discount on Bonds Payable and what is its normal balance?
**a.** Adjusting amount; Credit
**b.** Reversing account; Debit
**c.** Contra liability; Credit
**d.** Contra liability; Debit

**Questions 61–64 use the following data:**
Spring Company sells $200,000 of 12%, 10-year bonds for 96 on April 1, 20X0. The market rate of interest on that day is 12.5%. Interest is paid each year on April 1.

**Q9-61** The entry to record the sale of the bonds on April 1 would be

| | | | |
|---|---|---|---|
| a. | Cash | 192,000 | |
| | Discount on Bonds Payable | 8,000 | |
| | Bonds Payable | | 200,000 |
| | | | |
| b. | Cash | 200,000 | |
| | Discount on Bonds Payable | | 8,000 |
| | Bonds Payable | | 192,000 |
| | | | |
| c. | Cash | 200,000 | |
| | Bonds Payable | | 200,000 |
| | | | |
| d. | Cash | 192,000 | |
| | Bonds Payable | | 192,000 |

**Q9-62** Spring Company uses the effective interest amortization method. The amount of interest expense on April 1 of each year will be

**a.** \$24,000.
**b.** \$25,000.
**c.** \$24,800.
**d.** \$32,000.
**e.** none of these.

**Q9-63** Write the adjusting entry required at December 31, 20X0.

**Q9-64** Write the journal entry requirements at April 1, 20X1.

**Q9-65** McPartlin Corporation issued \$300,000 of 10%, 10-year bonds payable on January 1, 20X0, for \$236,370. The market interest rate when the bonds were issued was 14%. Interest is paid semi-annually on January 1 and July 1. The first interest payment is July 1, 20X0. Using the effective-interest amortization method, how much interest expense will McPartlin record on July 1, 20X0?

**a.** \$15,500
**b.** \$15,000
**c.** \$14,500
**d.** \$21,000
**e.** \$16,546

**Q9-66** Using the facts in the preceding question, McPartlin's journal entry to record the interest expense on July 1, 20X0 will include a

**a.** debit to Bonds Payable.
**b.** credit to Discount on Bonds Payable.
**c.** credit to Interest Expense.
**d.** debit to Premium on Bonds Payable.

**Q9-67** Amortizing the discount on bonds payable

**a.** reduces the semi-annual cash payment for interest.
**b.** is necessary only if the bonds were issued at more than face value.
**c.** reduces the carrying value of the bond liability.
**d.** increases the recorded amount of interest expense.

**Q9-68** The journal entry on the maturity date to record the payment of \$500,000 of bonds payable that were issued at a \$50,000 discount includes

**a.** a debit to Bonds Payable for \$500,000.
**b.** a credit to Cash for \$550,000.
**c.** a debit to Discount on Bonds Payable for \$50,000.
**d.** all of the above.

**Q9-69** Is the payment of the face amount of a bond on its maturity date regarded as an operating activity, an investing activity, or a financing activity?

**a.** Financing activity
**b.** Investing activity
**c.** Operating activity

## Problems

All of the A and B problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

MyAccountingLab

### (Group A)

**P9-70A** ***(Learning Objective 1: Measuring current liabilities)*** Big Wave Marine experienced these events during the current year.

- **a.** Its December revenue totaled $120,000, and in addition, Big Wave collected sales tax of 5%. The tax amount will be sent to the Hanoi Municipality early in January.
- **b.** On August 31, Big Wave signed a six-month, 4% note payable to purchase a boat costing $85,000. The note requires payment of principal and interest at maturity.
- **c.** On August 31, Big Wave received cash of $2,400 in advance for service revenue. This revenue will be earned evenly over six months.
- **d.** Revenues of $850,000 were covered by Big Wave's service warranty. At January 1, provision for warranty repairs was $11,600. During the year, Big Wave recorded warranty expense of $34,000 and paid warranty claims of $34,800.
- **e.** Big Wave owes $70,000 on a long-term note payable. At December 31, 12% interest for the year plus $35,000 of this principal are payable within one year.

#### *Requirement*

1. For each item, indicate the account and the related amount to be reported as a current liability on the Big Wave Marine balance sheet at December 31.

**P9-71A** ***(Learning Objective 1: Recording liability-related transactions)*** The following transactions of Harmony Music Company occurred during 20X0 and 20X1:

| | |
|---|---|
| **20X0** | |
| May 3 | Purchased a piano (inventory) for $70,000, signing a six-month, 4% note payable. |
| May 31 | Borrowed $75,000 on a 4% note payable that calls for annual installment payments of $15,000 principal plus interest. Record the short-term note payable in a separate account from the long-term note payable. |
| Sep 3 | Paid the six-month, 4% note at maturity. |
| Dec 31 | Accrued warranty expense, which is estimated at 3.0% of sales of $190,000. |
| 31 | Accrued interest on the outstanding note payable. |
| **20X1** | |
| May 31 | Paid the first installment and interest for one year on the outstanding note payable. |

#### *Requirement*

1. Record the transactions in Harmony's journal. Explanations are not required.

**P9-72A** ***(Learning Objectives 2: Recording bond transactions (at par); reporting bonds payable on the balance sheet)*** The board of directors of Monitors Plus authorizes the issue of $9,000,000 of 10%, five-year bonds payable. The semi-annual interest dates are May 31 and November 30. The bonds are issued on May 31, 20X0, at par.

#### *Requirements*

1. Journalize the following transactions:
   - **a.** Issuance of half of the bonds on May 31, 20X0.
   - **b.** Payment of interest on November 30, 20X0.
   - **c.** Accrual of interest on December 31, 20X0.
   - **d.** Payment of interest on May 31, 20X1.

2. Report interest payable and bonds payable as they would appear on the Monitors Plus balance sheet at December 31, 20X0.

**P9-73A** ***(Learning Objectives 2, 5: Issuing bonds at a discount; amortizing by the effective interest method; reporting bonds payable on the balance sheet)*** On February 28, 20X0, Marlin Corp. issues 8%, 10-year bonds payable with a face value of $900,000. The bonds pay interest on February 28 and August 31. Marlin Corp. amortizes bonds by the effective interest method.

## *Requirements*

1. If the market interest rate is 7% when Marlin Corp. issues its bonds, will the bonds be priced at par, at a premium, or at a discount? Explain.
2. If the market interest rate is 9% when Marlin Corp. issues its bonds, will the bonds be priced at par, at a premium, or at a discount? Explain.
3. Assuming that the market rate is 7%, journalize the following bonds payable transactions.
   **a.** Issuance of the bonds on February 28, 20X0.
   **b.** Payment of interest and amortization of the bonds on August 31, 20X0.
   **c.** Accrual of interest and amortization of the bonds on December 31, 20X0.
   **d.** Payment of interest and amortization of the bonds on February 28, 20X1.
4. Report interest payable and bonds payable as they would appear on the Marlin Corp. balance sheet at December 31, 20X0.

**P9-74A** ***(Learning Objectives 2: Accounting for bonds payable at a discount; amortizing by the effective interest method)***

## *Requirements*

1. Journalize the following transactions of Laporte Communications, Inc.:

| | | |
|---|---|---|
| **20X0** | | |
| Jan | 1 | Issued $7,000,000 of 9%, 10-year bonds payable when the market rate is 8%. |
| Jul | 1 | Paid semi-annual interest and amortized bonds by the effective interest method on the 9% bonds payable. |
| Dec | 31 | Accrued semi-annual interest expense and amortized bonds by the effective interest method on the 9% bonds payable. |
| **20X1** | | |
| Jan | 1 | Paid semi-annual interest. |
| **2020** | | |
| Jan | 1 | Paid the 9% bonds at maturity. |

2. At December 31, 20X0, after all year-end adjustments, determine the carrying amount of Laporte Communications bonds payable, net.
3. For the six months ended July 1, 20X0, determine for Laporte Communications, Inc.:
   **a.** Interest expense
   **b.** Cash interest paid

What causes interest expense on the bonds to exceed cash interest paid?

**spreadsheet**

**P9-75A** ***(Learning Objectives 2, 5: Analyzing a company's long-term debt; reporting long-term debt on the balance sheet (effective-interest method))*** The notes to the Helping Charities' financial statements reported the following data on December 31, Year 1 (end of the fiscal year):

| | | |
|---|---|---|
| Note 6. Indebtedness | | |
| Bonds payable, 7% due in Year 7 | $3,000,000 | |
| Less: Discount | (138,686) | $2,861,314 |
| Notes payable, 6%, payable in amounts of $55,000 annual installments starting in Year 5 | | 330,000 |

Helping Charities amortizes bonds by the effective-interest method and pays all interest amounts at December 31.

### Requirements

1. Answer the following questions about Helping Charities' long-term liabilities:
   a. What is the maturity value of the 7% bonds?
   b. What are Helping Charities' annual cash interest payments on the 7% bonds?
   c. What is the carrying amount of the 7% bonds at December 31, year 1?
2. Prepare an amortization table through December 31, Year 4, for the 7% bonds. The market interest rate on the bonds was 8%. (Round all amounts to the nearest dollar.) How much is Helping Charities' interest expense on the 7% bonds for the year ended December 31, Year 4?
3. Show how Helping Charities would report the 7% bonds payable and the 6% notes payable at December 31, Year 4.

**P9-76A** ***(Learning Objective 3: Determining appropriate lease category, journalizing lease transactions)*** On December 31, 20X0, Mugaboo Corp. entered into the following lease for an asset with six years' useful life and a fair market value of $160,000.

■ spreadsheet

- Lease period = 4 years
- Lease payment of $50,000 per year at the end of each year
- Interest rate implicit in the lease = 10%

### Requirements

1. Based on the lease terms, determine if Mugaboo should record an operating or finance lease.
2. Journalize all entries related to the lease between December 31, 20X0 and 20X1.

**P9-77A** ***(Learning Objective 4: Financing operations with debt or with shares)*** Paulus Sporting Goods is embarking on a massive expansion. Assume plans call for opening 25 new stores during the next three years. Each store is scheduled to be 40% larger than the company's existing locations, offering more items of inventory, and with more elaborate displays. Its management estimates that company operations will provide $1.5 million of the cash needed for expansion. Paulus must raise the remaining $6.5 million from outsiders. The board of directors is considering obtaining the $6.5 million either through borrowing or by issuing share capital.

■ writing assignment

### Requirement

1. Write a memo to Paulus' management discussing the advantages and disadvantages of borrowing and of issuing share capital to raise the needed cash. Which method of raising the funds would you recommend?

**P9-78A** ***(Learning Objectives 4, 5: Reporting liabilities on the balance sheet; calculating the times-interest-earned ratio)*** The accounting records of Barnstable Foods, Inc., include the following items at December 31, 20X0:

| | | | |
|---|---|---|---|
| Mortgage note payable, current | $ 94,000 | Accumulated depreciation, equipment | $164,000 |
| Accumulated pension benefit obligation | 465,000 | Discount on bonds payable (all long-term) | 27,000 |
| Bonds payable, long-term | 1,200,000 | Operating income | 400,000 |
| Mortgage note payable, long-term | 319,000 | Equipment | 745,000 |
| Bonds payable, current portion | 400,000 | Pension plan assets (market value) | 405,000 |
| Interest expense | 222,000 | Interest payable | 72,000 |

### Requirements

1. Show how each relevant item would be reported on the Barnstable Foods, Inc., classified balance sheet, including headings and totals for current liabilities and long-term liabilities.
2. Answer the following questions about Barnstable's financial position at December 31, 20X0:
   a. What is the carrying amount of the bonds payable (combine the current and long-term amounts)?
   b. Why is the interest-payable amount so much less than the amount of interest expense?
3. How many times did Barnstable cover its interest expense during 20X0?

## (Group B)

**P9-79B** ***(Learning Objective 1: Measuring current liabilities)*** Sea Breeze Marine experienced these events during the current year.

a. December revenue totaled €110,000, and in addition, Sea Breeze collected sales tax of 8%. The tax amount will be sent to the Groningen provincial office early in January.
b. On August 31, Sea Breeze signed a six-month, 4% note payable to purchase a boat costing €82,000. The note requires payment of principal and interest at maturity.
c. On August 31, Sea Breeze received cash of €1,200 in advance for service revenue. This revenue will be earned evenly over six months.
d. Revenues of €750,000 were covered by Sea Breeze's service warranty. At January 1, provision for warranty repairs was €11,400. During the year, Sea Breeze recorded warranty expense of €30,000 and paid warranty claims of €34,600.
e. Sea Breeze owes €85,000 on a long-term note payable. At December 31, 10% interest for the year plus €25,000 of this principal are payable within one year.

### Requirement

1. For each item, indicate the account and the related amount to be reported as a current liability on the Sea Breeze Marine balance sheet at December 31.

**P9-80B** ***(Learning Objective 1: Recording liability-related transactions)*** The following transactions of Soft Sounds Music Company occurred during 20X0 and 20X1:

| | |
|---|---|
| **20X0** | |
| Mar 3 | Purchased a piano (inventory) for €30,000, signing a six-month, 10% note payable. |
| May 31 | Borrowed €75,000 on a 6% note payable that calls for annual installment payments of €15,000 principal plus interest. Record the short-term note payable in a separate account from the long-term note payable. |
| Sep 3 | Paid the six-month, 10% note at maturity. |
| Dec 31 | Accrued warranty expense, which is estimated at 1.5% of sales of €196,000 |
| 31 | Accrued interest on the outstanding note payable. |
| **20X1** | |
| May 31 | Paid the first installment and interest for one year on the outstanding note payable. |

### Requirement

1. Record the transactions in Soft Sounds Music Company's journal. Explanations are not required.

**P9-81B** ***(Learning Objectives 2: Recording bond transactions (at par); reporting bonds payable on the balance sheet)*** The board of directors of Pictures Plus authorizes the issue of €6,000,000 of 8%, 15-year bonds payable. The semi-annual interest dates are May 31 and November 30. The bonds are issued on May 31, 20X0, at par.

## *Requirements*

1. Journalize the following transactions:
   a. Issuance of half of the bonds on May 31, 20X0.
   b. Payment of interest on November 30, 20X0.
   c. Accrual of interest on December 31, 20X0.
   d. Payment of interest on May 31, 20X1.
2. Report the interest payable and bonds payable as they would appear on the Pictures Plus balance sheet at December 31, 20X0.

**P9-82B** ***(Learning Objectives 2, 5: Issuing bonds at a discount; amortizing by the effective interest method; reporting notes payable on the balance sheet)*** On February 28, 20X0, Mackerel Corp. issues 6%, 20-year bonds payable with a face value of €1,800,000. The bonds pay interest on February 28 and August 31. Mackerel Corp. amortizes bonds by the effective interest method.

## *Requirements*

1. If the market interest rate is 5% when Mackerel Corp. issues its bonds, will the bonds be priced at par, at a premium, or at a discount? Explain.
2. If the market interest rate is 7% when Mackerel Corp. issues its bonds, will the bonds be priced at par, at a premium, or at a discount? Explain.
3. Assuming the market rate is 5%, journalize the following bond transactions.
   a. Issuance of the bonds on February 28, 20X0.
   b. Payment of interest and amortization of the bonds on August 31, 20X0.
   c. Accrual of interest and amortization of the bonds on December 31, 20X0, the year-end.
   d. Payment of interest and amortization of the bonds on February 28, 20X1.
4. Report interest payable and bonds payable as they would appear on the Mackerel Corp. balance sheet at December 31, 20X0.

**P9-83B** ***(Learning Objectives 2: Accounting for bonds payable at a discount; amortizing by the effective interest method)***

## *Requirements*

1. Journalize the following transactions of Lamore Communications, Inc.:

| | | |
|---|---|---|
| **20X0** | | |
| Jan | 1 | Issued €4,000,000 of 7%, 10-year bonds payable when the market rate is 6%. |
| Jul | 1 | Paid semi-annual interest and amortized the bonds by the effective interest method on the 7% bonds payable. |
| Dec | 31 | Accrued semi-annual interest expense and amortized the bonds by the effective interest method on the 7% bonds payable. |
| **20X1** | | |
| Jan | 1 | Paid semi-annual interest. |
| **2020** | | |
| Jan | 1 | Paid the 7% bonds at maturity. |

2. At December 31, 20X0, after all year-end adjustments, determine the carrying amount of Lamore Communications bonds payable, net.
3. For the six months ended July 1, 20X0, determine the following for Lamore Communications Inc:
   a. Interest expense
   b. Cash interest paid

What causes interest expense on the bonds to exceed cash interest paid?

■ spreadsheet

**P9-84B** ***(Learning Objectives 2, 5: Analyzing a company's long-term debt; reporting the long-term debt on the balance sheet (effective-interest method))*** The notes to the Helpful Charities financial statements reported the following data on December 31, Year 1 (end of the fiscal year):

| | | |
|---|---|---|
| Note 6. Indebtedness | | |
| Bonds payable, 4% due in Year 7 | €6,000,000 | |
| Less: Discount | (304,542) | €5,695,458 |
| Notes payable, 7%, payable in €60,000 annual installments starting in Year 5 | | 360,000 |

Helpful Charities amortizes bonds by the effective-interest method and pays all interest amounts at December 31.

### *Requirements*

1. Answer the following questions about Helpful Charities' long-term liabilities:
   **a.** What is the maturity value of the 4% bonds?
   **b.** What is Helpful Charities' annual cash interest payment on the 4% bonds?
   **c.** What is the carrying amount of the 4% bonds at December 31, Year 1?
2. Prepare an amortization table through December 31, Year 4, for the 4% bonds. The market interest rate on the bonds was 5%. Round all amounts to the nearest dollar. How much is Helpful Charities' interest expense on the 4% bonds for the year ended December 31, Year 4?
3. Show how Helpful Charities would report the 4% bonds and the 7% notes payable at December 31, Year 4.

■ spreadsheet

**P9-85B** ***(Learning Objective 3: Determining appropriate lease category, journalizing lease transactions)*** On December 31, 20X0, Rugaboo Corp. entered into the following lease for an asset with 6 years useful life and a fair market value of €140,000.

- Lease period = 6 years
- Lease payment of €30,000 per year at the end of each year
- Interest rate implicit in the lease = 8%

### *Requirements*

1. Based on the lease terms, determine if Rugaboo should record an operating or finance lease.
2. Journalize all entries related to the lease between December 31, 20X0 and 20X1.

■ writing assignment

**P9-86B** ***(Learning Objective 4: Financing operations with debt or with shares)*** Fitzpatrick Sporting Goods is embarking on a massive expansion. Assume plans call for opening 30 new stores during the next four years. Each store is scheduled to be 45% larger than the company's existing locations, offering more items of inventory, and with more elaborate displays. Its management estimates that company operations will provide €1.75 million of the cash needed for expansion. Fitzpatrick must raise the remaining €7 million from outsiders. The board of directors is considering obtaining the €7 million either through borrowing or by issuing share capital.

### *Requirement*

1. Write a memo to Fitzpatrick's management discussing the advantages and disadvantages of borrowing and of issuing share capital to raise the needed cash. Which method of raising the funds would you recommend?

**P9-87B** ***(Learning Objectives 4, 5: Reporting liabilities on the balance sheet; calculating the times-interest-earned ratio)*** The accounting records of Brilliant Foods, Inc., include the following items at December 31, 20X0:

| | | | |
|---|---|---|---|
| Mortgage note payable, current | € 95,000 | Accumulated depreciation, equipment | €165,000 |
| Accumulated pension benefit obligation | 460,000 | Discount on bonds payable (all long-term) | 23,000 |
| Bonds payable, long-term | 200,000 | Operating income | 360,000 |
| Mortgage note payable, long-term | 313,000 | Equipment | 746,000 |
| Bonds payable, current portion | 500,000 | Pension plan assets (market value) | 410,000 |
| Interest expense | 224,000 | Interest payable | 72,000 |

### *Requirements*

1. Show how each relevant item would be reported on the Brilliant Foods, Inc., classified balance sheet, including headings and totals for current liabilities and long-term liabilities.
2. Answer the following questions about Brilliant's financial position at December 31, 20X0:
   a. What is the carrying amount of the bonds payable (combine the current and long-term amounts)?
   b. Why is the interest-payable amount so much less than the amount of interest expense?
3. How many times did Brilliant cover its interest expense during 20X0?

# APPLY YOUR KNOWLEDGE

## Decision Cases

**Case 1.** ***(Learning Objective 2: Exploring an actual bankruptcy)*** In 2002, **Enron Corporation** filed for Chapter 11 bankruptcy protection, shocking the business community: How could a company this large and this successful go bankrupt? This case explores the causes and the effects of Enron's bankruptcy.

At December 31, 2000, and for the four years ended on that date, Enron reported the following (amounts in millions):

| | | | | |
|---|---|---|---|---|
| **Balance Sheet (summarized)** | | | | |
| Total assets | | | | $65,503 |
| Total liabilities | | | | 54,033 |
| Total shareholders' equity | | | | 11,470 |
| **Income Statements (excerpts)** | | | | |
| | **2000** | **1999** | **1998** | **1997** |
| Net income | $979* | $893 | $703 | $105 |

*Operating income = $1,953
Interest expense = $838

Unknown to investors and lenders, Enron also controlled hundreds of partnerships that owed vast amounts of money. These special-purpose entities (SPEs) did not appear on the Enron financial statements. Assume that the SPEs' assets totaled $7,000 million and their liabilities stood at $6,900 million; assume a 10% interest rate on these liabilities.

During the four-year period up to December 31, 2000, Enron's share price shot up from $17.50 to $90.56. Enron used its escalating share price to finance the purchase of the SPEs by guaranteeing lenders that Enron would give them Enron shares if the SPEs could not pay their loans.

In 2001, the SEC launched an investigation into Enron's accounting practices. It was alleged that Enron should have been including the SPEs in its financial statements all along. Enron then restated net income for the years up to 2000, wiping out nearly $600 million of total net income (and total assets) for this four-year period. Enron's share price tumbled, and the guarantees to the SPEs' lenders added millions to Enron's liabilities (assume the full amount of the SPEs' debt). To make matters worse, the assets of the SPEs lost much of their value; assume that their market value is only $500 million.

*Requirements*

1. Compute the debt ratio that Enron reported at the end of 2000. Recompute this ratio after including the SPEs in Enron's financial statements. Also compute Enron's times-interest-earned ratio both ways for 2000. Assume that the changes to Enron's financial position occurred during 2000.
2. Why does it appear that Enron failed to include the SPEs in its financial statements? How do you view Enron after including the SPEs in the company's financial statements? (Challenge)

**Case 2.** ***(Learning Objective 4: Analyzing alternative ways of raising $5 million)*** Business is going well for **Park 'N Fly**, the company that operates remote parking lots near major airports. The board of directors of this family-owned company believes that Park 'N Fly could earn an additional $1.5 million income before interest and taxes by expanding into new markets. However, the $5 million that the business needs for growth cannot be raised within the family. The directors, who strongly wish to retain family control of the company, must consider issuing securities to outsiders. The directors are considering three financing plans.

Plan A is to borrow at 6%. Plan B is to issue 100,000 shares of share capital. Plan C is to issue 100,000 shares of non-voting, $3.75 preference shares ($3.75 is the annual dividend paid on each share of preference shares). Park 'N Fly presently has net income of $3.5 million and 1 million shares of share capital outstanding. The company's income tax rate is 35%.

*Requirements*

1. Prepare an analysis to determine which plan will result in the highest earnings per share of share capital.
2. Recommend a plan to the board of directors. Give your reasons.

## Ethical Issues

**Issue 1.** Microsoft Corporation is the defendant in numerous lawsuits claiming unfair trade practices. Microsoft has strong incentives not to disclose these contingent liabilities. However, accounting standards require that companies report their contingent liabilities.

*Requirements*

1. Why would a company prefer not to disclose its contingent liabilities?
2. Identify the parties involved in the decision and the potential consequences to each.
3. Analyze the issue of whether to report contingent liabilities from lawsuits from the following standpoints:
   a. economic
   b. legal
   c. ethical

**Issue 2.** When is a lease a capital idea? Laurie Gocker, Inc., entered into a lease arrangement with Nathan Morgan Leasing Corporation for an industrial machine. Morgan's primary business is leasing. The cash purchase price of the machine is $1,000,000. Its economic life is six years.

Gocker's balance sheet reflects total assets of $10 million and total liabilities of $7.5 million. Among the liabilities is a $2.5 million long-term note outstanding at Last National Bank. The note carries a restrictive covenant that requires the company's debt ratio to be no higher than 75%. The company's revenues have been falling of late and the shareholders are concerned about profitability.

Gocker and Morgan are engaging in negotiations for terms of the lease. Some relevant other facts:

1. Morgan wants to take possession of the machine at the end of the initial lease term.
2. The term may run from four to five years, at Gocker's discretion.
3. Morgan estimates the machine will have no residual value, and Gocker will not purchase it at the end of the lease term.
4. The present value of minimum lease payments on the machine is $890,000.

### Requirements

1. What is (are) the ethical issue(s) in this case?
2. Who are the stakeholders? Analyze the consequences for each stakeholder from the following standpoints: (a) economic, (b) legal, and (c) ethical.
3. How should Gocker structure the lease agreement?

## Focus on Financials: ■ Vodafone Corporation

This case spans all 12 chapters and is based on the consolidated financial statements of **Vodafone Corporation**. As you work with Vodafone throughout this course, you will develop the confidence and ability to use the financial statements of other companies as well. Refer to Vodafone's financial statements in Appendix A. Alternatively, you may choose to obtain the full annual report from Vodafone's website at www.vodafone.com.

Refer to Vodafone's consolidated financial statements in Appendix A.

1. Did trade payables for Vodafone increase or decrease in 2011? What was the amount? What might have caused this change? Refer to note 25.
2. Examine Note 6—Taxation in the Notes to the Consolidated Financial Statements. What was Vodafone's income tax expense in 2011? What does "deferred tax" refer to?
3. Did Vodafone borrow more or pay off more long-term debt during 2011? How can you tell?
4. Examine Note 28—Contingent Liabilities in the Notes to Consolidated Financial Statements. Describe some of Vodafone's contingent liabilities as of March 31, 2011.
5. How would you rate Vodafone's overall debt position—risky, safe, or average? Compute the ratio(s) at March 31, 2011 that would help you answer this question. Ratios aside, what qualitative factors would you consider in assessing the riskiness of Vodafone's overall debt?
6. Refer to Note 24—Provisions. What kind of provisions does Vodafone have? Why does it need them? What do you understand by the term "provision," and how is it different from "contingent liabilities?"

## Group Projects

**Project 1.** Consider three different businesses:

1. A bank
2. A magazine publisher
3. A department store

For each business, list all of its liabilities—both current and long-term. Then compare the three lists to identify the liabilities that the three businesses have in common. Also identify the liabilities that are unique to each type of business.

**Project 2.** Alcenon Corporation leases the majority of the assets that it uses in operations. Alcenon prefers operating leases (versus capital leases) in order to keep the lease liability off its balance sheet and maintain a low debt ratio.

Alcenon is negotiating a 10-year lease on an asset with an expected useful life of 15 years. The lease requires Alcenon to make 10 annual lease payments of $20,000 each, with the first payment due at the beginning of the lease term. The leased asset has a market value of $135,180. The lease agreement specifies no transfer of title to the lessee and includes no bargain purchase option.

Write a report for Alcenon's management to explain what conditions must be present for Alcenon to be able to account for this lease as an operating lease.

## Quick Check Answers

1. *d*
2. *e*
3. *b* ($450,000 × 0.01 = $4,500)
4. *c* [900 × 0.04 × $25 = warranty expense of $900; repaired $25 × 15 = $375; year-end liability = $525 ($900 − $375)]
5. *e*
6. *b*
7. *d*
8. *c*
9. *c*
10. *d*
11. *a*

12–16.

| | Interest Payment | Interest Expense | Discount Amortiz. | Bond Carry Amt. |
|---|---|---|---|---|
| 1/1/2011 | | | | $512,408 |
| 7/1/2011 | $19,250 | $20,496 | $1,246 | 513,654 |
| 1/1/2012 | 19,250 | 20,546 | 1,296 | 514,950 |

12. *a* ($512,408 × 0.08 × 6/12 = $20,496)
13. *c* [Int. exp. = $20,496 Int. payment = $19,250 ($550,000 × 0.07 × 6/12)$20,496 − $19,250 = $1,246]
14. *b* ($550,000 × 0.07 = $38,500)
15. *d* ($20,496 + $20,446 = $40,942)
16. *a* (See Amortization Schedule)

# 10 Shareholders' Equity




**SPOTLIGHT: L'Occitane** www.loccitane.com

Few imagined that a French company would list its shares on an Asian stock exchange. L'Occitane, a company with deep regional roots in Provence, France, did exactly that in May 2010, with its HK$6.1 billion (Hong Kong Dollars, about €618 million) offering. The Initial Public Offering (IPO) saw about 27% of L'Occitane shares floated on the Hong Kong stock exchange. L'Occitane plans to use the proceeds to accelerate its international expansion in high-growth emerging markets such as China, Brazil, and Russia, as well as mature markets such as Japan and the United States.

Earlier in Chapters 5 to 9, we discussed accounting for various assets and liabilities. By this time, you should be familiar with the more common assets and liabilities listed on a company's balance sheet. Let's focus now on shareholders' equity. Remember that share capital is the owner's investment into the company, and that retained earnings are profits from prior periods that have not been distributed to owners. You will learn more about equity and equity transactions in this chapter and discuss some of the decisions a company faces when:

- paying dividends
- issuing shares
- buying back its shares

Not all companies will have all the various equity transactions we discuss in this chapter, but all equity-related transactions are reported in the statement of changes in equity. L'Occitane's (adapted) statement of changes in equity is shown below. The key transaction in 2010 is the issuance of its shares in May 2011 (line 4). A total of over 405 million shares were floated at the Hong Kong stock exchange, with total proceeds of about €618 million. Half of the shares floated were newly issued shares by the company, and the other half was sold by existing shareholders. Thus, from the company's perspective, proceeds from the share issuance was about €300 million (half of the €618 million less costs of issuance).

**L'Occitane International S.A.**
**Consolidated Statement of Changes in Equity (Adapted)**
For the year ended March 31

| | (In thousands €, Euro) | Share capital | Additional paid-in capital | Retained earnings | Others | Non-controlling interests | Total equity |
|---|---|---|---|---|---|---|---|
| 1 | Balance as at March 31, 2010 ..... | 38,232 | 48,730 | 67,774 | 2,554 | 3,988 | 161,278 |
| 2 | Profit for the year ........................ | | | 99,501 | | 3,199 | 102,700 |
| 3 | Other comprehensive income ....... | | | | 2,194 | (437) | 1,757 |
| 4 | Issue of new shares....................... | 6,077 | 294,121 | | | | 300,198 |
| 5 | Other equity transactions ............ | | | | 1,083 | (1,752) | (669) |
| 6 | Balance as at March 31, 2011....... | 44,309 | 342,851 | 167,275 | 5,831 | 4,998 | 565,264 |



The statement of changes in equity above reconciles the movements in equity accounts from one balance sheet to another. You should be able to trace the totals above to L'Occitane's balance sheets below.

**L'Occitane International S.A.**
**Consolidated Balance Sheet (Adapted)**
As at 31 March

| | (In thousands €, Euro) | 2011 | 2010 |
|---|---|---|---|
| 1 | Total assets ........................................... | 785,860 | 436,590 |
| 2 | Total liabilities ...................................... | 220,596 | 275,312 |
| 3 | Total equity........................................... | 565,264 | 161,278 |
| 4 | Total liabilities and equity..................... | 785,860 | 436,590 |



Let's begin with our equity discussions with the organization of a corporation.

## LEARNING OBJECTIVES

1 **Explain** the features of a corporation

2 **Account** for the issuance of shares

3 **Describe** how treasury shares affect a company's capital

4 **Account** for dividends

5 **Use** share values in decision making

6 **Compute** earnings per share and return on equity

7 **Report** equity transactions on the statement of cash flows

# WHAT'S THE BEST WAY TO ORGANIZE A BUSINESS?

**OBJECTIVE**

1 **Explain** the features of a corporation

Anyone starting a business must decide how to organize the entity. Corporations differ from proprietorships and partnerships in several ways. Our discussions in this chapter will be based on the general features of these business entities, as actual regulatory requirements will vary from one jurisdiction to another. Your instructor may provide additional information about how to set up companies or corporations in your own country, and any specific rules about corporations relevant for your studies.

**Separate Legal Entity.** A corporation is a business entity formed under law. It is a distinct entity, an artificial person that exists apart from its owners, the **shareholders**. The corporation has many of the rights that a person has. For example, a corporation may buy, own, and sell property. Assets and liabilities in the business belong to the corporation and not to its owners. The corporation may enter into contracts, sue, and be sued.

Nearly all large companies, such as L'Occitane, **Microsoft**, and **Facebook**, are corporations. Their full names usually include the words *Corporation* or *Incorporated* or *Limited* (abbreviated *Corp.*, *Inc.* and *Ltd*, respectively) to indicate that they are corporations, for example, **News Corporation**, and **Apple Incorporated**. This depends very much on the local and legal practices in the country of incorporation. For example, in Australia you often see Pty Ltd (*proprietary limited*), in the UK you will see PLC (public limited company), in Germany AG (*Aktiengesellschaft*), in Italy SpA (*società per azioni*), in Malaysia Sdn Bhd (*Sendirian Berhad*), in Belgium SA (*Société Anonyme*), in Brazil Ltda (*Sociedade Limitada*), etc.

**Continuous Life and Transferability of Ownership.** Corporations have *continuous lives* regardless of changes in their ownership. The shareholders of a corporation may buy more of the **shares**, sell the shares to another person, give them away, or bequeath them in a will. The transfer of the shares from one person to another does not affect the continuity of the corporation. In contrast, proprietorships and partnerships terminate when their ownership changes.

**Limited Liability.** Shareholders have **limited liability** for the corporation's debts. They have no personal obligation for corporate liabilities. The most that a shareholder can lose on an investment in a corporation's share is the cost of the investment. Limited liability is one of the most attractive features of the corporate form of organization. It enables corporations to raise more capital from a wider group of investors than proprietorships and partnerships can. By contrast, proprietors and partners are personally liable for all the debts of their businesses.[1]

**Separation of Ownership and Management.** Shareholders own the corporation, but the *board of directors*—elected by the shareholders—appoints officers to manage the business. Thus, shareholders may invest $1,000 or $1 million in the corporation without having to manage it.

The management's goal is to maximize the firm's value for the shareholders. But the separation between owners and managers may create problems. Corporate officers may run the business for their own benefit and not for the shareholders. For example, the CEO of **Tyco Corporation** was accused of looting Tyco of $600 million. The CFO of **Enron Corporation** set up outside partnerships and paid himself millions to manage the partnerships—unknown to Enron shareholders. Both men went to prison.

**Corporate Taxation.** Proprietorships and partnerships pay no business income tax. Instead, the business' tax falls solely on the owners. On the other hand, corporations are separate taxable entities. Just like individuals, they have to pay taxes, usually referred to as *corporate tax*. In some countries, corporations may be subject to federal and state income taxes. The specific rules on taxation would naturally vary from country to country. In general, not everything on the corporation's income statement may be subject to tax, or they may be subject to tax at a different rate. For example, many countries are promoting additional tax deductions for spending on research and development, or allow companies to claim an accelerated method of depreciation for tax purposes for certain assets. Many accounting graduates also work in the area of taxation. If this is an area that is of interest to you, you may find courses on individual and corporate taxation beneficial.

**Government Regulation.** Because shareholders have only limited liability for corporation debts, outsiders doing business with the corporation can look no further than the corporation if it fails to pay. To protect a corporation's creditors and shareholders, governments monitor corporations. In general, the bigger a company becomes, the more rules and regulations it will have to comply with. For example, a public company (that raises funds from the public) will be subject to more regulatory oversight than a private company with a small number of shareholders. Similarly, a company that is listed on a stock exchange will be expected to follow the exchange's listing rules. The regulations mainly ensure that corporations disclose the information that investors and creditors need to make informed decisions. Accounting provides much of this information. Some jurisdictions may also limit maximum ownership levels for citizens versus non-citizens.

Exhibit 10-1 summarizes the advantages and disadvantages of the corporate form of business organization.

### EXHIBIT 10-1 | Advantages and Disadvantages of the Corporation

| Advantages | Disadvantages |
|---|---|
| 1. Can raise more capital than a proprietorship or partnership | 1. Separation of ownership and management |
| 2. Continuous life | 2. Corporate taxation |
| 3. Ease of transferring ownership | 3. Government regulation |
| 4. Limited liability of shareholders | |

[1] Unless the business is organized as a limited-liability company (LLC) or a limited-liability partnership (LLP).

# Organizing a Corporation

The creation of a corporation begins when its organizers apply for registration as a company with the relevant authority. Again, your local requirements may vary from what we discuss here, but would typically require the entity to have a constitution, charter, or memorandum (and articles) of association. The constitution includes the authorization for the corporation to issue a certain number of shares. A share is the basic unit of ownership for a corporation. Once the registration requirements are met, the corporation then comes into existence.

Ultimate control of the corporation rests with the shareholders who elect a **board of directors** that sets company policy and appoints officers. The board elects a **chairperson**, who usually is the most influential person in the organization. The chairperson of the board of directors, or chairman of the board, may be involved in the running of the corporation as the chief executive officer (CEO), or he/she may be an independent chairman who appoints someone else to be the CEO. The board may also designate a chief operating officer (COO) to be in charge of day-to-day operations. Most corporations also have directors or officers in charge of sales, manufacturing, accounting and finance (the chief financial officer, or CFO), and other key areas. Exhibit 10-2 shows the typical authority structure in a corporation. Note that the local practices in your country may use different titles than those listed below.

**EXHIBIT 10-2 | Authority Structure in a Corporation**


## Shareholders' Rights

Ownership of shares entitles shareholders to four basic rights, unless a specific right is withheld by agreement with the shareholders:

1. *Vote*. The right to participate in management by voting on matters that come before the shareholders, usually in an annual general meeting (AGM). This is the shareholder's sole voice in the management of the corporation. A shareholder gets one vote for each share owned, unless otherwise specified in the company's constitution.
2. *Dividends*. The right to receive a proportionate part of any dividend. Each share in a particular class receives an equal dividend.
3. *Liquidation*. The right to receive a proportionate share of any assets remaining after the corporation pays its liabilities in liquidation. Liquidation means to go out of business, sell the assets, pay all liabilities, and distribute any remaining cash to the owners.
4. *Preemption*. The right to maintain one's proportionate ownership in the corporation. Suppose you own 5% of a corporation's shares. If the corporation issues 100,000 new shares, it must offer you the opportunity to buy 5% (5,000) of the new shares. This right, called the *preemptive right*, may be required by law or incorporated into the company's constitution.

## Shareholders' Equity

As we saw in Chapter 1, **shareholders' equity** represents the shareholders' residual ownership interest in the assets of a corporation, i.e. after deducting all liabilities from total assets. Shareholders' equity is divided into two major parts:

1. **Paid-in capital**, also called **contributed capital** or **share capital.** This is the amount of shareholders' equity the shareholders have contributed to the corporation. Paid-in capital includes the share's par values and any additional paid-in capital (more on this later in the chapter).
2. **Retained earnings.** This is the amount of shareholders' equity the corporation has earned through profitable operations and has not used for dividends.

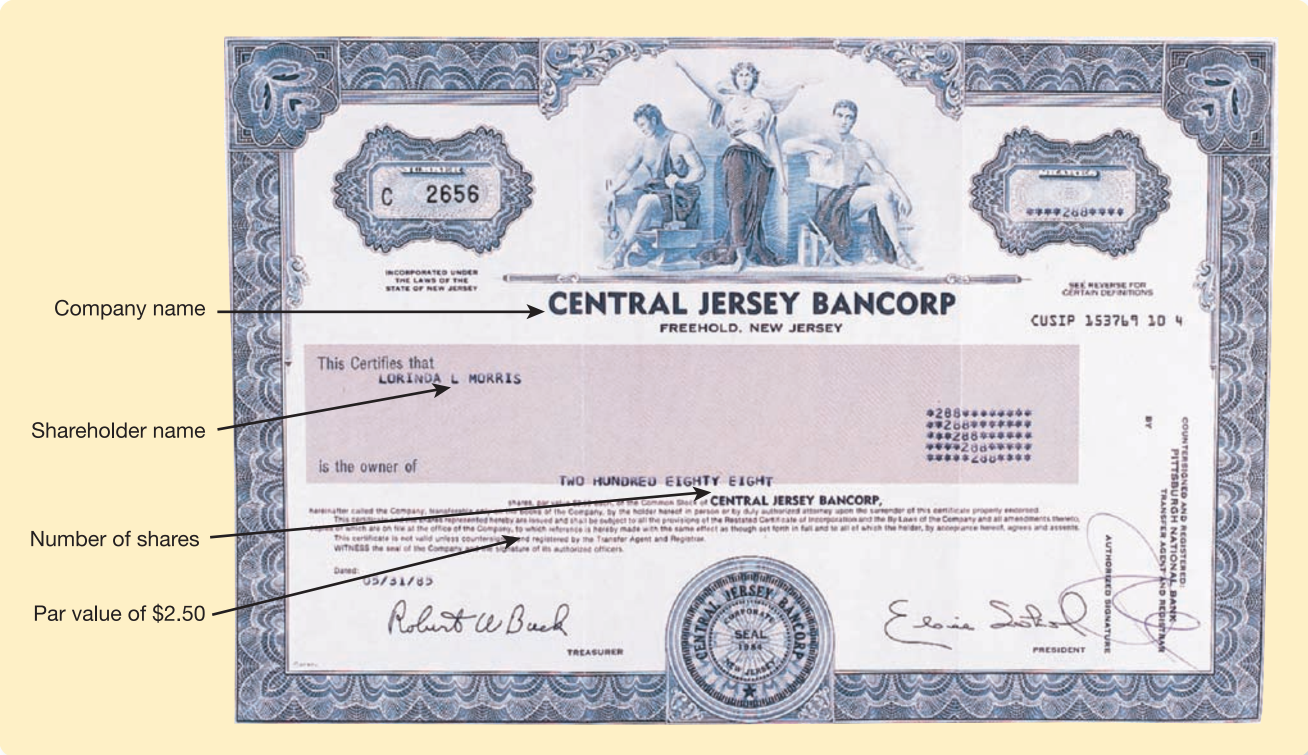
Companies report shareholders' equity by source. They report paid-in capital separately from retained earnings because most jurisdictions prohibit the declaration of cash dividends from paid-in capital. Thus, cash dividends are declared from retained earnings.

### A CLOSER LOOK

Companies often create further sub-categories of equity accounts. Some would keep separate balances for certain reserves (e.g. revaluation reserves, foreign currency reserves, hedging reserves, and others). You also saw earlier (in Chapter 9) how "non-controlling interests" are used to record the part of consolidated subsidiaries that do not belong to the reporting entity. In this chapter, we have summarised these sub-categories as "others." If you are pursuing further studies in accounting, you will learn more about these accounts.

The owners' equity of a corporation is divided into shares. A corporation issues *share certificates* to its owners when the company receives their investment in the business—usually cash. Many countries have adopted electronic share certificates in favor of physical share certificates that require manual handling and storage. Because shares represent the corporation's capital, it is often called *share capital*. A corporation may issue a share certificate for any number of shares—1,100, or any other number—but the total number of authorized shares is limited by the company's constitution. Exhibit 10-3 shows an example of a share certificate. If you want to see more examples of what a share certificate looks like (or even purchase an actual share certificate), you can check out www.oneshare.com.

**EXHIBIT 10-3 | Share Certificate**




## Classes of Shares

Corporations issue different types of shares to appeal to a variety of investors. Some countries use the term "stock" as a synonym for "shares." The shares of a corporation may be either:

- Ordinary shares or preference shares
- With or without par values

**Ordinary and Preference Shares.** Every corporation issues **ordinary shares**, the basic form of share capital. Unless designated otherwise, the word *share* is understood to mean "ordinary share." Ordinary shareholders have the four basic rights of share ownership, unless a right is specifically withheld. The ordinary shareholders are the owners of the corporation. They stand to benefit the most if the corporation succeeds because they take the most risk by investing in ordinary shares. Sometimes you may see ordinary shares labeled "common stock" in US companies' financial statements.

**Preference shares** give their owners certain advantages over ordinary shareholders. Preference shareholders receive dividends before the ordinary shareholders and they also receive assets before the ordinary shareholders if the corporation enters into liquidation. Owners of preference shares also have the four basic shareholder rights, unless a right is specifically denied. Companies may issue different classes of preference shares (Class A and Class B, or Series A and Series B, for example). Each class of preference shares is recorded in a separate account. The preference shareholders expect to earn a fixed dividend on their investments.

A preference share may also have additional features that make it something of a hybrid between ordinary shares and long-term debt. Like interest on debt, preference shares pay a fixed dividend. But unlike interest on debt, the dividend is not required to be paid unless the board of directors declares the dividend. Also, companies have no obligation to pay back true preference shares, unless they are designated as **redeemable preference shares**.

## A CLOSER LOOK

Consistent with the *IFRS Framework*'s principle of "faithful representation," *IAS 32—Financial Instruments: Presentation* requires financial instruments to be classified as either a financial liability or an equity instrument according to the substance of the contract, not its legal form, and the definitions of financial liability and equity instrument. This is why redeemable preference shares that have the characteristics of a liability are shown on the financial statements as a liability, even though the legal form of the instrument is that of equity.

Preference shares are not common. A recent study of IFRS companies shows that about 80% of the companies surveyed only have one single class of ordinary shares.

Exhibit 10-4 shows some of the similarities and differences among ordinary shares, preference shares, and long-term debt.

**EXHIBIT 10-4 | Comparison of Ordinary Shares, Preference Shares, and Long-Term Debt**

| | Ordinary Share | Preference Share | Long-Term Debt |
|---|---|---|---|
| 1 Obligation to repay principal | No | No | Yes |
| 2 Dividends/interest | Dividends are not tax-deductible | Dividends are not tax-deductible | Interest expense is tax-deductible |
| 3 Obligation to pay dividends/interest | Only after declaration | Only after declaration | At fixed rates and dates |

**Par value and No-Par Shares.** Shares may be par value shares or no-par shares, depending on the applicable regulatory framework. **Par value** is an arbitrary nominal amount assigned by a company to its share. Most companies set the par value of their shares low to avoid legal difficulties from issuing their shares below par. In Exhibit 10-3, you saw that each **Central Jersey Bancorp** share has a par value of $2.50 per share. In the same survey of 600 corporations mentioned earlier, less than 9% of the 600 companies use no-par value shares.

Let's have a look now at L'Occitane's share capital. It only has one class of shares, ordinary shares with a par value of €0.03 per share.

## EXCERPTS FROM L'OCCITANE'S NOTES TO THE 2011 FINANCIAL STATEMENTS

| (in € thousands, except for no of shares) | No of shares | Share capital | Additional paid-in capital | Total |
|---|---|---|---|---|
| Balance as at 31 March 2010 | 19,290,674 | 38,232 | 48,730 | 86,962 |
| April 2010, redesignated €0.03 par value | 1,255,105,717 | | | |
| May 2010, issuance of new shares | 202,568,500 | 6,077 | 294,121 | 300,198 |
| Balance as at 31 March 2011 | 1,476,964,891 | 44,309 | 342,851 | 387,160 |

On 9 April 2010, the sole shareholder of the Company, L'Occitane Group S.A. resolved that a value of €0.03 be designated as par value per ordinary share in the share capital of the Company so that the subscribed share capital of the Company amounting to €38,232,000 be represented by 1,274,396,391 shares having a par value of €0.03.



**Voting Rights.** Companies may have different classes of shares with different voting rights. For example, Berkshire Hathaway has two classes of shares: Common Stock (ordinary share) Class A and Class B. Class A shareholders are entitled to one vote per share and an equal share in dividend and distribution rights. On the other hand, Class B shareholders only have 1/10,000 (one ten-thousandth) of the voting rights of Class A shareholders, and 1/1,500 (one-fifteen-hundredth) of the dividend and distribution rights of Class A shareholders. Similarly, for Chinese companies, you will often see Class A, Class B and Class H shares. Class A shares are restricted to Chinese residents, whereas Class B shares are open to foreign ownership. H-shares are those of Chinese companies listed on the Hong Kong Stock Exchange.

Sometimes, due to national interests in certain industries of significant importance, you may see "special shares" with very special rights. For example, **Singapore Airlines** has the following share structure.

## EXCERPTS FROM SINGAPORE AIRLINE'S NOTES TO THE 2011 FINANCIAL STATEMENTS

| | The Group and the Company | | | |
|---|---|---|---|---|
| | Number of shares | | Amount (in million SGD) | |
| | 2011 | 2010 | 2011 | 2010 |
| Issued and fully paid share capital | | | | |
| Ordinary shares | | | | |
| Balance at 31 March | 1,197,928,580 | 1,191,608,511 | 1,832.4 | 1,750.6 |
| Special share | | | | |
| Balance at 1 April and 31 March | 1 | 1 | * | * |

**The value is $0.50*

The Company's ability to operate its existing route network and flight frequency is derived solely from and dependent entirely on the Air Service Agreements ("ASAs") concluded between the Government of Singapore and the governments of other countries. ASAs are therefore critical to the Company's operations. In almost all the ASAs, it is a condition that the Company must at all times be "effectively controlled" and "substantially owned" by Singapore nationals for the tenure of the respective ASAs.

In order to comply with the above requirement, one non-tradable Special Share was issued to the Ministry of Finance. The Special Share enjoys all the rights attached of ordinary shares. In addition, pursuant to Article 3A of the Articles of Association, no resolution may be passed on certain matters without prior written approval of the Special Member.

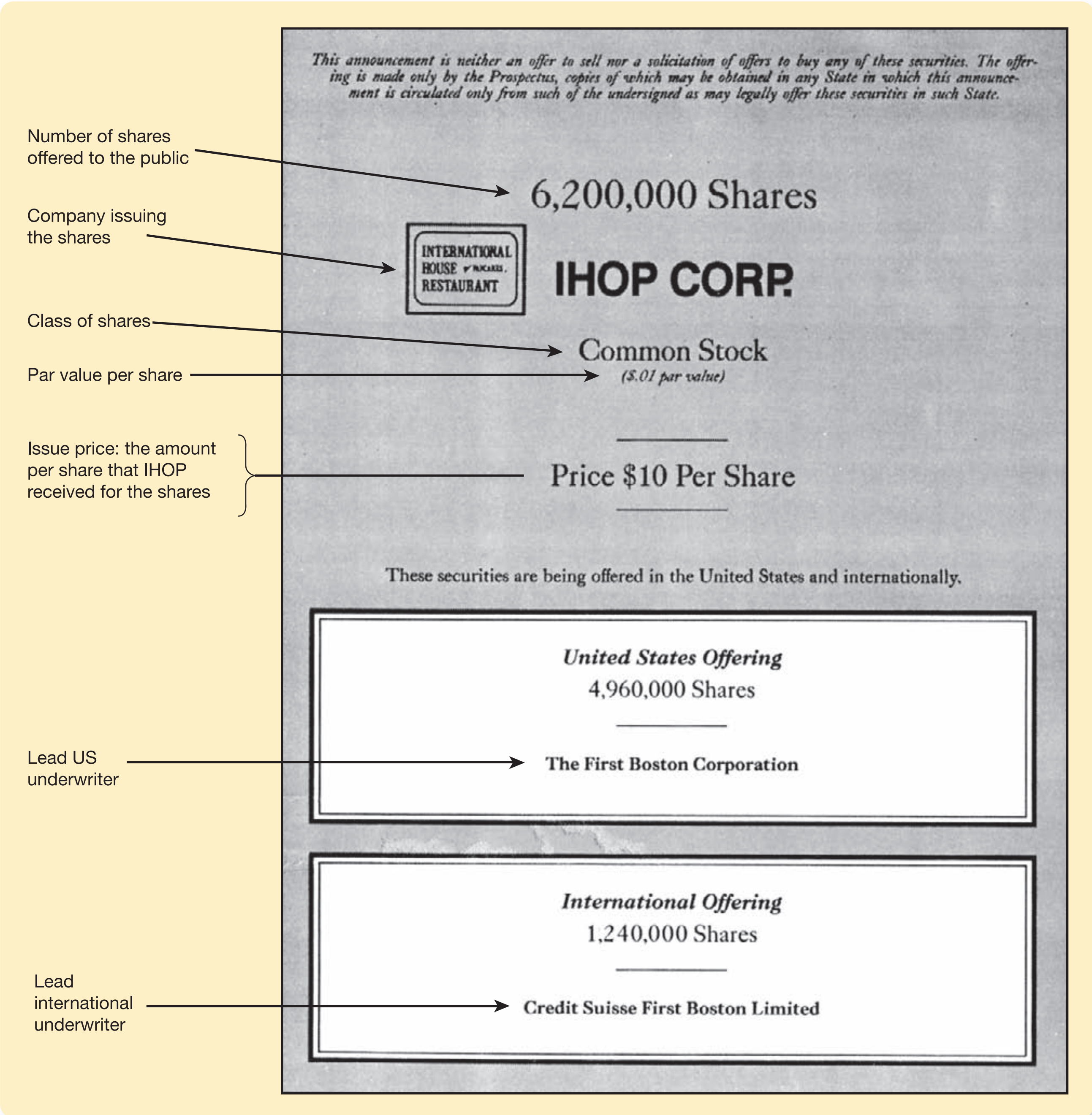
## Issuing Shares

**OBJECTIVE**

**2** **Account** for the issuance of shares

Large corporations such as Emirates Airlines, **BASF**, and **SAP** need huge quantities of money to operate. Corporations may sell shares directly to the shareholders or use the service of an underwriter, such as the investment banking firms **UBS** and **Goldman Sachs**. Companies often advertise the issuance of their shares to attract investors. The *Wall Street Journal* is the most popular medium for such advertisements, especially for IPOs in the United States. These advertisements are colloquially called "tombstones." Exhibit 10-5 is a reproduction of such a tombstone. **IHOP** is one of the largest full-service franchise restaurant companies in the world.

**EXHIBIT 10-5 | Announcement of Public Offering on IHOP Shares (Adapted)**



The lead underwriter of IHOP's public offering was **First Boston Corporation**. Outside the United States, **Credit Suisse First Boston Limited** led the way. Several other US domestic brokerage firms and investment bankers sold IHOP shares to their clients. In its initial public offering, IHOP sought to raise $62 million of capital (6.2 million shares at the offering price of $10 per share). Let's see how a shares issuance works using this IHOP example.

## Ordinary Shares

**Ordinary Shares at Par.** Suppose IHOP's ordinary share had carried a par value equal to its issuance price of $10 per share. The entry for issuance of 6.2 million shares of ordinary shares at par would be:

| | | | |
|---|---|---|---|
| Jul 23 | Cash (6,200,000 × $10) | 62,000,000 | |
| | Ordinary shares | | 62,000,000 |
| | *To issue ordinary shares.* | | |

IHOP's assets and shareholders' equity increase by the same amount.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 62,000,000 | = | 0 | + | + 62,000,000 |

**Ordinary Shares above Par.** Most corporations set par value low and issue ordinary shares for a price above par. Rather than $10 as in the assumed example above, IHOP's ordinary share has a par value of $0.01 (1 cent) per share. You can see this par value stated in the middle of Exhibit 10-5. The $9.99 difference between issue price ($10) and par value ($0.01) is *additional paid-in capital*. You may also see this account labeled *capital in-excess of par* or *share premium*. Both the par value of the share and the additional amount are part of paid-in capital.

Because the entity is dealing with its own shareholders in their capacity as owners of the entity, issuance of shares is not gain, income, or profit to the corporation. This situation illustrates one of the fundamentals of accounting: a company neither earns a profit nor incurs a loss when it sells its shares to, or buys its shares from, its own shareholders.

With par value of $0.01, IHOP's actual entry to record the issuance of ordinary shares looked something like this. Again, both assets and equity increase by the same amount.

| | | | |
|---|---|---|---|
| Jul 23 | Cash (6,200,000 × $10) | 62,000,000 | |
| | Ordinary Shares (6,200,000 × $0.01) | | 62,000 |
| | Paid-in Capital in Excess of Par (6,200,000 × $9.99) | | |
| | *To issue ordinary shares above par.* | | 61,938,000 |

Both assets and equity increase by the same amount.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 62,000,000 | = | 0 | + | + 62,000 |
| | | | | + 61,938,000 |

All the transactions in this section include a receipt of cash by the corporation as it issues new shares. The transactions we illustrate are different from those mergers and acquisitions reported in the daily news. In those transactions, one shareholder sold shares to another investor. The corporation doesn't record those transactions because they were between two outside parties.

## STOP & THINK . . .

Examine L'Occitane's statement of changes in equity at the start of this chapter.

1. What was L'Occitane's total paid-in capital as at March 31, 2011?
2. Propose the journal entry that L'Occitane would have performed for its IPO share issuance. What is the impact of the issuance on the accounting equation?

*Answers:*

1. Total paid-capital includes both the share capital and additional paid in capital. Total paid-in capital as at March 31, 2011 is therefore: €44,309 + €342,851 = €387,160.
2. L'Occitane par value per share was €0.03 per share. Its IPO issuance of 202,568,500 new shares equals to a total par value of €6,077 and additional paid-up capital of €294,121. L'Occitane would perform the following journal entry in relation to its IPO. Amounts are in thousands of euros.

| | | | |
|---|---|---|---|
| 2010 | | | |
| May | Cash | 300,198 | |
| | Share Capital | | 6,077 |
| | Share Premium | | 294,121 |
| | *To record issuance of shares above par.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 300,198 | = | 0 | + | + 6,077 |
| | | | | + 294,121 |

**Ordinary Shares with No-Par Values.** To record the issuance of no-par shares, the company debits the asset received and credits the share capital for the cash value of the asset received. If L'Occitane share had been no-par shares, the issuance would be recorded to share capital only.

| | | | |
|---|---|---|---|
| 2010 | | | |
| May | Cash | 300,198 | |
| | Share Capital | | 300,198 |
| | *To record issuance of no-par shares.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 300,198 | = | 0 | + | + 300,198 |

**Shares Issued for Assets Other than Cash.** When a corporation issues shares and receives assets other than cash, the company records the assets received at their current market value and credits the share capital and additional paid-in capital accounts accordingly. The assets' prior **book value** isn't relevant because the shareholders will demand shares equal to the market value of the asset contributed. For example, on November 12, Kahn Corporation issued 15,000 shares of its $1 par ordinary shares for equipment worth $4,000 and a building worth $120,000. Kahn's entry is:

| | | | |
|---|---|---|---|
| Nov 12 | Equipment | 4,000 | |
| | Building | 120,000 | |
| | Ordinary Shares (15,000 × $1) | | 15,000 |
| | Paid-in Capital in Excess of Par ($124,000 – $15,000) | | 109,000 |
| | *To issue no-par shares in exchange for equipment and a building.* | | |

Assets and equity both increase by $124,000.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 4,000 | = | 0 | + | + 15,000 |
| + 120,000 | | | | + 109,000 |

**Ordinary Shares Issued for Services.** Sometimes a corporation will issue shares in exchange for services rendered, either by employees or outsiders. In this case, no cash is exchanged. However, the transaction should be recognized at fair market value. The corporation would otherwise recognize an expense for the fair market value of the services rendered. Share capital is increased for its par value (if any) and additional paid-in capital is increased for any difference. For example, assume that Kahn Corporation engages a website designer to create the company's website. The website designer would ordinarily charge $25,000 for such services, but agreed to accept shares rather than cash, in settlement of the fee. The fair market value of each share at the time of exchange is $10 per share (par value of $1 per share). The journal entry to record the transaction would be:

| | | | |
|---|---|---|---|
| | Website development | 25,000 | |
| | Ordinary Shares | | 2,500 |
| | Paid-in Capital in Excess of Par ($25,000 – $2,500) | | 22,500 |

In this case, retained earnings (shareholders' equity) is eventually decreased by $25,000 (when the net profit is closed to retained earnings account), and paid-in capital (shareholders' equity) is increased for the same amount.

## Share Issuance for Other than Cash can Create an Ethical Challenge

Accounting standards require a company to record its shares at the fair market value of whatever the corporation receives in exchange for the shares. When the corporation receives cash, there is clear evidence of the value of the shares because cash is worth its face amount. But when the corporation receives an asset other than cash, the value of the asset can create an ethical challenge.

A computer whiz may start a new company by investing in computer software. The software may be market-tested or it may be new. The software may be worth millions or worthless. The corporation must record the asset received and the shares exchanged with a journal entry such as the following:

| | | | |
|---|---|---|---|
| | Software | 500,000 | |
| | Share Capital | | 500,000 |
| | *Issued shares in exchange for software.* | | |

If the software is really worth $500,000, the accounting records are okay. But if the software is new and untested, the assets and equity may be overstated.

Suppose your computer-whiz friend now invites you to invest in the new business and shows you this balance sheet:

**Gee-Whiz Computer Solutions, Ltd.**
**Balance Sheet**
December 31, 20X7

| Assets | | Liabilities | |
|---|---|---|---|
| Computer software .............. | $500,000 | | $ -0- |
| | | **Shareholders' Equity** | |
| | | Share capital................................ | 500,000 |
| Total assets........................... | $500,000 | Total liabilities and equity........... | $500,000 |

Companies like to report large asset and equity amounts on their balance sheets. That makes them look prosperous and creditworthy. Gee-Whiz looks debt-free and appears to have a valuable asset. Will you invest in this new business? Here are two takeaway lessons:

1. Some accounting values better represent the underlying economic phenomenon than others.
2. Not all financial statements mean exactly what they say—compliance with accounting standards and an audit by an independent CPA lend more credibility to the financial reporting process.

## Preference Shares

Accounting for preference shares follows the same pattern we illustrated for ordinary shares. When a company issues preference shares, it credits the Preference Share account at its par value, with any excess credited to Paid-in Capital in Excess of Par—Preference Shares. There may be separate accounts for paid-in capital in excess of par for preference shares. Many companies combine paid-in capital in excess of par from both preference and ordinary share transactions into one account. Accounting for no-par preference shares follows the pattern for no-par ordinary shares.

Earlier we saw how to account for convertible bonds payable (see Chapter 9). Companies also issue convertible preference shares. The preference shares may be convertible into the company's ordinary shares at the discretion of the preference shareholders.

For example, let's assume that at some time in the future, in November 20X7, L'Occitane issued 30,000 preference shares of €1 par value for €50,000. Each of these preference shares is convertible into 100 L'Occitane ordinary shares. Suppose these preference shares are converted in November 20X9. The journal entries to record this series of transactions would be:

| | | | |
|---|---|---|---|
| 20X7 | | | |
| Nov | Cash | 50,000 | |
| | Preference Share Capital | | 30,000 |
| | Share Premium | | 20,000 |
| | *To record issuance of preference shares* | | |
| | *above par.* | | |

| | | | |
|---|---|---|---|
| 20X9 | | | |
| Nov | Preference Share Capital | 30,000 | |
| | Ordinary Share Capital | | 30,000 |
| | *To record conversion of preference shares* | | |
| | *into ordinary shares.* | | |

As you can see, we merely remove Preference Share Capital from the books and increase Ordinary Share Capital by the book value of the preference shares.

## MID-CHAPTER SUMMARY PROBLEM

1. Test your understanding of the first half of this chapter by deciding whether each of the following statements is true or false.
   a. The policy-making body in a corporation is called the board of directors.
   b. The owner of 100 preference shares always has greater voting rights than the owner of 100 ordinary shares.
   c. Par value shares are worth more than no-par shares.
   d. Issuance of 1,000 $5 par value shares at $12 increases contributed capital by $12,000.
   e. A corporation issues its preference shares in exchange for land and a building with a combined market value of $200,000. This transaction increases the corporation's owners' equity by $200,000 regardless of the assets' prior book values.
   f. Preference shares are a riskier investment than ordinary shares.
2. Mustafa Company has two classes of ordinary shares. Only the Class A ordinary shares are entitled to vote. The company's balance sheet included the following presentation:

**Shareholders' Equity**

| | |
|---|---|
| Share capital: | |
| Class A ordinary share, voting, $1 par value, | |
| authorized and issued 1,260,000 shares | $ 1,260,000 |
| Class B ordinary share, non-voting, no par value, | |
| authorized and issued 46,200,000 shares | 11,000,000 |
| | 12,260,000 |
| Additional paid-in capital | 2,011,000 |
| Retained earnings | 872,403,000 |
| | $886,674,000 |

*Requirements*

**a.** Record the issuance of the Class A ordinary shares. Use the Mustafa account titles.
**b.** Record the issuance of the Class B ordinary shares. Use the Mustafa account titles.
**c.** How much of Mustafa's shareholders' equity was contributed by the shareholders? How much was provided by profitable operations? Does this division of equity suggest that the company has been successful? Why or why not?
**d.** Write a sentence to describe what Mustafa's shareholders' equity means.

## Answers

**1.** **a.** True **b.** False **c.** False **d.** True **e.** True **f.** False

**2.** **a.**

| | | | |
|---|---|---|---|
| | Cash | 3,271,000 | |
| | Class A Ordinary Shares | | 1,260,000 |
| | Additional Paid-in Capital | | 2,011,000 |
| | *To record issuance of Class A ordinary shares.* | | |

**b.**

| | | | |
|---|---|---|---|
| | Cash | 11,000,000 | |
| | Class B Ordinary Shares | | 11,000,000 |
| | *To record issuance of Class B ordinary shares.* | | |

**c.** Contributed by the shareholders: $14,271,000 ($12,260,000 + $2,011,000). Provided by profitable operations: $872,403,000.
This division suggests that the company has been successful because most of its shareholders' equity has come from profitable operations.

**d.** Mustafa's shareholders' equity of $886,674,000 means that the company's shareholders own $886,674,000 of the business's assets.

# Authorized, Issued, and Outstanding Shares

It's important to distinguish among three distinctly different numbers in relation to a company's shares:

1. **Authorized shares capital** is the maximum number of shares the company can issue under its constitution.
2. **Issued shares** is the number of shares the company has issued to its shareholders.
3. **Outstanding shares** are the number of shares that the shareholders own (that is, the number of shares outstanding in the hands of the shareholders). Outstanding shares are issued shares minus treasury shares.

Let's have a look at how these three concepts apply with L'Occitane.

**EXCERPTS FROM L'OCCITANE'S NOTES TO THE 2011 FINANCIAL STATEMENTS**

L'Occitane International S.A. is a corporation incorporated in the Grand Duchy of Luxembourg. The authorized capital of the Company is €1,500,000,000 out of which €44,309,000 is issued as at 31 March 2011. All the shares of the Company are fully paid and benefit from the same rights and obligations.

There are no treasury shares held by the Group.



L'Occitane's constitution authorizes it to have up to €1.5 billion share capital (which equals to 50 billion shares at €0.03 par value per share). However, L'Occitane has only issued €44,309,000 (about 1,476 million shares) as at March 31, 2011. This is the amount of shares issued, as well as the number of shares outstanding at end of 2011 financial year as L'Occitane did not have any treasury share.

## STOP & THINK . . .

What happens if a company has reached its limit of authorized share capital and yet wants to issue more shares?

***Answers:***

The shares limit (either in total share capital or number of shares) is one that is self-imposed and arbitrary in nature. A company can always ask its members in an Annual General Meeting (AGM) to ratify an increase (or decrease) in the authorized share capital.

This is the reason why some jurisdictions have removed the need for companies to state what is their authorized share capital.

Now, let's learn how treasury shares work.

# Treasury Shares

**OBJECTIVE**

**3 Describe** how treasury shares affect a company's capital

A company's own shares that it has issued and later reacquired are called **treasury shares**.[2] In effect, the corporation holds these shares in its treasury. Many public companies spend millions of dollars each year to buy back their own shares. Corporations purchase their own shares for several reasons:

1. It offers employee share option compensation or an employee share ownership plan but it does not wish to issue new shares, so it buys the shares from the market and then passes them to employees upon exercise of the share options or purchase of the shares.
2. The management wants to avoid a takeover by an outside party.
3. The management wants to increase its reported earnings per share or EPS (net income/number of shares outstanding). Purchasing shares and holding them as treasury shares reduces outstanding shares, thus decreasing the denominator of this fraction and increasing EPS. More on EPS later in this chapter.

[2] In this text, we illustrate the *cost* method of accounting for treasury shares because it is used most widely. Other methods are presented in intermediate accounting courses.

## How is Treasury Share Recorded?

To understand the way treasury share transactions work, it is helpful to analyze the changes that occur in the treasury share account during the year. Since L'Occitane did not have any treasury shares, let's use another example to help you understand how treasury shares work.

Singapore Airlines (SIA), one of the world's leading airlines, has two classes of shares with no-par value. You saw earlier that it has 1,197,928,580 ordinary shares and one special share. Excerpts of its share capital and treasury share movements are provided below.

### EXCERPT FROM SINGAPORE AIRLINES NOTES TO THE 2011 FINANCIAL STATEMENTS

| Balance Sheet as at March 31 (in SGD millions) | 2011 | 2010 |
|---|---|---|
| Share capital | 1,832.4 | 1,750.6 |
| Less treasury shares | (43.0) | (0.9) |
| Outstanding share capital | 1,789.4 | 1,749.7 |

| Treasury share movements during the year | No of shares | SGD millions |
|---|---|---|
| Balance as at April 1, 2010 | 76,484 | (0.9) |
| Purchase of treasury shares | 3,149,000 | (44.5) |
| Issued as share compensation | (165,736) | 2.4 |
| Balance as at March 31, 2011 | 3,059,748 | (43.0) |

When shares are reacquired by the Company, the amount of consideration paid is recognized directly in equity. Reacquired shares are classified as treasury shares and presented as a deduction from total equity. When treasury shares are subsequently sold or reissued pursuant to equity compensation plans, the cost of treasury shares is reversed from the treasury share account and the realized gain or loss on sale or reissue, net of any directly attributable incremental transaction costs, is recognized in the capital reserve.

The holders of ordinary shares (except treasury shares) are entitled to receive dividends as and when declared by the Company.



Let's start with purchases of treasury shares. Treasury shares are recorded at cost (the market value of the share on the purchased date) without regard to the share's par value. The treasury share account is a *contra shareholders' equity* account. Therefore, the treasury share account carries a debit balance, the opposite of the other equity accounts. It is reported on the balance sheet as a negative amount.

SIA bought over three million shares amounting to $44.5 million during 2011 financial year. This would be recorded as below:

| | | | |
|---|---|---|---|
| 2011 | Treasury Shares | 44,500,000 | |
| | Cash | | 44,500,000 |
| | *To record purchases of treasury shares.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| − 44,500,000 | = | 0 | + | − 44,500,000 |

Notice that treasury shares are recorded at cost, which is the market price of the shares when acquired. SIA purchased the 3 million treasury shares at share prices ranging from $13.13 to $15.27 per share. The financial statement impact of the transaction is to decrease cash as well as shareholders' equity by $44.5 million.

In summary, the purchase of treasury shares has the opposite effect of issuing shares:

- Issuing shares *grows* assets and equity.
- Purchasing treasury shares *shrinks* assets and equity.

## Resale of Treasury Shares

Reselling treasury shares grows assets and equity exactly as issuing new shares does. The sale increases assets and equity by the full amount of cash received. Notice that the company *never records gains or losses on transactions involving its own treasury shares*. Rather, amounts received in excess of amounts originally paid for treasury shares are recorded as paid-in capital from treasury share transactions, thus bypassing the income statement. If the proceeds from the resale of treasury shares were less than the amounts originally paid to acquire them, the difference would be debited to paid-in capital.

SIA did not resell any treasury shares during 2011. Let's assume it actually sold 1,000 of the treasury shares it bought at $13 for $15. SIA would record:

| | | | |
|---|---|---|---|
| 2011 | Cash | 15,000 | |
| | Treasury Shares | | 13,000 |
| | Share Capital | | 2,000 |
| | *To record resale of treasury shares.* | | |

The impact of this resale would be:

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 15,000 | = | 0 | + | + 13,000 |
| | | | | + 2,000 |

On the other hand, what if SIA sold the 1,000 treasury shares at $12?

| | | | |
|---|---|---|---|
| 2011 | Cash | 12,000 | |
| | Share Capital | 1,000 | |
| | Treasury Shares | | 13,000 |
| | *To record resale of treasury shares.* | | |

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| + 12,000 | = | 0 | + | − 1,000 |
| | | | | + 13,000 |

In both cases, note that any difference is not recognized as a gain or loss on the income statement, but recognized directly in share capital (or additional paid-in capital, if any).

### Issuing Treasury Shares as Compensation

This is probably the most common use of treasury shares. SIA used 165,736 treasury shares as part of its employee share option compensation. It would have recorded the following:

| | | | |
|---|---|---|---|
| 2011 | Share Option Compensation | 2,400,000 | |
| | Treasury Shares | | 2,400,000 |
| | *To record reissuance of treasury shares* | | |
| | *for employee share options.* | | |

### Retiring Treasury Shares

A corporation may purchase its own shares and retire it by canceling the shares. The retired shares cannot be reissued. Suppose SIA canceled 100,000 shares amounting to $1,500,000 during 2011.

| | | | |
|---|---|---|---|
| 2011 | Share Capital | 1,500,000 | |
| | Treasury Shares | | 1,500,000 |
| | *To record cancellation of shares from treasury shares.* | | |

Note that this cancellation will permanently reduce the amount of outstanding shares.

## Retained Earnings, Dividends, and Splits

The Retained Earnings account carries the balance of the business's net income, less its net losses and less any declared dividends that have been accumulated over the corporation's lifetime. *Retained* means "held onto." Successful companies grow by reinvesting back into the business the assets they generate through profitable operations.

Let's take another look at L'Occitane's financial statements at the start of this chapter. Notice that the Retained Earnings account grew from €67,774 to €167,275. You would remember that retained earnings are increased by the net profit for the year and decreased by the amount of dividends paid out. L'Occitane's net income for the year was €99,501,700 (plus €3,199 for non-controlling interest) and it didn't pay any dividends for 2011.

The Retained Earnings account is not a reservoir of cash for paying dividends to the shareholders. In fact, the corporation may have a large balance in Retained Earnings but not have enough cash to pay a dividend! Cash and Retained Earnings are two entirely separate accounts with no particular relationship. Retained Earnings says nothing about the company's cash balance. A credit balance in Retained Earnings is normal, indicating that the corporation's lifetime earnings exceed lifetime losses and dividends. The earnings may have been spent on buying more assets or paying off debts. A debit balance in Retained Earnings arises when a corporation's lifetime losses and dividends exceed lifetime earnings. Called a **deficit**, this amount is subtracted to determine total shareholders' equity.

## Should the Company Declare and Pay Cash Dividends?

**OBJECTIVE**

**4** Account for dividends

A **dividend** is a distribution by a corporation to its shareholders, usually based on earnings. Dividends usually take one of three forms:

1. Cash
2. Shares
3. Non-cash assets

In this section we focus on cash dividends and share dividends because non-cash dividends are rare. For a non-cash asset dividend, debit Retained Earnings and credit the asset (for example, Long-Term Investment) for the current market value of the asset given.

## Cash Dividends

Most dividends are cash dividends. To do so, a company must have both:

- enough Retained Earnings to *declare* the dividend (as many jurisdictions prohibit distribution of dividends from capital); and
- enough Cash to *pay* the dividend.

A corporation declares a dividend before paying it. A company may pay dividends once a year, twice a year, or sometimes every quarter. Usually, the largest dividend is the one that follows the end of the financial year when financial results are published and the corporation's annual general meeting (AGM) is held. This is called the "final dividend." Other dividends during the financial year are thus called "interim dividends."

Interim dividends are declared by the board of directors and become payable immediately. The final dividend is recommended by the board but requires shareholder approval in an AGM and is not payable until the shareholders vote to do so. Thus, the dividend paid during one financial year typically starts with the prior year's final dividends plus the current year's interim dividends, if any.

There are three relevant dates for dividends (using assumed amounts and dates):

1. ***Declaration date, June 19.*** On the declaration date, the board of directors announces the dividend. If it is for an interim dividend, the declaration of the dividend creates a liability for the corporation. If it is for a final dividend, it will have to be approved by shareholders at the AGM. Declaration (or shareholder approval, if it is for a final dividend) is recorded by debiting Retained Earnings and crediting Dividends Payable. Assume a $50,000 dividend was declared and approved.

| | | | |
|---|---|---|---|
| Jun 19 | Retained Earnings[3] | 50,000 | |
| | Dividends Payable | | 50,000 |
| | *Declared a cash dividend.* | | |

Liabilities increase, and equity goes down.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| 0 | = | + 50,000 | + | − 50,000 |

[3] In the early part of this book, we debited a Dividends account to clearly identify the purpose of the payment. From here on, we follow the more common practice of debiting the Retained Earnings account for dividend declarations.

2. ***Date of record, July 1.*** As part of the declaration, the corporation announces the record date (or book closure date), which follows the declaration date by a few weeks. The shareholders on the record date will receive the dividend. You don't need to own shares of a company for a whole period to receive the dividends for the period. You just have to make sure you own the shares at book closure date! There is no journal entry for the date of record.
3. ***Payment date, July 10.*** Payment of the dividend usually follows the record date by a week or two. Payment is recorded by debiting Dividends Payable and crediting Cash.

| | | | |
|---|---|---|---|
| Jul 10 | Dividends Payable | 50,000 | |
| | Cash | | 50,000 |
| | *Paid cash dividend.* | | |

Both assets and liabilities decrease.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| − 50,000 | = | − 50,000 | + | 0 |

The net effect of a dividend declaration and its payment, as shown in steps 1, 2, and 3 above, is a decrease in assets and a corresponding decrease in shareholders' equity.

## Dividends on Preference Shares

When a company issues both preference and ordinary shares, the preference shareholders receive their dividends first. The ordinary shareholders receive dividends only if the total dividend is large enough to pay the preference shareholders first.

Dividends for preference shares are usually described as a percentage of par value. For example, preference shares may be labeled "6%", which means that owners of the preference shares receive an annual dividend equal to 6% of the preference share's par value. If the preference shares are no-par shares, then it will be based on the share's issuance price.

Consider this example. Avant Garde, Inc., has 100,000 2% preference shares (par value of $100) outstanding in addition to its ordinary shares. The 2% designation means that the preference shareholders receive an annual cash dividend of 2% × $100 par value per share. In 20X6, Avant Garde declares an annual dividend of $500,000. The allocation to preference and ordinary shareholders is:

| | |
|---|---|
| Preference dividend (100,000 shares × 20% per share) ........... | $200,000 |
| Ordinary dividend (remainder: $500,000 – $200,000)............ | 300,000 |
| Total dividend........................................................................ | $500,000 |

If Avant Garde declares only a $250,000 dividend, preference shareholders receive $200,000, and the ordinary shareholders get the remainder, $50,000 ($250,000 − $200,000).

## Dividends on Cumulative and Non-cumulative Preference Shares

Preference shareholders are typically promised a fixed return for their investments. What happens if the company was not able to make payments for the preference dividends? This is not a common occurrence because companies do not want to lose their preference shareholders' faith in them and it would send a negative signal to the market. But it is possible that corporations may fail to pay a dividend to preference shareholders. This is called *passing the dividend*, and the passed dividends are said to be *in arrears*.

In some jurisdictions, preference shares are automatically "cumulative," unless the constitution specifically declares them to be non-cumulative. This means that the owners of **cumulative preference shares** must receive all dividends in arrears plus the current year's dividend before any dividends go to the ordinary shareholders. In this sense, cumulative dividends almost take on the flavor of accrued interest on long-term debt, but not quite. Although cumulative dividends must be paid before other dividends, they must still be declared by the company's board of directors. In contrast, interest on long-term debt doesn't have to go through a formal approval process by the board.

Here's an example of how cumulative dividends work. The preference shares of Avant Garde, Inc., are cumulative. Suppose Avant Garde passed the preference dividend of $200,000 in 20X6. Before paying dividends to ordinary shares in 20X7, Avant Garde must first pay preference dividends of $200,000 for both 20X6 and 20X7, a total of $400,000. On September 6, 20X7, Avant Garde declares a $500,000 dividend. The entry to record the declaration is

| | | | |
|---|---|---|---|
| 20X6 | Retained Earnings | 500,000 | |
| | Dividends Payable, Preference ($200,000 × 2) | | 400,000 |
| | Dividends Payable, Ordinary ($500,000 – $400,000) | | 100,000 |
| | *To declare a cash dividend.* | | |

If the preference shares are non-cumulative, the corporation is not obligated to pay dividends in arrears—until the board of directors declares such dividends.

## Share Dividends

A **share dividend** is a proportional distribution by a corporation of its own shares to its shareholders. Share dividends increase the Share Capital account and decrease Retained Earnings (alternatively, additional paid-in capital or share premium account). Total equity is unchanged, and no asset or liability is affected.

The corporation distributes share dividends to shareholders in proportion to the number of shares they already own. If you own 1,000 shares of L'Occitane's ordinary shares and the company distributes a 10% ordinary share dividend, you get 100 (1,000 × 0.10) additional shares. You would then own 1,100 shares. All other shareholders would also receive 10% more shares, leaving all shareholders' ownership unchanged.

In distributing share dividends, the corporation gives up no assets. Why, then, do companies issue share dividends? A corporation may choose to distribute share dividends for these reasons:

- ***To continue dividends but conserve cash.*** A company may need to conserve cash and yet wish to continue dividends in some form. So the corporation may distribute shares as dividends instead.
- ***To reduce the market price of its share.*** Distribution of a share dividend usually causes the share's market price to fall because of the increased number of outstanding shares that result from it. The objective is to make the shares less expensive and therefore attractive to more investors.

Let's continue with our example. Suppose at some time in 20X8, L'Occitane declared the 10% share dividend when the share is trading at €10 per share. Assuming that there are 20,000,000 shares outstanding at the time of the share dividend, L'Occitane.com would record the share dividend as follows:

| | | | |
|---|---|---|---|
| 20X8 | | | |
| | Retained Earnings[4] (20,000,000 shares | | |
| | outstanding × 0.10 share dividend × €10 | | |
| | market value per share) | 20,000,000 | |
| | Ordinary Share (20,000,000 × 0.10 × | | |
| | €0.03 par value per share) | | 60,000 |
| | Paid-in Capital in Excess of Par | | 19,940,000 |
| | *Distributed a 10% share dividend.* | | |

The accounting equation clearly shows that a share dividend has no effect on total assets, liabilities, or equity. The increases in equity offset the decreases, and the net effect is zero.

| Assets | = | Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|
| | | | | − 20,000,000 |
| 0 | = | 0 | + | + 60,000 |
| | | | | + 19,940,000 |

## Stock Splits

A **stock split** is an increase in the number of shares authorized, issued, and outstanding, coupled with a proportionate reduction in the share's par value. For example, if the company splits its shares 2 for 1, the number of outstanding shares is doubled and each share's par value is halved. A stock split, like a large share dividend, decreases the market price of the share—with the intention of making the share more attractive in the market. Stock splits are usually undertaken by companies that feel a lower share price would enable more investors to participate in the company's shares. A lower share price also allows a more active or liquid market. Nothing really changes with the company; it still makes the same profit and it still has the same assets. All that changes is the denomination of shares. It is not much different than you changing a $10 note into 10 $1 notes or 2 $5 notes.

[4] Many companies debit Additional Paid-in Capital for their share dividends.

Stock splits are more popular with North American companies than companies in other parts of the world. For example, **Microsoft**, **Nike**, **Research in Motion** (makers of Blackberry), **NVIDIA Corp** (makers of computer graphic cards) and **Porsche** have all carried out some stock splits in recent years.

The market price of a share of Ryssa Biscuits Factory Ltd is approximately $50. Assume that Ryssa Biscuits Factory Ltd wishes to decrease the market price to approximately $25 per share. Ryssa Biscuits Factory Ltd can split its shares 2 for 1, and the share price will fall to around $25. A 2-for-1 stock split means that:

- the company will have twice as many shares authorized, issued, and outstanding after the split as it had before;
- each share's par value will be cut in half.

Before the split, Ryssa Biscuits Factory Ltd had approximately 250 million shares of $0.50 par ordinary shares issued and outstanding. Compare Ryssa Biscuits Factory Ltd's shareholders' equity before and after a 2-for-1 stock split:

**Ryssa Biscuits Factory Ltd's Shareholders' Equity**

| Before 2-for-1 Stock Split | (In millions) | After 2-for-1 Stock Split | (In millions) |
|---|---|---|---|
| Ordinary share, €0.50 par, 500 shares authorized, 250 shares issued | € 125 | Ordinary share, €0.25 par, 1,000 shares authorized, 500 shares issued | € 125 |
| Additional paid-in capital | 643 | Additional paid-in capital | 643 |
| Retained earnings | 4,304 | Retained earnings | 4,304 |
| Other equity | 260 | Other | 260 |
| Total shareholders' equity | €5,332 | Total shareholders' equity | €5,332 |

All account balances are the same after the stock split as before. Only three Ryssa Biscuits Factory Ltd items are affected:

1. Par value per share drops from $0.50 to $0.25.
2. Shares *authorized* double from 500 to 1,000 (both in millions).
3. Shares *issued* double from 250 to 500 (both in millions).

Total equity doesn't change, nor do any assets or liabilities.

A stock split does not require any journal entry. The record of the split will be a note in the company's corporate action log and share registry.

## Summary of the Effects on Assets, Liabilities, and Shareholders' Equity

We've seen how to account for the basic shareholders' equity transactions:

- issuance of shares—ordinary and preference shares
- purchase and sale of treasury shares
- cash dividends
- share dividends and stock splits

How do these transactions affect assets, liabilities, and equity? Exhibit 10-6 provides a helpful summary.

**EXHIBIT 10-6 | Effects on Assets, Liabilities, and Equity**

| Transaction | Assets | = | Effect on Total Liabilities | + | Shareholders' Equity |
|---|---|---|---|---|---|
| Issuance of share—ordinary and preference shares | Increase | | No effect | | Increase |
| Purchase of treasury share | Decrease | | No effect | | Decrease |
| Sale of treasury share | Increase | | No effect | | Increase |
| Declaration of cash dividend | No effect | | Increase | | Decrease |
| Payment of cash dividend | Decrease | | Decrease | | No effect |
| Share dividend | No effect | | No effect | | No effect* |
| Stock split | No effect | | No effect | | No effect |

*The share capital account increases and retained earnings decrease by offsetting amounts that net to zero.

# Measuring Value of Shares

**OBJECTIVE**

**5** **Use** shares values in decision making

The business community measures *share values* in various ways, depending on the purpose of the measurement. These values include market value, redemption value, liquidation value, and book value.

## Market, Redemption, Liquidation, and Book Value

A share's **market value**, or *market price*, is the price at which a person can buy or sell one share. Market value varies with the corporation's net income, financial position, and future prospects, and with general economic conditions. *In almost all cases, shareholders are more concerned about a share's market value than any other share value*.

L'Occitane market price per share is about 20 HKD (about USD 2.6 or €2) in May 2012. Multiply this price per share by the shares outstanding (slightly less than 1.5 billion shares), and we can say that L'Occitane's **market capitalization** is about 29 billion HKD (or $3.7 billion or €2.8 billion).

Is L'Occitane's HKD 20 per share market value too high, too low, or just about right? Should an investor buy or sell the shares? This is the question that all financial analysts and investors struggle with every day with every stock. There are many reasons why share prices fluctuate. A company's share price may be impacted by its own actions, industry changes, and state of the wider local, regional or global economy, as well as other psychological reasons driven by emotions and sentiments. Many financial analysts employ stock valuation formulas in an effort to estimate the intrinsic value (or target price) of a share. In other words, they try to see if the market price is at, below or above this expected value. If market price is higher, then they would recommend a "sell," and if market price is lower, they would recommend a "buy." These valuation techniques use numbers and assumptions based on the company's financial statements.

A preference share that requires the company to redeem the share at a set price is called a redeemable preference share. The company is obligated to redeem (pay to retire) the *preference shares*. The price the corporation agrees to pay for the share, set when the share is issued, is called the **redemption value**. **Liquidation value** is the amount that a company must pay a preference shareholder in the event the company liquidates (sells out) and goes out of business. Not all jurisdictions practice this concept of redemption or liquidation value.

The book value per ordinary share is the amount of owners' equity on the company's books for each ordinary share. If the company has only ordinary shares outstanding, its book value is computed by dividing total equity by the number of shares of ordinary shares *outstanding*. Recall that outstanding shares are equal to issued shares minus treasury shares, if any. For example, a company with shareholders' equity of $150,000 and 5,000 ordinary shares outstanding has a book value of $30 per share ($150,000 ÷ 5,000 shares).

If the company has both preference and ordinary shares outstanding, the preference shareholders have the first claim to owners' equity. Preference shares may have a specified redemption value. The preference component of equity is its redemption value plus any cumulative preference dividends in arrears. The book value per share of ordinary shares is then computed as follows:

$$\text{Book value per ordinary share} = \frac{\text{Total shareholders' equity} - \text{Preference equity}}{\text{Number of ordinary shares outstanding}}$$

Let's consider an example. Crusader Corporation's balance sheet reports the following amounts:

| Shareholders' Equity | |
|---|---|
| Preference shares, 5%, $100 par, 400 shares issued, redemption value $130 per share | $ 40,000 |
| Ordinary shares, $10 par, 5,500 shares issued | 55,000 |
| Additional paid-in capital—ordinary shares | 72,000 |
| Retained earnings | 88,000 |
| Treasury share, 500 ordinary shares at cost | (15,000) |
| Total shareholders' equity | $240,000 |

Assume Crusader's cumulative preference dividends are in arrears for four years (including the current year). Crusader's preference shares have a redemption value of $130 per share. The book-value-per-share computations for Crusader Corporation are:

| | |
|---|---|
| **Preference Equity** | |
| Redemption value (400 shares × $130) | $52,000 |
| Cumulative dividends ($40,000 × 0.05 × 4 years) | 8,000 |
| Preference equity | $60,000* |
| **Ordinary Equity** | |
| Total shareholders' equity | $240,000 |
| Less preference equity | (60,000) |
| Ordinary equity | $180,000 |
| Book value per share [$180,000 ÷ 5,000 shares outstanding (5,500 shares issued minus 500 treasury shares)] | $ 36.00 |

*If the preference share had no redemption value, then preference equity would be $40,000 + preference dividends in arrears.

Some investors search for shares whose market price is below book value. They believe this indicates a good buy. Financial analysts often shy away from companies with a share price at or below book value. To these investors, such a company is in trouble. As you can see, not all investors agree on a share's value. In fact, wise investors base their decisions on more than a single ratio. Later (in Chapter 12), you'll see the full range of financial ratios, plus a few more analytical techniques.

## Relating Profitability to a Company's Shares

**OBJECTIVE**

**6** **Compute** earnings per share and return on equity

Investors search for companies whose shares are likely to increase in value.

They're constantly comparing companies. But a comparison of L'Occitane with a new Internet start-up may not be meaningful. L'Occitane's profits run into the millions, which would far exceed a new start-up's net income. Does this automatically make L'Occitane a better investment? Not necessarily. To compare companies of different size, investors use some standard profitability measures, including:

- earnings per share
- return on equity

**Earnings per share (EPS).** Earnings per ordinary share is the company's net income divided by its *outstanding ordinary shares*. **EPS** is a key measure of a business's success because it shows how much income the company earned for each share. Share prices are quoted at an amount per share, and investors buy a certain number of shares. EPS is used to help determine the value of a share. EPS is computed as follows:

$$\text{Earnings per share} = \frac{\text{Net income} - \text{Preferred dividends}}{\text{Average number of ordinary shares outstanding}}$$

*IAS 33—Earnings per share* requires a reporting entity to disclose its EPS on its income statement. Note that two EPS computations are made: one for "basic" (the currently outstanding shares) and one for "diluted" (which takes into account potential increases in outstanding shares). In both cases, companies must first compute a weighted average number of shares outstanding. This computation takes into account the changes that might occur in the number of shares outstanding during the year from such things as treasury share purchases or reissuances and is only possible if you have access to the detailed daily outstanding ordinary shares of the company. L'Occitane reported the following:

**EXCERPTS (ADAPTED) FROM L'OCCITANE'S NOTES TO THE 2011 FINANCIAL STATEMENTS**

Basic earnings per share are calculated by dividing the profit attributable to equity owners of the Company by the weighted average number of ordinary shares in issue during the year.

| | |
|---|---|
| Profit for the year attributable to equity holders of the company | €99,501,700 |
| Weighted average number of ordinary shares in issue | 1,455,250,609 |
| Basic and Diluted Earnings per share | €0.068 |

Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares outstanding to assume conversion of all dilutive potential ordinary shares. As at 31 March 2011, the Company has no category of dilutive potential ordinary shares.

Holders of preference shares have first claim on dividends. Therefore, preference dividends must be subtracted from net income to compute EPS. L'Occitane has only one class of ordinary shares outstanding. Since there are no preference shares, there is no corresponding deduction for preference dividend in L'Occitane's EPS calculation above.

**Return on Equity.** **Rate of return on ordinary equity**, often simply called **return on equity (ROE)**, shows the relationship between net income available and average ordinary shareholders' equity. Return on equity is computed only on ordinary equity because the return to preference shareholders is the specified dividend (for example, 5%). The numerator of return on equity is net income minus preference dividends, if any. The denominator is *average ordinary shareholders' equity*—total shareholders' equity minus preference equity. Since L'Occitane does not have any preference shares, we will only use net income and average equity in the calculations below.

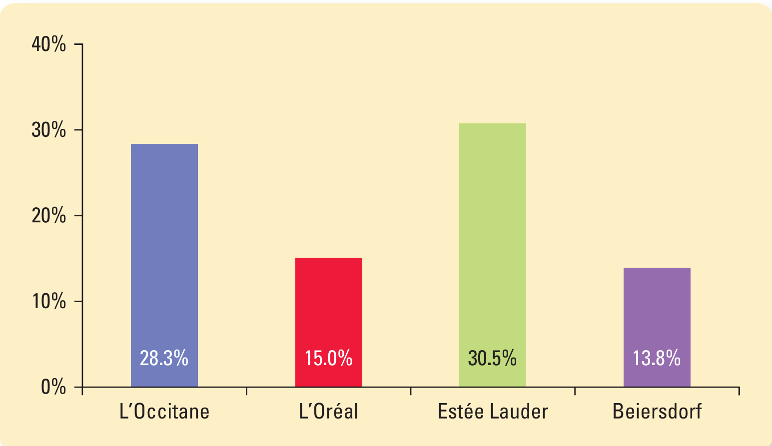
| Return on Equity | L'Occitane 2011 | L'Occitane 2010 |
|---|---|---|
| $\frac{\text{Net income}}{\text{Average equity*}}$ | $\frac{102{,}700}{363{,}271} = 28.3\%$ | $\frac{84{,}559}{174{,}269} = 48.5\%$ |

**Average = (beginning + ending balance)/2, which is (161,278 + 565,264)/2 for 2011*

As L'Occitane does not have preference shares, we have no preference dividends to subtract from net income on the numerator. Similarly, the denominator is simply average total shareholders' equity. L'Occitane's ROE is a very high at 28.3%. However, this is unlikely to continue in the future. Had we use ending total equity instead of average equity (since this is likely to be the denominator going forward), L'Occitane's ROE would be a more reasonable 18%, which is still a very generous return for the money invested by its shareholders. Investors and creditors use ROE to compare companies' performance. The higher the rate of return, the more successful the company. In many industries, 15% is considered a good ROE.

Let's add some context to L'Occitane's 28% ROE by comparing it to that of **L'Oreal** (which also owns **The Body Shop** amongst its own brands), **Estée Lauder**, and **Beiersdorf** (the company behind Nivea skincare products, amongst others) (Exhibit 10.7). When compared to other companies in the cosmetics/perfume industry, L'Occitane has done well. Its ROE is slightly behind Estée Lauder but about twice as high as L'Oréal and Beiersdorf.

**EXHIBIT 10-7 | ROE Comparisons**




The Decision Guidelines feature (later in the chapter) offers suggestions for what to consider when investing in shares.

# Reporting Shareholders' Equity Transactions

CASH FLOW

**OBJECTIVE**

**7** **Report** equity transactions on the statement of cash flows

## Statement of Cash Flows

Many of the transactions we've covered are reported on the statement of cash flows. Equity transactions are *financing activities* because the company is dealing with its owners. Financing transactions that affect both cash and equity fall into three main categories:

1. issuance of shares
2. treasury shares
3. dividends

**Issuances of Shares.** During 2011, L'Occitane's IPO generated a significant cash inflow to the company, amounting to over €300 million. This is as a financing activity, as shown in Exhibit 10-8.

**EXHIBIT 10-8 | L'Occitane's Statement of Cash Flows**

L'Occitane
Consolidated Cash Flow Statement (Adapted)
For the year ended March 31

| (In thousands €, Euros) | | 2011 | 2010 |
|---|---|---|---|
| 1 | Cash flow from operating activities | 98,911 | 138,114 |
| 2 | Cash flow from investing activities | (49,432) | (35,614) |
| 3 | Proceeds from share issuance | 300,198 | 206 |
| 4 | Other financing activities | (86,836) | (88,668) |
| 5 | Cash flow from financing activities | 213,362 | (88,462) |
| 6 | Net cash flow | 262,841 | 14,038 |



**Treasury Share.** L'Occitane does not hold any treasury shares. If it had purchased (or sold) treasury shares, they would be reported under cash flow from financing activities as well.

**Dividends.** Most companies pay cash **dividends** to their shareholders. Dividend payments are a type of financing transaction because the company is paying its shareholders for the use of their money. L'Occitane did not pay any dividends in 2011. Share dividends are not reported in the statement of cash flows because the company pays no cash for them.

In Exhibit 10-8, cash receipts appear as positive amounts and cash payments as negative amounts, denoted by parentheses.

# DECISION GUIDELINES

## INVESTING IN SHARES

Suppose you've saved $5,000 to invest. You visit a nearby **Standard Chartered Bank** office, where the financial analyst probes for your risk tolerance. Are you investing mainly for dividends or for growth in the share price? You must make some key decisions.

| Investor Decision | Guidelines |
|---|---|
| Which category of shares to buy for: | |
| ■ A safe investment? | Preference shares are safer than ordinary shares, but for even more safety, invest in high-grade corporate bonds or government securities. |
| ■ Steady dividends? | Cumulative preference shares. However, the company is not obligated to declare preference dividends, and the dividends are unlikely to increase. |
| ■ Increasing dividends? | Ordinary shares, as long as the company's net income is increasing and the company has adequate cash flow to pay a dividend after meeting all obligations and other cash demands. |
| ■ Increasing share price? | Ordinary shares, but again only if the company's net income and cash flow are increasing. |
| How to identify a good share to buy? | There are many ways to pick share investments. One strategy that works reasonably well is to invest in companies that consistently earn higher rates of return on assets and on equity than competing firms in the same industry. Also, select industries that are expected to grow. |

# END-OF-CHAPTER SUMMARY PROBLEM

1. The balance sheet of Trendline Corp. reported the following at December 31, 20X6.

**Shareholders' Equity**

| | |
|---|---|
| Preference share, 4%, $10 par, 10,000 shares authorized and issued (redemption value, $110,000) | $100,000 |
| Ordinary share, no-par, $5 stated value, 100,000 shares authorized, 50,000 shares issued | 250,000 |
| Paid-in capital in excess of par or stated value: | |
| Ordinary share | 239,500 |
| Retained earnings | 395,000 |
| Less: Treasury share, Ordinary (1,000 shares) | (8,000) |
| Total shareholders' equity | $976,500 |

### *Requirements*

a. Is the preference share cumulative or non-cumulative? How can you tell?
b. What is the total amount of the annual preference dividend?
c. How many ordinary shares are outstanding?
d. Compute the book value per share of the ordinary share. No preference dividends are in arrears, and Trendline has not yet declared the 20X6 dividend.

2. Use the following accounts and related balances to prepare the classified balance sheet of Whitehall, Inc., at September 30, 20X7. Use the account format of the balance sheet.

| | | | |
|---|---|---|---|
| Ordinary share, $1 par, 50,000 shares authorized, 20,000 shares issued | 20,000 | Long-term note payable | 80,000 |
| Dividends payable | 4,000 | Inventory | 85,000 |
| Cash | 9,000 | Property, plant and equipment, net | 226,000 |
| Accounts payable | 28,000 | Accounts receivable, net | 23,000 |
| Paid-in capital in excess of par—Ordinary share | 115,000 | Preference share, $3.75, no-par, 10,000 shares authorized, 2,000 shares issued | 24,000 |
| Treasury share, Ordinary, 1,000 shares at cost | 6,000 | Accrued liabilities | 3,000 |
| | | Retained earnings | 75,000 |

## Answers

1. **a.** The preference shares are cumulative because they are not specifically labeled otherwise.
   **b.** Total annual preference dividend: $4,000 ($100,000 × 0.04).
   **c.** Ordinary shares outstanding: 49,000 (50,000 issued − 1,000 treasury).
   **d.** Book value per share of ordinary share:

| | |
|---|---|
| Ordinary: | |
| Total shareholders' equity | $976,500 |
| Less shareholders' equity allocated to preference | (114,000)* |
| Shareholders' equity allocated to ordinary | $862,500 |
| Book value per share ($862,500 ÷ 49,000 shares) | $17.60 |

| | |
|---|---|
| *Redemption value | $110,000 |
| Cumulative dividend ($100,000 × 0.04) | 4,000 |
| Shareholders' equity allocated to preference | $114,000 |

2.

**Whitehall, Inc.**
**Balance Sheet**
September 30, 20X7

| | | | | |
|---|---|---|---|---|
| **Assets** | | **Liabilities** | | |
| Current | | Current | | |
| Cash | $ 9,000 | Account payable | | $ 28,000 |
| Accounts receivable, net | 23,000 | Dividends payable | | 4,000 |
| Inventory | 85,000 | Accrued liabilities | | 3,000 |
| Total current assets | 117,000 | Total current liabilities | | 35,000 |
| Property, plant and equipment, net | 226,000 | Long-term note payable | | 80,000 |
| | | Total liabilities | | 115,000 |
| | | **Shareholders' Equity** | | |
| | | Preference share, $3.75, no par, 10,000 shares authorized, 2,000 shares issued | $ 24,000 | |
| | | Ordinary share, $1 par, 50,000 shares authorized, 20,000 shares issued | 20,000 | |
| | | Paid-in capital in excess of par—ordinary shares | 115,000 | |
| | | Retained earnings | 75,000 | |
| | | Treasury share, ordinary, 1,000 shares at cost | (6,000) | |
| | | Total shareholders' equity | | 228,000 |
| Total assets | $343,000 | Total liabilities and shareholders' equity | | $343,000 |

# REVIEW SHAREHOLDERS' EQUITY

## Quick Check (Answers are given at the end of the chapter.)

1. Lurvey Company is authorized to issue 50,000 shares of $25 par ordinary share. On May 30, 20X6, Lurvey issued 20,000 shares at $45 per share. Lurvey's journal entry to record these facts should include a
   **a.** credit to ordinary shares for $500,000.
   **b.** debit to ordinary shares for $900,000.
   **c.** credit to Paid-in Capital in Excess of Par for $900,000.
   **d.** both a and c.

**Questions 2–5 use the following account balances of Machado Co. at August 31, 20X6:**

| | | | |
|---|---|---|---|
| Dividends Payable | $ 12,500 | Cash | $111,000 |
| Preference Shares, $150 par | 375,000 | Ordinary Shares, $5 par | 600,000 |
| Paid-in Capital in Excess of Par— Ordinary Shares | 60,000 | Retained Earnings | 325,000 |

2. How many ordinary shares has Machado issued?
   **a.** 111,000 **c.** 120,000
   **b.** 660,000 **d.** Some other amount
3. Machado's total paid-in capital at August 31, 20X6, is
   **a.** $1,347,500. **c.** 1,458,500.
   **b.** $1,022,500. **d.** $1,035,000.
4. Machado's total shareholders' equity as of August 31, 20X6, is
   **a.** $1,035,000. **c.** $1,458,500.
   **b.** $1,347,500. **d.** $1,360,000.
5. What would Machado's total shareholders' equity be if Machado had $10,000 of treasury shares?
   **a.** $1,448,500 **c.** $1,350,000
   **b.** $1,025,000 **d.** $1,337,500
6. Syracuse Corporation purchased treasury shares in 2010 at a price of $15 per share and resold the treasury share in 20X7 at a price of $35 per share. What amount should Syracuse report on its income statement for 20X7?
   **a.** $20 gain per share **c.** $35 gain per share
   **b.** $15 gain per share **d.** $0
7. The shareholders' equity section of a corporation's balance sheet reports

| **Discount on Bonds Payable** | **Treasury Shares** |
|---|---|
| **a.** No | Yes |
| **b.** Yes | No |
| **c.** No | No |
| **d.** Yes | Yes |

8. The purchase of treasury shares
   **a.** decreases total assets and increases total shareholders' equity.
   **b.** decreases total assets and decreases total shareholders' equity.
   **c.** has no effect on total assets, total liabilities, or total shareholders' equity.
   **d.** increases one asset and decreases another asset.
9. When does a cash dividend become a legal liability?
   **a.** It never becomes a liability because it is paid.
   **b.** On date of payment.
   **c.** On date of record.
   **d.** On date of declaration and approval.

**10.** When do dividends increase shareholders' equity?
**a.** On date of declaration.
**b.** On date of payment.
**c.** Never.
**d.** On date of record.

**11.** Maple Tree Mall, Inc., has 2,500 shares of 2%, $25 par cumulative preference shares and 125,000 shares of $2 par ordinary shares outstanding. At the beginning of the current year, preference dividends were four years in arrears. Maple Tree's board of directors wants to pay a $2.50 cash dividend on each share of outstanding ordinary shares in the current year. To accomplish this, what total amount of dividends must Maple Tree declare?
**a.** $250,000
**b.** $255,000
**c.** $256,250
**d.** Some other amount

**12.** Share dividends
**a.** have no effect on total shareholders' equity.
**b.** increase the corporation's total liabilities.
**c.** reduce the total assets of the company.
**d.** are distributions of cash to shareholders.

**13.** What is the effect of a share dividend and a stock split on total assets?

| *Shares dividend* | *Stock split* |
|---|---|
| **a.** No effect | Decrease |
| **b.** Decrease | Decrease |
| **c.** No effect | No effect |
| **d.** Decrease | No effect |

**14.** A 2-for-1 stock split has the same effect on the number of shares being issued as a
**a.** 50% share dividend.
**b.** 200% share dividend.
**c.** 100% share dividend.
**d.** 20% share dividend.

**15.** The denominator for computing earnings per share is
**a.** number of all shares outstanding at year-end.
**b.** number of ordinary shares outstanding at year-end .
**c.** weighted average number of preference shares outstanding during the year.
**d.** weighted average number of ordinary shares outstanding during the year.

**16.** The numerator for computing the rate of return on ordinary equity is
**a.** net income.
**b.** net income minus interest expense.
**c.** net income minus preference dividends.
**d.** net income plus preference dividends.

## Accounting Vocabulary

**authorized share** (p. 620) Maximum number of shares a corporation can issue under its constitution.

**board of directors** (p. 609) Group elected by the shareholders to set policy for a corporation and to appoint its officers.

**book value (of a share)** (p. 617) Amount of owners' equity on the company's books for each share.

**chairperson** (p. 609) Elected by a corporation's board of directors, usually the most influential person in the corporation. Usually referred to as Chairman.

**contributed capital** (p. 610) The amount of shareholders' equity that shareholders have contributed to the corporation. Also called *paid-in capital* or *share capital*.

**cumulative preference share** (p. 627) Preference share whose owners must receive all dividends in arrears before the corporation can pay dividends to the ordinary shareholders.

**deficit** (p. 624) Retained Earnings account with a debit balance. Also called accumulated losses.

**dividend** (p. 625) Distribution of assets (usually cash) by a corporation to its shareholders.

**earnings per share (EPS)** (p. 632) Amount of a company's net income per share of its outstanding ordinary shares.

**issued share** (p. 620) Number of shares a corporation has issued to its shareholders.

**limited liability** (p. 607) No personal obligation of a shareholder for corporation debts. A shareholder can lose no more on an investment in a corporation's share than the cost of the investment.

**liquidation value** (p. 630) The amount a corporation must pay a preference shareholder in the event the company liquidates and goes out of business, after settling liabilities.

**market capitalization** (p. 630) A measure of the size of a listed company, equal to the share price multiplied by the number of shares outstanding.

**market value (of a share)** (p. 630) Price for which a person could buy or sell a share.

**ordinary share** (p. 611) The most basic form of capital shares. The ordinary shareholders own a corporation.

**outstanding share** (p. 620) Share in the hands of shareholders calculated as issued shares less treasury shares, if any.

**paid-in capital** (p. 610) The amount of shareholders' equity that shareholders have contributed to the corporation. Also called *contributed capital* or *share capital*.

**par value** (p. 612) Arbitrary amount assigned by a company to a share.

**preference share** (p. 611) Share that gives its owners certain advantages, such as the priority to receive dividends before the ordinary shareholders and the priority to receive assets before the ordinary shareholders if the corporation liquidates.

**redeemable preference shares** (p. 612) A corporation reserves the right to buy an issue of shares back from its shareholders, with the intent to retire the share.

**redemption value** (p. 630) The price a corporation agrees to eventually pay for its redeemable preference shares, set when the share is issued.

**retained earnings** (p. 610) The amount of shareholders' equity that the corporation has earned through profitable operation of the business and has not given back to shareholders.

**return on ordinary equity (ROE)** (p. 633) Net income minus preference dividends, divided by average ordinary shareholders' equity. A measure of profitability.

**share** (p. 607) Share into which the owners' equity of a corporation is divided.

**share capital** (p. 610) The amount of shareholders' equity that shareholders have contributed to the corporation. Also called *contributed capital* or *paid-in capital*.

**share dividend** (p. 627) A proportional distribution by a corporation of its own shares to its shareholders.

**shareholder** (p. 607) A person who owns shares in a corporation.

**shareholders' equity** (p. 610) The shareholders' ownership interest in the assets of a corporation.

**stock split** (p. 628) An increase in the number of authorized, issued, and outstanding shares coupled with a proportionate reduction in the share's par value and market price per share.

**treasury share** (p. 621) A corporation's own share that it has issued and later reacquired.

# ASSESS YOUR PROGRESS

## Short Exercises

**S10-1** (***Learning Objective 1: Explaining advantages and disadvantages of a corporation)*** What are two main advantages that a corporation has over a proprietorship and a partnership? What are two main disadvantages of a corporation?

**S10-2** ***(Learning Objective 1: Describing the authority structure in a corporation)*** Consider the authority structure in a corporation, as illustrated in Exhibit 10-2.

1. What group holds the ultimate power in a corporation?
2. Who is the most influential person in the corporation? What's the abbreviation of this person's title?
3. Who's in charge of day-to-day operations? What's the abbreviation of this person's title?
4. Who's in charge of accounting and finance? What's the abbreviation of this person's title?

**S10-3** ***(Learning Objective 1: Describing characteristics of preference and ordinary shares)*** Answer the following questions about the characteristics of a corporation's shares:

1. Who are the real owners of a corporation?
2. What privileges do preference shareholders have over ordinary shareholders? What disadvantages do they have?
3. Which class of shareholders reaps greater benefits from a highly profitable corporation? Explain.

**S10-4** ***(Learning Objective 1: Organizing a corporation)*** Karen Scanlon and Jennifer Shaw are opening a Submarine's deli. Scanlon and Shaw need outside capital, so they plan to organize the business as a corporation. They come to you for advice. Write a memorandum informing them of the steps in forming a corporation. Identify specific documents used in this process, and name the different parties involved in the ownership and management of a corporation.

**S10-5** ***(Learning Objective 2: Describing the effect of a shares issuance on paid-in capital)*** SHOE received $73,000,000 for the issuance of its shares on April 24. The par value of the SHOE shares was only $73,000. Was the excess amount of $72,927,000 a profit to SHOE? If not, what was it?

Suppose the par value of the SHOE share had been $2 per share, $12 per share, or $15 per share. Would a change in the par value of the company's share affect SHOE's total paid-in capital? Give the reason for your answer.

**S10-6** ***(Learning Objective 2: Issuing shares—par value share and no-par share)*** At fiscal year-end 2010, Horris Printer and Delectable Doughnuts reported these adapted amounts on their balance sheets (amounts in millions):

| | | |
|---|---|---|
| Horris Printer: | | |
| Ordinary shares, 1 cent par value, 2,300 shares issued | | $ 23 |
| Additional paid-in capital | | 17,100 |

| | | |
|---|---|---|
| Delectable Doughnuts: | | |
| Ordinary shares, no-par value, 63 shares issued | | $ 292 |

Assume each company issued its shares in a single transaction. Journalize each company's issuance of its shares, using its actual account titles. Explanations are not required.

**S10-7** ***(Learning Objective 2: Issuing shares to finance the purchase of assets)*** This short exercise demonstrates the similarity and the difference between two ways to acquire PPE.

*Case A—Issue share and buy the assets in separate transactions:*

Ashley, Inc., issued 12,000 shares of its $20 par ordinary shares for cash of $800,000. In a separate transaction, Ashley used the cash to purchase a building for $550,000 and equipment for $250,000. Journalize the two transactions.

*Case B—Issue share to acquire the assets in a single transaction:*

Ashley, Inc., issued 12,000 shares of its $20 par ordinary shares to acquire a building valued at $550,000 and equipment worth $250,000. Journalize this transaction.

Compare the balances in all the accounts after making both sets of entries. Are the account balances similar or different?

**S10-8** ***(Learning Objective 2: Preparing the shareholders' equity section of a balance sheet)*** The financial statements of Mountainpeak Employment Services, Inc., reported the following accounts (adapted, with dollar amounts in thousands except for par value):

| | | | |
|---|---|---|---|
| Paid-in capital in excess of par | $196 | Total revenues | $1,340 |
| Other shareholders' equity (negative) | (22) | Accounts payable | 440 |
| Ordinary share, $0.01 par | | Retained earnings | 647 |
| 400 shares issued | 4 | Other current liabilities | 2,569 |
| Long-term debt | 27 | Total expenses | 806 |

Prepare the shareholders' equity section of Mountainpeak's balance sheet. Net income has already been closed to Retained Earnings.

**S10-9** ***(Learning Objective 2: Using shareholders' equity data)*** Use the Mountainpeak Employment Services data in Short Exercise 10-8 to compute Mountainpeak's:

**a.** Net income.
**b.** Total liabilities.
**c.** Total assets (use the accounting equation).

**S10-10** ***(Learning Objective 3: Accounting for the purchase and sale of treasury shares)*** Genius Marketing Corporation reported the following shareholders' equity at December 31 (adapted and in millions):

| | |
|---|---|
| Ordinary share | $ 225 |
| Additional paid-in capital | 245 |
| Retained earnings | 2,149 |
| Treasury share | (621) |
| Total shareholders' equity | $1,998 |

During the next year, Genius Marketing purchased treasury shares at a cost of $29 million and resold treasury shares for $8 million (this treasury share had cost Genius Marketing $2 million). Record the purchase and resale of Genius Marketing's treasury shares. Overall, how much did shareholders' equity increase or decrease as a result of the two treasury share transactions?

**S10-11** ***(Learning Objective 3: Purchasing treasury share to fight off a takeover of the corporation)*** Thi Pham Exports, Inc., is located in Hanoi, Vietnam. TPE is the only company with reliable sources for its specialty gifts that are sold in many department stores around the world. TPE's recent success has made the company a prime target for a takeover. An investment group, ECP Investments, is attempting to buy 52% of TPE's outstanding share against the wishes of TPE's board of directors. TPE board members are convinced that ECP Investments' investors would sell the most desirable pieces of the business and leave little of value.

At the most recent board meeting, several suggestions were advanced to fight off the hostile takeover bid. The suggestion with the most promise is to purchase a huge quantity of treasury shares. ECP has the cash to carry out this plan.

***Requirements***

1. Suppose you are a significant shareholder of ECP. Write a memorandum to explain to the board how the purchase of treasury shares would make it difficult for the ECP group to take over TPE. Include in your memo a discussion of the effect that purchasing treasury shares would have on shares outstanding and on the size of the corporation.
2. Suppose TPE's management is successful in fighting off the takeover bid and later sells the treasury shares at prices greater than the purchase price. Explain what effect these sales will have on assets, shareholders' equity, and net income. What happens if the prices remained lower than what TPE paid? Will it report a loss?

**S10-12** ***(Learning Objective 4: Accounting for cash dividends)*** Greentea Corporation earned a net income of $95,000 during the year ended December 31, 20X6. On December 15, Greentea declared the annual cash dividend on its 6% preference shares (11,000 shares with total par value of $110,000) and a $1.00 per share cash dividend on its ordinary shares (45,000 shares with total par value of $450,000). Greentea then paid the dividends on January 4, 20X7.

Journalize for Greentea Corporation:

**a.** Declaring the cash dividends on December 15, 20X6.
**b.** Paying the cash dividends on January 4, 20X7.

Did Retained Earnings increase or decrease during 20X6? By how much?

**S10-13** ***(Learning Objective 4: Dividing cash dividends between preference and ordinary share)*** Access Garde, Inc., has 200,000 shares of $1.80 preference share outstanding in addition to its ordinary shares. The $1.80 designation means that the preference shareholders receive an annual cash dividend of $1.80 per share. In 20X6, Access Garde declares an annual dividend of $500,000. The allocation to preference and ordinary shareholders is:

| | |
|---|---|
| Preference dividend, (200,000 shares × $1.80 per share) | $360,000 |
| Ordinary dividend (remainder: $500,000 – $360,000) | 140,000 |
| Total dividend | $500,000 |

Answer these questions about Access Garde's cash dividends.

1. How much in dividends must Access Garde declare each year before the ordinary shareholders receive any cash dividends for the year?
2. Suppose Access Garde, Inc., declares cash dividends of $400,000 for 20X6. How much of the dividends goes to preference? How much goes to ordinary?
3. Is Access Garde's preference shares cumulative or non-cumulative? How can you tell?
4. Access Garde, Inc., passed the preference dividend in 20X5 and 20X6. Then in 20X7, Access Garde declared cash dividends of $1,500,000. How much of the dividends goes to preference? How much goes to ordinary?

**S10-14** ***(Learning Objective 4: Recording a share dividend)*** Centerville Bancshares has 13,000 shares of $3 par ordinary shares outstanding. Suppose Centerville distributes a 15% shares dividend when the market value of its shares is $25 per share.

1. Journalize Centerville's distribution of the share dividend on May 11. An explanation is not required.
2. What was the overall effect of the share dividend on Centerville's total assets? On total liabilities? On total shareholders' equity?

**S10-15** ***(Learning Objective 5: Computing book value per share)*** Fools Gold, Inc., has the following shareholders' equity:

| | |
|---|---|
| Preference share, 4%, $5 par, | |
| 33,000 shares authorized and issued | $ 195,000 |
| Ordinary share, $2 par, 100,000 shares authorized | |
| 63,000 shares issued | 126,000 |
| Additional paid-in capital | 2,170,000 |
| Retained earnings | 1,700,000 |
| Less treasury share, ordinary share (1,400 shares at cost) | (45,000) |
| Total shareholders' equity | $4,146,000 |

The company has passed its preference dividends for three years including the current year. Compute the book value per share of the company's ordinary shares.

**S10-16** ***(Learning Objective 6: Computing and explaining earning per share and return on equity)*** Give the formula for computing (a) earnings per share (EPS) and (b) rate of return on ordinary shareholders' equity (ROE). Then answer these questions.

1. Why are preference dividends deducted from net income to compute EPS?
2. Why is preference share capital deducted from total equity to compute ROE?

**S10-17** ***(Learning Objective 6: Computing earnings per share and return on equity for a leading company)*** Sasuke Corporation's 20X7 financial statements reported the following items, with the 20X6 figures given for comparison (adapted and in millions).

| | 20X7 | 20X6 |
|---|---|---|
| **Balance Sheet** | | |
| Total assets | ¥10,624 | ¥9,515 |
| Total liabilities | ¥ 7,412 | ¥6,637 |
| Total shareholders' equity (all ordinary) | 3,212 | 2,878 |
| Total liabilities and equity | ¥10,624 | ¥9,515 |
| **Income Statement** | | |
| Revenues and other income | ¥ 7,633 | |
| Operating expense | 7,286 | |
| Interest expense | 31 | |
| Other expense | 196 | |
| Net income | ¥ 120 | |

The weighted average common shares outstanding during 20X7 was 500 million shares. Compute Sasuke's earnings per share and return on ordinary equity for 20X7. Evaluate the rates of return as strong or weak.

**S10-18** ***(Learning Objectives 1, 2, 5: Explaining the features of a corporation's shares)*** McGahan Corporation is conducting a special meeting of its board of directors to address some concerns raised by the shareholders. Shareholders have submitted the following questions. Answer each question.

1. Why are ordinary shares and retained earnings shown separately in the shareholders' equity section of the balance sheet?
2. Linda Leary, a McGahan shareholder, proposes to transfer some land she owns to the company in exchange for a share of the company shares. How should McGahan Corporation determine the number of shares to issue for the land?
3. Preference shares generally are preference with respect to dividends and in the event of our liquidation. Why would investors buy our ordinary shares when preference shares are available?
4. What does the redemption value of our preference shares require us to do?
5. One shareholder asked the board why the market value per share is not the same as the book value per share. Explain why this is the case.

**S10-19** ***(Learning Objective 7: Measuring cash flows from financing activities)*** During 20X6, Dwyer Corporation earned net income of $5.8 billion and paid off $2.4 billion of long-term notes payable. Dwyer raised $1.1 billion by issuing ordinary shares, paid $3.5 billion to purchase treasury shares, and paid cash dividends of $1.6 billion. Report Dwyer's *cash flows from financing* activities on the statement of cash flows for 20X6.

## Exercises

MyAccountingLab

All of the A and B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

### (Group A)

**E10-20A** ***(Learning Objective 2: Issuing shares and reporting shareholders' equity)*** Bread & Butter, Inc., is authorized to issue 120,000 shares of ordinary shares and 7,000 shares of preference shares. During its first year, the business completed the following share issuance transactions:

| | |
|---|---|
| Jan 19 | Issued 12,000 shares of $2.00 par ordinary shares for cash of $6.00 per share. |
| Apr 3 | Issued 400 shares of $1.00 no-par preference shares for $54,000 cash. |
| 11 | Received inventory valued at $16,000 and equipment with market value of $9,500 for 3,700 shares of the $2.00 par ordinary share. |

**Requirements**

1. Journalize the transactions. Explanations are not required.
2. Prepare the shareholders' equity section of Bread & Butter's balance sheet. The ending balance of retained earnings is a deficit of $43,000.

**E10-21A** ***(Learning Objective 2: Preparing shareholders' equity section of a balance sheet)*** Army Navy Sporting Goods is authorized to issue 10,000 preference shares and 19,000 ordinary shares. During a two-month period, Army Navy completed these share-issuance transactions:

| | |
|---|---|
| Apr 23 | Issued 1,700 shares of $1.50 par ordinary share for cash of $16.50 per share. |
| May 2 | Issued 600 shares of $2.50, no-par preference share for $22,000 cash. |
| 12 | Received inventory valued at $19,000 and equipment with market value of $41,000 for 3,300 shares of the $1.50 par ordinary share. |

**Requirement**

1. Prepare the shareholders' equity section of the Army Navy Sporting Goods' balance sheet for the transactions given in this exercise. The Retained Earnings account currently has a balance of $45,000. Journal entries are not required.

**E10-22A** ***(Learning Objective 2: Measuring the paid-in capital of a corporation)*** Travel Publishing was recently organized. The company issued ordinary shares to an attorney who provided legal services worth $23,000 to help organize the corporation. Travel also issued ordinary shares to an inventor in exchange for his patent with a market value of $82,000. In addition, Travel received cash both for the issuance of 2,000 shares of its preference shares at $120 per share and for the issuance of 22,000 of its ordinary shares at $1 per share. During the first year of operations, Travel earned a net income of $50,000 and declared a cash dividend of $29,000. Without making journal entries, determine the total paid-in capital created by these transactions.

**E10-23A** ***(Learning Objectives 2, 3: Preparing shareholders' equity section of a balance sheet)*** Patterson Software had the following selected account balances at December 31, 20X6 (in thousands, except par value per share).

| | | | |
|---|---|---|---|
| Inventory | $ 651 | Ordinary share, $0.75 par per share, 800 shares authorized, 320 shares issued | $ 240 |
| Property, plant and equipment, net | 900 | Retained earnings | 2,220 |
| Paid-in capital in excess of par | 899 | Accounts receivable, net | 1,000 |
| Treasury shares, 100 shares at cost | 1,150 | Notes payable | 1,100 |
| Other shareholders' equity | (730)* | | |

*Debit balance

## Requirements

1. Prepare the shareholders' equity section of Patterson's balance sheet (in thousands).
2. How can Patterson have a larger balance of treasury shares than the sum of ordinary shares and Paid-in Capital in Excess of Par?

**E10-24A** ***(Learning Objectives 2, 3: Recording treasury shares transactions and measuring their effects on shareholders' equity)*** Journalize the following transactions of Aliant Productions:

| | |
|---|---|
| Jan 17 | Issued 2,200 shares of $2.50 par ordinary share at $10 per share. |
| May 23 | Purchased 300 shares of treasury share at $12 per share. |
| Jul 11 | Sold 200 shares of treasury share at $20 per share. |

What was the overall effect of these transactions on Aliant's shareholders' equity?

**E10-25A** ***(Learning Objectives 2, 3, 4: Recording share issuance, treasury share, and dividend transactions)*** At December 31, 20X6, Northeast Corporation reported the shareholders' equity accounts shown here (with dollar amounts in millions, except per share amounts).

| | |
|---|---|
| Ordinary share $2.00 par value per share, 2,100 million shares issued | $ 4,200 |
| Capital in excess of par value | 8,400 |
| Retained earnings | 250 |
| Treasury share, at cost | (70) |
| Total shareholders' equity | $12,780 |

Northeast's 20X7 transactions included the following:

**a.** Net income, $446 million.
**b.** Issuance of 8 million shares of ordinary share for $13.50 per share.
**c.** Purchase of 2 million shares of treasury share for $16 million.
**d.** Declaration and payment of cash dividends of $31 million.

## Requirement

1. Journalize Northeast's transactions in **b**, **c**, and **d**. Explanations are not required.

**E10-26A** ***(Learning Objectives 2, 3, 4: Reporting shareholders' equity after a sequence of transactions)*** Use the Northeast Corporation data in Exercise 10-25A to prepare the shareholders' equity section of the company's balance sheet at December 31, 20X7.

**E10-27A** ***(Learning Objectives 2, 3, 4, 5: Inferring transactions from a company's shareholders' equity)*** Theta Products Company reported the following shareholders' equity on its balance sheet:

| Shareholders' Equity (Dollars and shares in millions) | December 31 20X7 | 20X6 |
|---|---|---|
| Convertible Preference share—$0.50 par value; authorized 30 shares; issued and outstanding: 20X7 and 20X6—6 and 12 shares, respectively | $ 3 | $ 6 |
| Ordinary share—$2 per share par value; authorized 1,400 shares; issued: 20X7 and 20X6—300 and 200 shares, respectively | 600 | 400 |
| Additional paid-in capital | 1,950 | 1,200 |
| Retained earnings | 6,270 | 5,066 |
| Treasury share, ordinary share—at cost 20X7—52 shares; 20X6—12 shares | (1,144) | (228) |
| Total shareholders' equity | 7,679 | 6,444 |
| Total liabilities and shareholders' equity | $48,299 | $45,294 |

## *Requirements*

1. What caused Theta's preference shares to decrease during 20X7? Cite all possible causes.
2. What caused Theta's ordinary shares to increase during 20X7? Identify all possible causes.
3. How many shares of Theta's ordinary shares were outstanding at December 31, 20X7?
4. Theta's net income during 20X7 was $1,380 million. How much were Theta's dividends during the year?
5. During 20X7, Theta sold no treasury shares. What average price per share did Theta pay for the treasury shares the company purchased during the year?

**E10-28A** ***(Learning Objective 4: Computing dividends on preference and ordinary share)*** Huron Manufacturing, Inc., reported the following:

| Shareholders' Equity | |
|---|---|
| Preference share, cumulative, $0.50 par, 9%, 40,000 shares issued | $ 20,000 |
| Ordinary share, $0.10 par, 9,170,000 shares issued | 917,000 |

Huron Manufacturing has paid all preference dividends through 20X7.

## *Requirement*

1. Compute the total amounts of dividends to both preference and ordinary shares for 20X6 and 20X7 if total dividends are $60,000 in 20X6 and $120,000 in 20X7.

**E10-29A** ***(Learning Objective 4: Recording a share dividend and reporting shareholders' equity)*** The shareholders' equity for Heavenly Desserts Drive-Ins (HD) on December 31, 20X6, is as follows:

| Shareholders' Equity | |
|---|---|
| Ordinary share, $0.80 par, 2,600,000 shares authorized, 300,000 shares issued | $ 240,000 |
| Paid-in capital in excess of par—ordinary | 307,200 |
| Retained earnings | 7,122,000 |
| Other equity | (200,000) |
| Total shareholders' equity | $7,469,200 |

On May 11, 20X7, the market price of HD's ordinary shares was $19 per share. Assume HD distributed a 15% share dividend on this date.

### *Requirements*

1. Journalize the distribution of the share dividend.
2. Prepare the shareholders' equity section of the balance sheet after the share dividend.
3. Why is the total shareholders' equity unchanged by the share dividend?
4. Suppose HD had a cash balance of $560,000 on May 12, 20X7. What is the maximum amount of cash dividends HD can declare?

**E10-30A** ***(Learning Objectives 2, 3, 4: Measuring the effects of share issuance, dividends, and treasury shares transactions)*** Identify the effects—both the direction and the dollar amount—of these assumed transactions on the total shareholders' equity of Athol Corporation. Each transaction is independent.

- **a.** Declaration of cash dividends of $78 million.
- **b.** Payment of the cash dividend in **a**.
- **c.** A 25% shares dividend. Before the dividend, 70 million shares of $2.00 par ordinary share were outstanding; the market value was $8.250 at the time of the dividend.
- **d.** Purchase of 1,900 shares of treasury shares (par value $2.00) at $5.25 per share.
- **e.** Sale of 900 shares of the treasury shares for $7.00 per share. Cost of the treasury share was $5.25 per share.
- **f.** A 2-for-1 stock split. Prior to the split, 70 million shares of $2.00 par ordinary shares were outstanding.

**E10-31A** ***(Learning Objective 4: Reporting shareholders' equity after a stock split)*** Clublink Corp. had the following shareholders' equity at October 31 (dollars in millions, except par value per share):

| Shareholders' Equity | |
|---|---|
| Ordinary share, $1.50 par, 750 million shares authorized, 420 million shares issued | $ 630 |
| Additional paid-in capital | 318 |
| Retained earnings | 2,399 |
| Other equity | (148) |
| Total shareholders' equity | $3,199 |

On December 6, Clublink split its $1.50 par ordinary share 3-for-1.

**Requirement**

1. Prepare the shareholders' equity section of the balance sheet immediately after the split.

**E10-32A** ***(Learning Objective 5: Measuring the book value per share of ordinary share)*** The balance sheet of Luxury Rug Company reported the following:

| | |
|---|---|
| Redeemable preference share, 4%, $60 par value, redemption value $45,000; outstanding 500 shares | $30,000 |
| Ordinary shareholders' equity: | |
| 6,000 shares issued and outstanding | 66,000 |
| Total shareholders' equity | $96,000 |

**Requirements**

1. Compute the book value per share for an ordinary share, assuming all preference dividends are fully paid up (none in arrears).
2. Compute the book value per share of the ordinary shares, assuming that three years' cumulative preference dividends, including the current year, are in arrears.
3. Luxury Rug's ordinary shares recently traded at a market price of $6.00 per share. Does this mean that Luxury Rug's shares are a good buy at $6.00?

**E10-33A** ***(Learning Objective 6: Evaluating profitability)*** Luna Inns reported these figures for 20X7 and 20X6 (in millions):

| | 20X7 | 20X6 |
|---|---|---|
| **Balance sheet** | | |
| Total assets | $15,906 | $13,700 |
| Ordinary share and additional paid-in capital | 44 | 390 |
| Retained earnings | 11,522 | 16,490 |
| Other equity | (3,010) | (9,044) |
| **Income statement** | | |
| Operating income | $ 4,023 | $ 3,818 |
| Interest expense | 222 | 269 |
| Net income | 1,525 | 1,549 |

**Requirement**

1. Compute Luna's return on assets and return on ordinary shareholders' equity for 20X7. Do these rates of return suggest strength or weakness? Give your reason.

**E10-34A** ***(Learning Objective 6: Evaluating profitability)*** Littleton Company included the following items in its financial statements for 20X6, the current year (amounts in millions):

| | | | |
|---|---|---|---|
| Payment of long-term debt | $17,060 | Dividends paid | $ 230 |
| Proceeds from issuance | | Interest expense: | |
| of ordinary share | 8,500 | Current year | 1,439 |
| Total liabilities: | | Preceding year | 601 |
| Current year-end | 32,315 | Net income: | |
| Preceding year-end | 38,025 | Current year | 1,878 |
| Total shareholders' equity: | | Preceding year | 2,003 |
| Current year-end | 23,475 | Operating income: | |
| Preceding year-end | 14,033 | Current year | 4,884 |
| Borrowings | 6,580 | Preceding year | 4,006 |

### *Requirement*

1. Compute Littleton's earnings per share and return on ordinary equity during 20X6 (the current year). Littleton has no preference shares outstanding. The weighted average ordinary shares outstanding were 500 million shares. Are the company's returns strong or weak? Give your reason.

**E10-35A** ***(Learning Objective 7: Reporting cash flows from financing activities)*** Use the Littleton Company data in Exercise E10-34A to show how the company reported cash flows from financing activities during 20X6 (the current year). List items in descending order from the largest to the smallest dollar amount.

## (Group B)

**E10-36B** ***(Learning Objective 2: Issuing share and reporting shareholders' equity)*** Sweet & Sour, Inc., is authorized to issue 110,000 shares of ordinary shares and 5,000 shares of preference shares. During its first year, the business completed the following share issuance transactions:

| | | |
|---|---|---|
| Aug | 19 | Issued 15,000 shares of €3.50 par ordinary share for cash of €7.50 per share. |
| Nov | 3 | Issued 400 shares of €2.00 no-par preference share for €55,000 cash. |
| | 11 | Received inventory valued at €18,000 and equipment with market value of €10,500 for 4,000 shares of the €3.50 par ordinary share. |

### *Requirements*

1. Journalize the transactions. Explanations are not required.
2. Prepare the shareholders' equity section of Sweet & Sour's balance sheet. The ending balance of retained earnings is a deficit of €47,000.

**E10-37B** ***(Learning Objective 2: Preparing shareholders' equity section of a balance sheet)*** Honcho Sporting Goods is authorized to issue 7,000 preference shares and 16,000 ordinary shares. During a two-month period, Honcho completed these share-issuance transactions:

| | | |
|---|---|---|
| Jun | 23 | Issued 1,500 shares of €2.00 par ordinary share for cash of €17.50 per share. |
| Jul | 2 | Issued 400 shares of €5.50, no-par preference share for €30,000 cash. |
| | 12 | Received inventory valued at €15,000 and equipment with market value of €44,000 for 3,700 shares of the €2.00 par ordinary share. |

### *Requirement*

1. Prepare the shareholders' equity section of the Honcho Sporting Goods balance sheet for the transactions given in this exercise. The Retained Earnings account currently has a balance of €45,000. Journal entries are not required.

**E10-38B** ***(Learning Objective 2: Measuring the paid-in capital of a corporation)*** Journey Publishing was recently organized. The company issued ordinary shares to a lawyer who provided legal services worth €24,000 to help organize the corporation. Journey also issued ordinary shares to an inventor in exchange for his patent with a market value of €85,000. In addition, Journey received cash both for the issuance of 3,000 shares of its preference shares at €90 per share and for the issuance of 17,000 shares of its ordinary shares at €18 per share. During the first year of operations, Journey earned a net income of €65,000 and declared a cash dividend of €23,000. Without making journal entries, determine the total paid-in capital created by these transactions.

**E10-39B** ***(Learning Objectives 2, 3: Shareholders' equity section of a balance sheet)*** Bukala Software had the following selected account balances at December 31, 20X6 (in thousands, except par value per share):

| | | | |
|---|---|---|---|
| Inventory | € 705 | Ordinary share, €0.50 par per share, 900 shares authorized, 300 shares issued | € 150 |
| Property, plant and equipment, net | 903 | Retained earnings | 2,270 |
| Paid-in capital in excess of par | 897 | Accounts receivable, net | 200 |
| Treasury share, 140 shares at cost | 1,610 | Notes payable | 1,166 |
| Other shareholders' equity | (726)* | | |

*Debit balance

## Requirements

1. Prepare the shareholders' equity section of Bukala Software's balance sheet (in thousands).
2. How can Bukala have a larger balance of treasury shares than the sum of ordinary shares and paid-in capital in excess of par?

**E10-40B** ***(Learning Objectives 2, 3: Recording treasury share transactions and measuring their effects on shareholders' equity)*** Journalize the following assumed transactions of Applebug Productions:

| | |
|---|---|
| Mar 16 | Issued 2,400 shares of €1.50 par ordinary share at €7 per share. |
| Apr 20 | Purchased 800 shares of treasury share at €16 per share. |
| Aug 8 | Sold 600 shares of treasury share at €17 per share. |

What was the overall effect of these transactions on Applebug's shareholders' equity?

**E10-41B** ***(Learning Objectives 2, 3, 4: Recording share issuance, treasury share, and dividend transactions)*** At December 31, 20X6, Eastern Corporation reported the shareholders' equity accounts shown here (with dollar amounts in millions, except per share amounts).

| | |
|---|---|
| Ordinary share €1.50 par value per share, 1,700 million shares issued | € 2,550 |
| Capital in excess of par value | 7,650 |
| Retained earnings | 260 |
| Treasury share, at cost | (10) |
| Total shareholders' equity | €10,450 |

Eastern's 20X7 transactions included the following:

**a.** Net income, €447 million.
**b.** Issuance of 9 million shares of ordinary share for €12.50 per share.
**c.** Purchase of 3 million shares of treasury share for €15 million.
**d.** Declaration and payment of cash dividends of €34 million.

## Requirement

1. Journalize Eastern's transactions in **b**, **c**, and **d**. Explanations are not required.

**E10-42B** ***(Learning Objectives 2, 3, 4: Reporting shareholders' equity after a sequence of transactions)*** Use the Eastern Corporation data in Exercise 10-41B to prepare the shareholders' equity section of the company's balance sheet at December 31, 20X7.

**E10-43B** ***(Learning Objectives 2, 3, 4, 5: Inferring transactions from a company's shareholders' equity)*** Supreme Products Company reported the following shareholders' equity on its balance sheet:

| **Shareholders' Equity (Dollars and shares in millions)** | **December 31 20X7** | **20X6** |
|---|---|---|
| Convertible preference share—€1.50 par value; authorized 40 shares; issued and outstanding: | | |
| 20X7 and 20X6—8 and 16 shares, respectively | € 12 | € 24 |
| Ordinary share—€4 per share par value; authorized 1,200 shares; issued: 20X7 and 20X6—500 | | |
| and 400 shares, respectively | 2,000 | 1,600 |
| Additional paid-in capital | 2,750 | 2,000 |
| Retained earnings | 6,300 | 5,025 |
| Treasury share, ordinary share—at cost | | |
| 20X7—54 shares; 20X6—14 shares | (1,242) | (280) |
| Total shareholders' equity | 9,820 | 8,369 |
| Total liabilities and shareholders' equity | €50,320 | €47,215 |

## *Requirements*

1. What caused Supreme's preference shares to decrease during 20X7? Cite all possible causes.
2. What caused Supreme's ordinary shares to increase during 20X7? Identify all possible causes.
3. How many shares of Supreme's ordinary shares were outstanding at December 31, 20X7?
4. Supreme's net income during 20X7 was €1,475 million. How much were Supreme's dividends during the year?
5. During 20X7, Supreme sold no treasury shares. What average price per share did Supreme pay for the treasury shares the company purchased during the year?

**E10-44B** ***(Learning Objective 4: Computing dividends on preference and ordinary share)*** Eerie Manufacturing, Inc., reported the following:

| **Shareholders' Equity** | |
|---|---|
| Preference share, cumulative, €1.50 par, 7%, 50,000 shares issued | € 75,000 |
| Ordinary share, €0.20 par, 9,110,000 shares issued | 1,822,000 |

Eerie Manufacturing has paid all preference dividends through 20X3.

## *Requirement*

1. Compute the total amounts of dividends to both preference and ordinary for 20X6 and 20X7 if total dividends are €100,000 in 20X6 and €200,000 in 20X7.

**E10-45B** ***(Learning Objective 4: Recording a share dividend and reporting shareholders' equity)*** The shareholders' equity for Icy Pop Drive-Ins (IP) on December 31, 20X6, follows:

| Shareholders' Equity | |
|---|---|
| Ordinary share, €0.30 par, 2,200,000 shares authorized, 400,000 shares issued | € 120,000 |
| Paid-in capital in excess of par—ordinary | 409,600 |
| Retained earnings | 7,133,000 |
| Other equity | (185,000) |
| Total shareholders' equity | €7,477,600 |

On August 15, 20X7, the market price of IP's ordinary shares was €15 per share. Assume IP distributed a 20% share dividend on this date.

### *Requirements*

1. Journalize the distribution of the share dividend.
2. Prepare the shareholders' equity section of the balance sheet after the share dividend.
3. Why is total shareholders' equity unchanged by the share dividend?
4. Suppose IP had a cash balance of €590,000 on August 16, 20X7. What is the maximum amount of cash dividends IP can declare?

**E10-46B** ***(Learning Objectives 2, 3, 4: Measuring the effects of share issuance, dividends, and treasury share transactions)*** Identify the effects—both the direction and the dollar amount—of these assumed transactions on the total shareholders' equity of Dracut Corporation. Each transaction is independent.

- **a.** Declaration of cash dividends of €85 million.
- **b.** Payment of the cash dividend in **a**.
- **c.** A 5% share dividend. Before the dividend, 72 million shares of €3.00 par ordinary shares were outstanding; the market value was €9.185 at the time of the dividend.
- **d.** Purchase of 1,800 shares of treasury shares (par value €3.00) at €6.25 per share.
- **e.** Sale of 900 shares of the treasury shares for €9.00 per share. The cost of the treasury shares was €6.25 per share.
- **f.** A 3-for-1 stock split. Prior to the split, 72 million shares of €3.00 par ordinary share were outstanding.

**E10-47B** ***(Learning Objective 4: Reporting shareholders' equity after a stock split)*** Griffin Corp. had the following shareholders' equity at March 31 (dollars in millions, except par value per share):

| Shareholders' Equity | |
|---|---|
| Ordinary share, €0.30 par, 500 million shares authorized, 450 million shares issued | € 135 |
| Additional paid-in capital | 315 |
| Retained earnings | 2,393 |
| Other equity | (146) |
| Total shareholders' equity | €2,697 |

On May 3, Griffin split its €0.30 par ordinary share 3-for-1.

## Requirement

1. Prepare the shareholders' equity section of the balance sheet immediately after the split.

**E10-48B** ***(Learning Objective 5: Measuring the book value per share of ordinary share)*** The balance sheet of Eclectic Rug Company reported the following:

| | |
|---|---|
| Redeemable preference share, 10%, €30 par value, redemption value €25,000; outstanding 700 shares | € 21,000 |
| Ordinary shareholders' equity: | |
| 10,000 shares issued and outstanding | 100,000 |
| Total shareholders' equity | €121,000 |

## Requirements

1. Compute the book value per share for the ordinary shares, assuming all preference dividends are fully paid up (none in arrears).
2. Compute the book value per share of the ordinary shares, assuming that three years' cumulative preference dividends, including the current year, are in arrears.
3. Eclectic Rug's ordinary shares recently traded at a market price of €7.10 per share. Does this mean that Eclectic Rug's shares are a good buy at €7.10?

**E10-49B** ***(Learning Objective 6: Evaluating profitability)*** LaSalle Inns reported these figures for 20X7 and 20X6 (in millions):

| | 20X7 | 20X6 |
|---|---|---|
| **Balance sheet** | | |
| Total assets | €16,000 | €13,790 |
| Ordinary share and additional paid-in capital | 38 | 384 |
| Retained earnings | 11,528 | 16,530 |
| Other equity | (2,962) | (9,112) |
| **Income statement** | | |
| Operating income | € 4,022 | € 3,815 |
| Interest expense | 219 | 273 |
| Net income | 1,530 | 1,544 |

## Requirement

1. Compute LaSalle's return on assets and return on ordinary shareholders' equity for 20X7. Do these rates of return suggest strength or weakness? Give your reason.

**E10-50B** ***(Learning Objective 6: Evaluating profitability)*** Lawrence Company included the following items in its financial statements for 20X6, the current year (amounts in millions):

| | | | |
|---|---|---|---|
| Payment of long-term debt | €17,100 | Dividends paid | € 215 |
| Proceeds from issuance of ordinary share | 8,495 | Interest expense: | |
| Total liabilities: | | Current year | 1,443 |
| | | Preceding year | 603 |
| Current year-end | 32,315 | Net income: | |
| Preceding year-end | 38,031 | Current year | 1,872 |
| Total shareholders' equity: | | Preceding year | 1,993 |
| Current year-end | 23,477 | Operating income: | |
| Preceding year-end | 14,043 | Current year | 4,876 |
| Borrowings | 6,590 | Preceding year | 3,996 |

**Requirement**

1. Compute Lawrence's earnings per share and return on ordinary equity during 20X6 (the current year). Lawrence has no preference shares outstanding. The weighted average ordinary shares outstanding were 500 million shares. Do the company's rates of return look strong or weak? Give your reason.

**E10-51B** ***(Learning Objective 7: Reporting cash flows from financing activities)*** Use the Lawrence data in Exercise E10-50B to show how the company reported cash flows from financing activities during 20X6 (the current year). List items in descending order from largest to smallest dollar amount.

## Challenge Exercises

**E10-52** ***(Learning Objectives 2, 3, 4: Reconstructing transactions from the financial statements)*** D-4 Networking Solutions began operations on January 1, 20X6, and immediately issued its shares, receiving cash. D-4's balance sheet at December 31, 20X6, reported the following shareholders' equity:

| | |
|---|---|
| Ordinary share, $1 par | $ 51,000 |
| Additional paid-in capital | 102,000 |
| Retained earnings | 35,000 |
| Treasury share, 850 shares | (7,650) |
| Total shareholders' equity | $180,350 |

During 20X6, D-4

a. Issued shares for $3 per share.
b. Purchased 950 shares of treasury shares, paying $9 per share.
c. Resold some of the treasury shares.
d. Earned net income of $58,000 and declared and paid cash dividends. Revenues were $172,000 and expenses totaled $114,000.

**Requirement**

1. Journalize all of D-4's shareholders' equity transactions during the year. D-4's entry to close net income to Retained Earnings was:

| | | | |
|---|---|---|---|
| | Revenues | 172,000 | |
| | Expenses | | 114,000 |
| | Retained Earnings | | 58,000 |

**E10-53** ***(Learning Objective 7: Reporting financing activities on the statement of cash flows)*** Use the D-4 Networking Solutions data in Exercise 10-52 to show how the company reported cash flows from financing activities during 20X6.

**E10-54** ***(Learning Objectives 2, 3, 4: Explaining the changes in shareholders' equity)*** Space Walk Corporation reported the following shareholders' equity data (all dollars in millions except par value per share):

| | December 31 20X6 | 20X5 |
|---|---|---|
| Preference share | $ 609 | $ 740 |
| Ordinary share, $1 par value | 905 | 889 |
| Additional paid-in capital | 1,514 | 1,482 |
| Retained earnings | 20,625 | 19,100 |
| Treasury share, ordinary | (2,777) | (2,600) |

Space Walk earned a net income of $2,980 during 20X6. For each account except Retained Earnings, one transaction explains the change from the December 31, 20X5, balance to the December 31, 20X6, balance. Two transactions affected Retained Earnings. Give a full explanation, including the dollar amount, for the change in each account.

**E10-55** ***(Learning Objectives 2, 3, 4: Accounting for changes in shareholders' equity)*** Clubhouse, Inc., ended 20X6 with 7 million shares of $1 par ordinary share issued and outstanding. Beginning additional paid-in capital was $10 million, and Retained Earnings totaled $35 million:

- In April 20X7, Clubhouse issued 5 million shares of ordinary shares at a price of $3 per share.
- In June, the company distributed a 10% share dividend at a time when Clubhouse's ordinary shares had a market value of $6 per share.
- Then in September, Clubhouse's shares price dropped to $2 per share and the company purchased 5 million shares of treasury share.
- For the year, Clubhouse earned net income of $22 million and declared cash dividends of $12 million.

### *Requirement*

1. Complete the following tabulation to show what Clubhouse should report for shareholders' equity at December 31, 20X7. Journal entries are not required.

| (Amounts in millions) | Ordinary Shares | + | Additional Paid-In Capital | + | Retained Earnings | − | Treasury Shares | = | Total Equity |
|---|---|---|---|---|---|---|---|---|---|
| Balance, Dec 31, 20X6 | $7 | | $10 | | $35 | | 0 | | $52 |
| Issuance of shares | | | | | | | | | |
| Share dividend | | | | | | | | | |
| Purchase of treasury shares | | | | | | | | | |
| Net income | | | | | | | | | |
| Cash dividends | | | | | | | | | |
| Balance, Dec 31, 20X7 | | | | | | | | | |

## Quiz

*Test your understanding of shareholders' equity by answering the following questions. Select the best choice from among the possible answers given.*

**Q10-56** Which of the following is a characteristic of a corporation?

**a.** Limited life
**b.** Limited number of shareholders
**c.** Limited liability of shareholders
**d.** Limited rights of shareholders

**Q10-57** Spirit World, Inc., issues 280,000 shares of no-par ordinary share for $9 per share. The journal entry is:

| | | | |
|---|---|---|---|
| a. | Cash | 2,520,000 | |
| | Ordinary Share | | 560,000 |
| | Paid-In Capital in Excess of Par | | 1,960,000 |
| | | | |
| b. | Cash | 2,520,000 | |
| | Ordinary Share | | 2,520,000 |
| | | | |
| c. | Cash | 2,520,000 | |
| | Ordinary Share | | 280,000 |
| | Gain on the Sale of Share | | 2,240,000 |
| | | | |
| d. | Cash | 280,000 | |
| | Ordinary Share | | 280,000 |

**Q10-58** Par value
**a.** represents the original selling price for one share.
**b.** is established for a share of share after it is issued.
**c.** may exist for ordinary share but not for preference share.
**d.** represents what a share is worth.
**e.** is an arbitrary amount that establishes the legal capital for each share.

**Q10-59** The paid-in capital portion of shareholders' equity does not include
**a.** Ordinary Share.
**b.** Preference Share.
**c.** Retained Earnings.
**d.** Paid-in Capital in Excess of Par Value.

**Q10-60** Preference share is least likely to have which of the following characteristics?
**a.** Extra liability for the preference shareholders
**b.** The right of the holder to convert to ordinary shares
**c.** Preference as to dividends
**d.** Preference as to assets on liquidation of the corporation

**Q10-61** Which of the following classifications represents the most shares of ordinary share?
**a.** Authorized shares
**b.** Outstanding shares
**c.** Unissued shares
**d.** Treasury shares
**e.** Issued shares

**Use the following information for Questions Q10-62 to Q10-64:**
These account balances at December 31 relate to Sportworld, Inc.:

| | | | |
|---|---|---|---|
| Accounts Payable | $ 51,500 | Paid-in Capital in Excess of Par—Ordinary Share | $220,000 |
| Accounts Receivable | 81,550 | | |
| Ordinary Share | 317,000 | Preference share, 10%, $100 Par | 85,000 |
| Treasury Share | 5,200 | Retained Earnings | 71,300 |
| Bonds Payable | 3,800 | Notes Receivable | 12,100 |

**Q10-62** What is total paid-in capital for Sportworld, Inc.?
**a.** $634,445
**b.** $622,000
**c.** $641,345
**d.** $693,300
**e.** None of the above

**Q10-63** What is total shareholders' equity for Sportworld, Inc.?
**a.** $688,100
**b.** $641,345
**c.** $693,300
**d.** $698,500
**e.** None of the above

**Q10-64** Sportworld's net income for the period is $119,100 and beginning ordinary shareholders' equity is $681,500. Calculate Sportworld's return on ordinary shareholders' equity.
**a.** 17.2%
**b.** 16.4%
**c.** 18.2%
**d.** 19.3%

**Q10-65** A company paid $24 per share to purchase 600 shares of its ordinary shares as treasury shares. The shares were originally issued at $16 per share. The journal entry to record the purchase of the treasury shares is:

| | | | |
|---|---|---|---|
| a. | Treasury Shares | 14,400 | |
| | Cash | | 14,400 |
| | | | |
| b. | Treasury Shares | 9,600 | |
| | Retained Earnings | 4,800 | |
| | Cash | | 14,400 |
| | | | |
| c. | Treasury Shares | 7,200 | |
| | Paid-in Capital in Excess of Par | 7,200 | |
| | Cash | | 14,400 |
| | | | |
| d. | Ordinary Shares | 14,000 | |
| | Cash | | 14,000 |

**Q10-66** When treasury shares are sold for less than its cost, the entry should include a debit to:

**a.** Paid-in Capital in Excess of Par.
**b.** Retained Earnings.
**c.** Gain on Sale of Treasury Shares.
**d.** Loss on Sale of Treasury Shares.

**Q10-67** A company purchased 100 shares of its ordinary shares at $50 per share. It then sells 35 of the treasury shares at $56 per share. The entry to sell the treasury shares includes a

**a.** credit to Paid-in Capital, Treasury Shares for $210.
**b.** debit to Retained Earnings for $210.
**c.** credit to Retained Earnings for $600.
**d.** credit to Treasury Shares for $1,960.
**e.** credit to Cash for $1,960.

**Q10-68** Shareholders are eligible for a dividend if they own the share on the date of

**a.** record.
**b.** issuance.
**c.** declaration.
**d.** payment.

**Q10-69** Luca's Foods has outstanding 600 shares of 7% preference shares, $100 par value, and 1,600 shares of ordinary shares, $30 par value. Luca's declares dividends of $15,800. The correct entry is:

| | | | |
|---|---|---|---|
| a. | Dividends Payable, Preference | 4,200 | |
| | Dividends Payable, Ordinary | 11,600 | |
| | Cash | | 15,800 |
| | | | |
| b. | Dividends Expense | 15,800 | |
| | Cash | | 15,800 |
| | | | |
| c. | Retained Earnings | 15,800 | |
| | Dividends Payable, Preference | | 4,200 |
| | Dividends Payable, Ordinary | | 11,600 |
| | | | |
| d. | Retained Earnings | 15,800 | |
| | Dividends Payable, Preference | | 7,900 |
| | Dividends Payable, Ordinary | | 7,900 |

**Q10-70** A corporation has 40,000 shares of 10% preference share outstanding. Also, there are 40,000 shares of ordinary share outstanding. Par value for each is $100. If a $500,000 dividend is paid, how much goes to the preference shareholders?

**a.** None
**b.** $400,000
**c.** $50,000
**d.** $380,000
**e.** $500,000

**Q10-71** Assume the same facts as in question 70. What is the amount of dividends per share on ordinary share?

**a.** $1.00
**b.** $5.50
**c.** $2.50
**d.** $12.50
**e.** None of these

**Q10-72** Which of the following is not true about a 10% share dividend?

**a.** The market value of the share is needed to record the share dividend.
**b.** Total shareholders' equity remains the same.
**c.** Paid-in Capital increases.
**d.** Retained Earnings decreases.
**e.** Par value decreases.

**Q10-73** A company declares a 5% share dividend. The debit to Retained Earnings is an amount equal to

**a.** the excess of the market price over the original issue price of the shares to be issued.
**b.** the market value of the shares to be issued.
**c.** the par value of the shares to be issued.
**d.** the book value of the shares to be issued.

**Q10-74** Which of the following statements is not true about a 3-for-1 stock split?

**a.** The market price of each share will decrease.
**b.** Total shareholders' equity increases.
**c.** A shareholder with 10 shares before the split owns 30 shares after the split.
**d.** Par value is reduced to one-third of what it was before the split.
**e.** Retained Earnings remains the same.

**Q10-75** Antonio Company's net income for the year was $27,000. Its beginning and ending equity were $540,000 and $660,000, respectively. How much is Antonio's return on equity?

**a.** 5.0%
**b.** 4.5%
**c.** 4.1%
**d.** 4.0%

## Problems

MyAccountingLab

All of these A and B problems can be found within MyAccountingLab (MAL), an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

### (Group A)

**P10-76A** ***(Learning Objective 2: Recording corporate transactions and preparing the shareholders' equity section of the balance sheet)*** Cohen Canoes' constitution authorizes the corporation to issue 9,000 no-par preference shares and 100,000 shares of $5 par ordinary shares. In its first month, Cohen Canoes completed the following transactions:

| | | |
|---|---|---|
| May | 6 | Issued 900 ordinary shares to the promoter for assistance with issuance of the ordinary share. The promotional fee was $22,500. Debit Organization Expense. |
| | 9 | Issued 10,000 ordinary shares to Ben Cohen and 12,000 shares to Bill Cohen in return for cash equal to the share's market value of $25 per share. The Cohens were partners in Cohen Canoes Co. |
| | 10 | Issued 800 shares of preference share to acquire a patent with a market value of $20,000. |
| | 26 | Issued 1,000 shares of ordinary share for $25 cash per share. |

### *Requirements*

1. Record the transactions in the journal.
2. Prepare the shareholders' equity section of the Cohen Canoes, Inc., balance sheet at May 31. The ending balance of Retained Earnings is $55,000.

**P10-77A** ***(Learning Objectives 2, 4: Preparing the shareholders' equity section of the balance sheet)*** Garman Corp. has the following shareholders' equity information:

Garman's constitution authorizes the company to issue 8,000 shares of 5% preference shares with par value of $130 and 600,000 shares of no-par ordinary share. The company issued 1,600 shares of the preference share at $130 per share. It issued 120,000 shares of the ordinary share for a total of $513,000. The company's retained earnings balance at the beginning of 20X6 was $74,000, and net income for the year was $94,000. During 20X6, Garman declared the specified dividend on preference and a $0.20 per-share dividend on ordinary. Preference dividends for 20X5 were in arrears.

### *Requirement*

1. Prepare the shareholders' equity section of Garman Corp.'s balance sheet at December 31, 20X6. Show the computation of all amounts. Journal entries are not required.

**P10-78A** ***(Learning Objectives 2, 3, 4: Measuring the effects of share issuance, treasury shares, and dividend transactions on shareholders' equity)*** Good Foods, Inc., is authorized to issue 5,500,000 shares of $5.00 par ordinary share.

In its initial public offering during 20X0, Good issued 475,000 shares of its $5.00 par ordinary shares for $7.00 per share. Over the next year, Good's share price increased, and the company issued 380,000 more shares at an average price of $10.00.

During 20X2, the price of Good's ordinary shares dropped to $7.25, and Good purchased 58,000 shares of its ordinary shares for the treasury. After the market price of the ordinary share rose in 20X3, Good sold 41,000 shares of the treasury shares for $10.00 per share.

During the five years from 20X0 to 20X5, Good earned a net income of $1,010,000 and declared and paid cash dividends of $610,000. Share dividends of $645,570 were distributed to the shareholders in 20X1, with $358,650 credited to ordinary shares and $286,920 credited to additional paid-in capital. At December 31, 20X5, total assets of the company are $14,600,000, and liabilities add up to $7,085,500.

### *Requirement*

1. Show the computation of Good's total shareholders' equity at December 31, 20X5. Present a detailed computation of each element of shareholders' equity. Use the end-of chapter summary problem to format your answer.

**P10-79A** ***(Learning Objectives 2, 4: Analyzing the shareholders' equity and dividends of a corporation)*** Elegant Outdoor Furniture Company included the following shareholders' equity on its year-end balance sheet at February 28, 20X7:

| Shareholders' Equity | |
|---|---|
| Preference share, 6.5% cumulative—par value $35 per share; | |
| authorized 110,000 shares in each class | |
| Class A—issued 78,000 shares | $ 2,730,000 |
| Class B—issued 89,000 shares | 3,115,000 |
| Ordinary share—$3 par value: | |
| authorized 1,200,000 shares, | |
| issued 290,000 shares | 870,000 |
| Additional paid-in capital—ordinary | 5,530,000 |
| Retained earnings | 8,390,000 |
| | $20,635,000 |

### *Requirements*

1. Identify the different issues of shares that Elegant Outdoor Furniture Company has outstanding.
2. Give the summary entries to record issuance of all the Elegant shares. Assume that all the shares was issued for cash. Explanations are not required.
3. Suppose Elegant passed its preference dividends for three years. Would the company have to pay those dividends in arrears before paying dividends to the ordinary shareholders? Give your reason.
4. What amount of preference dividends must Elegant declare and pay each year to avoid having preference dividends in arrears?
5. Assume that preference dividends are in arrears for 20X6. Record the declaration of an $860,000 dividend on February 28, 20X7. An explanation is not required.

**P10-80A** ***(Learning Objectives 2, 3, 4: Accounting for shares issuance, dividends, and treasury shares)*** Moscow Jewelry Company reported the following summarized balance sheet at December 31, 20X6:

| | |
|---|---|
| **Assets** | |
| Current assets | $ 33,600 |
| Property and equipment, net | 74,000 |
| Total assets | $107,600 |
| **Liabilities and Equity** | |
| Liabilities | $ 37,300 |
| Shareholders' equity: | |
| $0.70 cumulative preference share, $5 par, 300 shares issued | 1,500 |
| Ordinary share, $4 par, 6,500 shares issued | 26,000 |
| Paid-in capital in excess of par | 17,800 |
| Retained earnings | 25,000 |
| Total liabilities and equity | $107,600 |

During 20X7, Moscow completed these transactions that affected shareholders' equity:

| | | |
|---|---|---|
| Feb | 13 | Issued 5,400 ordinary shares for $5 per share. |
| Jun | 7 | Declared the regular cash dividend on the preference share. |
| | 24 | Paid the cash dividend. |
| Aug | 9 | Distributed a 10% share dividend on the ordinary share. Market price of the ordinary share was $6 per share. |
| Oct | 26 | Reacquired 500 shares of ordinary share as treasury share, paying $7 per share. |
| Nov | 20 | Sold 200 shares of the treasury shares for $11 per share. |

## Requirements

1. Journalize Moscow's transactions. Explanations are not required.
2. Report Moscow's shareholders' equity at December 31, 20X7. Net income for 20X7 was $28,000.

**P10-81A** ***(Learning Objectives 3, 4: Measuring the effects of dividend and treasury share transactions on a company)*** Assume Dessert Destination of Montana, Inc., completed the following transactions during 20X6, the company's 5th year of operations:

| | |
|---|---|
| Feb 3 | Issued 15,000 ordinary shares ($1.00 par) for cash of $435,000. |
| Mar 19 | Purchased 2,600 shares of the company's own ordinary share at $24 per share. |
| Apr 24 | Sold 1,300 shares of treasury share – ordinary for $32 per share. |
| Aug 15 | Declared a cash dividend on the 18,000 shares of $0.40 no-par preference shares. |
| Sep 1 | Paid the cash dividends. |
| Nov 22 | Distributed an 8% share dividend on the 92,000 shares of $1.00 par ordinary share outstanding. The market value of the ordinary share was $26 per share. |

## Requirement

1. Analyze each transaction in terms of its effect on the accounting equation of Dessert Destination of Montana, Inc.

**P10-82A** ***(Learning Objectives 3, 6: Preparing a corporation's balance sheet; measuring profitability)*** The following accounts and related balances of Seagull Designers, Inc., as of December 31, 20X6, are arranged in no particular order.

| | | | |
|---|---|---|---|
| Cash | $55,000 | Interest expense | $ 15,600 |
| Accounts receivable, net | 34,000 | Property, plant and equipment, net | 364,000 |
| Paid-in capital in excess of par—ordinary | 20,000 | Ordinary share, $2 par, 600,000 shares authorized, 116,000 shares issued | 232,000 |
| Accrued liabilities | 24,000 | Prepaid expenses | 13,000 |
| Long-term note payable | 99,000 | Ordinary shareholders' equity, December 31, 2009 | 222,000 |
| Inventory | 93,000 | Net income | 32,000 |
| Dividends payable | 6,000 | Total assets, December 31, 2009 | 493,000 |
| Retained earnings | ? | Treasury share, 21,000 shares at cost | 24,000 |
| Accounts payable | 136,000 | | |
| Trademarks, net | 4,000 | | |
| Preference share, $0.50, no-par, 11,000 shares authorized and issued | 29,700 | | |
| Goodwill | 13,000 | | |

## Requirements

1. Prepare Seagull's classified balance sheet in the account format at December 31, 20X6.
2. Compute rate of return on ordinary shareholders' equity for the year ended December 31, 20X6.
3. Does the ROE suggest strength or weakness? Give your reason.

**P10-83A** ***(Learning Objective 7: Analyzing the statement of cash flows)*** The statement of cash flows of Frappe, Inc., reported the following (adapted) for the year ended December 31, 20X6:

| | |
|---|---|
| Cash flows from financing activities (amounts in millions) | |
| Cash dividends paid | $(1,890) |
| Issuance of ordinary shares at par value | 1,234 |
| Proceeds from issuance of long-term notes payable | 58 |
| Purchases of treasury share | (3,080) |
| Payments of long-term notes payable | (162) |

***Requirement***

1. Make the journal entry that Frappe would use to record each of these transactions.

## (Group B)

**P10-84B** ***(Learning Objective 2: Recording corporate transactions and preparing the shareholders' equity section of the balance sheet)*** Liard Canoes' constitution authorizes the corporation to issue 5,000 no-par preference shares and 140,000 shares of €5 par ordinary share. In its first month, Liard Canoes completed the following transactions:

| | | |
|---|---|---|
| Jan | 6 | Issued 500 ordinary shares to the promoter for assistance with issuance of ordinary shares. The promotional fee was €7,500. Debit Organization Expense. |
| | 9 | Issued 9,000 ordinary shares to Lou Liard and 10,000 shares to Larry Liard in return for cash equal to the share's market value of €15 per share. The Liards were partners in Liard Canoes, Inc. |
| | 10 | Issued 600 preference shares to acquire a patent with a market value of €12,000. |
| | 26 | Issued 1,400 ordinary shares for €15 cash per share. |

***Requirements***

1. Record the transactions in the journal.
2. Prepare the shareholders' equity section of the Liard Canoes, Inc., balance sheet at January 31. The ending balance of Retained Earnings is €56,000.

**P10-85B** ***(Learning Objectives 2, 4: Preparing the shareholders' equity section of the balance sheet)*** Holman Corp. has the following shareholders' equity information:

Holman's constitution authorizes the company to issue 5,000 shares of 8% preference shares with par value of €110 and 400,000 shares of no-par ordinary shares. The company issued 1,000 shares of the preference shares at €110 per share. It issued 80,000 shares of the ordinary shares for a total of €512,000. The company's retained earnings balance at the beginning of 20X6 was €71,000, and net income for the year was €92,000. During 20X6, Holman declared the specified dividend on preference and a €0.60 per-share dividend on ordinary. Preference dividends for 20X5 were in arrears.

***Requirement***

1. Prepare the shareholders' equity section of Holman Corp.'s balance sheet at December 31, 20X6. Show the computation of all amounts. Journal entries are not required.

**P10-86B** ***(Learning Objectives 2, 3, 4: Measuring the effects of share issuance, treasury share, and dividend transactions on shareholders' equity)*** Hearty Foods, Inc., is authorized to issue 5,000,000 shares of €2.00 par ordinary shares.

In its initial public offering during 20X0, Hearty issued 500,000 shares of its €2.00 par ordinary shares for €5.00 per share. Over the next year, Hearty's share price increased, and the company issued 395,000 more shares at an average price of €9.00.

During 20X2, the price of Hearty's ordinary shares dropped to €7.25, and Hearty purchased 61,000 shares of its ordinary shares for the treasury. After the market price of the ordinary share rose in 20X3, Hearty sold 38,000 shares of the treasury share for €8.00 per share.

During the five years from 20X0 to 20X5, Hearty earned a net income of €1,150,000 and declared and paid cash dividends of €700,000. Share dividends of €600,480 were distributed to the shareholders in 20X1, with €150,120 credited to ordinary shares and €450,360 credited to additional paid-in capital. At December 31, 20X5, total assets of the company are €14,200,000, and liabilities add up to €7,833,250.

### *Requirement*

1. Show the computation of Hearty's total shareholders' equity at December 31, 20X5. Present a detailed computation of each element of shareholders' equity. Use the end-of-chapter summary problem to format your answer.

**P10-87B** ***(Learning Objectives 2, 4: Analyzing the shareholders' equity and dividends of a corporation)*** Seasonal Outdoor Furniture Company included the following shareholders' equity on its year-end balance sheet at February 28, 20X7:

| **Shareholders' Equity** | |
|---|---|
| Preference share, 4.0% cumulative—par value €20 per share | |
| authorized 100,000 shares in each class | |
| Class A—issued 76,000 shares | € 1,520,000 |
| Class B—issued 97,000 shares | 1,940,000 |
| Ordinary share—€4 par value: | |
| authorized 1,500,000 shares, | |
| issued 250,000 shares | 1,000,000 |
| Additional paid-in capital—ordinary | 5,520,000 |
| Retained earnings | 8,320,000 |
| | €18,300,000 |

### *Requirements*

1. Identify the different issues of shares Seasonal Outdoor Furniture Company has outstanding.
2. Give the summary entries to record issuance of all the Seasonal shares. Assume that all the shares were issued for cash. Explanations are not required.
3. Suppose Seasonal passed its preference dividends for three years. Would the company have to pay these dividends in arrears before paying dividends to the ordinary shareholders? Give your reasons.
4. What amount of preference dividends must Seasonal declare and pay each year to avoid having preference dividends in arrears?
5. Assume that preference dividends are in arrears for 20X6. Record the declaration of an €840,000 dividend on February 28, 20X7. An explanation is not required.

**P10-88B** ***(Learning Objectives 2, 3, 4: Accounting for share issuance, dividends, and treasury share)*** London Gems Company reported the following summarized balance sheet at December 31, 20X6:

| | |
|---|---|
| **Assets** | |
| Current assets | €33,500 |
| Property and equipment, net | 63,100 |
| Total assets | €96,600 |
| **Liabilities and Equity** | |
| Liabilities | €37,600 |
| Shareholders' equity: | |
| €0.80 cumulative preference share, €15 par, 400 shares issued | 6,000 |
| Ordinary share, €2 par, 6,300 shares issued | 12,600 |
| Paid-in capital in excess of par | 17,400 |
| Retained earnings | 23,000 |
| Total liabilities and equity | €96,600 |

During 20X7, London completed these transactions that affected shareholders' equity:

| | | |
|---|---|---|
| Feb | 13 | Issued 5,200 ordinary shares for €6 per share. |
| Jun | 7 | Declared the regular cash dividend on the preference share. |
| | 24 | Paid the cash dividend. |
| Aug | 9 | Distributed a 20% share dividend on the ordinary share. Market price of the ordinary share was €7 per share. |
| Oct | 26 | Reacquired 900 ordinary shares as treasury shares, paying €8 per share. |
| Nov | 20 | Sold 600 shares of the treasury shares for €12 per share. |

## *Requirements*

1. Journalize London's transactions. Explanations are not required.
2. Report London's shareholders' equity at December 31, 20X7. Net income for 20X7 was €25,000.

**P10-89B** ***(Learning Objectives 3, 4: Measuring the effects of dividend and treasury share transactions on a company)*** Assume Cookie Corner completed the following transactions during 20X6, the company's 5th year of operations:

| | | |
|---|---|---|
| Feb | 4 | Issued 14,000 shares (€1.00 par) for cash of €350,000. |
| Mar | 20 | Purchased 2,200 shares of the company's own ordinary share at €21 per share. |
| Apr | 25 | Sold 900 shares of treasury shares—ordinary for €30 per share. |
| Aug | 17 | Declared a cash dividend on the 14,000 shares of €0.80 no-par preference shares. |
| Sep | 4 | Paid the cash dividends. |
| Nov | 28 | Distributed a 5% share dividend on the 99,000 shares of €1.00 par ordinary share outstanding. The market value of the ordinary share was €22 per share. |

## *Requirement*

1. Analyze each transaction in terms of its effect on the accounting equation of Cookie Corner of Wisconsin, Inc.

**P10-90B** ***(Learning Objectives 3, 6: Preparing a corporation's balance sheet; measuring profitability)*** The following accounts and related balances of Hawk Designers, Inc., as of December 31, 20X6, are arranged in no particular order.

| | | | |
|---|---|---|---|
| Cash | €43,000 | Interest expense | € 16,000 |
| Accounts receivable, net | 22,000 | Property, plant and equipment, net | 359,000 |
| Paid-in capital in excess of par—ordinary | 17,000 | Ordinary share, €2 par, 300,000 shares authorized, 117,000 shares issued | 234,000 |
| Accrued liabilities | 27,000 | Prepaid expenses | 16,000 |
| Long-term note payable | 96,000 | Ordinary shareholders' equity, December 31, 2009 | 225,000 |
| Inventory | 94,000 | Net income | 30,000 |
| Dividends payable | 12,000 | Total assets, December 31, 2009 | 496,000 |
| Retained earnings | ? | Treasury share, ordinary, 19,000 shares at cost | 22,000 |
| Accounts payable | 133,000 | | |
| Trademarks, net | 10,000 | | |
| Preference share, €.50, no-par, 12,000 shares authorized and issued | 32,400 | | |
| Goodwill | 11,000 | | |

## *Requirements*

1. Prepare Hawk's classified balance sheet in the account format at December 31, 20X6.
2. Compute rate of return on ordinary shareholders' equity for the year ended December 31, 20X6.
3. Does the ROE suggest strength or weakness? Give your reason.

**P10-91B** ***(Learning Objective 7: Analyzing the statement of cash flows)*** The statement of cash flows of Smoothie, Inc., reported the following (adapted) for the year ended December 31, 20X6:

| | |
|---|---|
| Cash flows from financing activities (amounts in millions) | |
| Cash dividends paid | €(1,890) |
| Issuance of common stock at par value | 1,234 |
| Proceeds from issuance of long-term notes payable | 58 |
| Purchases of treasury stock | (3,080) |
| Payments of long-term notes payable | (162) |

## *Requirement*

1. Make the journal entry that Smoothie would use to record each of these transactions.

# APPLY YOUR KNOWLEDGE

## Decision Cases

■ writing assignment

**Case 1.** ***(Learning Objective 2: Evaluating alternative ways of raising capital)*** Nate Smith and Darla Jones have written a computer program for a video game that may rival PlayStation and Xbox. They need additional capital to market the product, and they plan to incorporate their business. Smith and Jones are considering alternative capital structures for the corporation. Their primary goal is to raise as much capital as possible without giving up control of the business. Smith and Jones plan to receive 50,000 of the corporation's ordinary shares in return for the net assets of their old business. After the old company's books are closed and the assets adjusted to current market value, Smith's and Jones' capital balances will each be $25,000.

The corporation's plans for a constitution include an authorization to issue 10,000 preference shares and 500,000 shares of $1 par ordinary shares. Smith and Jones are uncertain about the most desirable features for the preference shares. Prior to incorporating, Smith and Jones are discussing their plans with two investment groups. The corporation can obtain capital from outside investors under either of the following plans:

- *Plan 1.* Group 1 will invest $80,000 to acquire 800 shares of 6%, $100 par non-voting, preference shares.
- *Plan 2.* Group 2 will invest $55,000 to acquire 500 shares of $5, no-par preference shares and $35,000 to acquire 35,000 ordinary shares. Each preference share receives 50 votes on matters that come before the shareholders.

### *Requirements*

Assume that the business is now incorporated.

1. Journalize the issuance of ordinary shares to Smith and Jones. Debit each person's capital account for its balance.
2. Journalize the issuance of shares to the outsiders under both plans.
3. Assume that net income for the first year is $120,000 and total dividends are $30,000. Prepare the shareholders' equity section of the corporation's balance sheet under both plans.
4. Recommend one of the plans to Smith and Jones. Give your reasons. (Challenge)

■ writing assignment

**Case 2.** ***(Learning Objective 4: Analyzing cash dividends and share dividends)*** **United Parcel Service (UPS), Inc.**, had the following shareholders' equity amounts on December 31, 20X6 (adapted, in millions):

| | |
|---|---|
| Ordinary share and additional paid-in capital; 1,135 shares issued | $ 278 |
| Retained earnings | 9,457 |
| Total shareholders' equity | $9,735 |

During 20X6, UPS paid a cash dividend of $0.715 per share. Assume that, after paying the cash dividends, UPS distributed a 10% share dividend. Assume further that the following year UPS declared and paid a cash dividend of $0.65 per share.

Suppose you own 10,000 shares of UPS ordinary share, acquired three years ago, prior to the 10% share dividend. The market price of UPS shares was $61.02 per share before the share dividend.

### *Requirements*

1. How does the share dividend affect your proportionate ownership in UPS? Explain.
2. What amount of cash dividends did you receive last year? What amount of cash dividends will you receive after the above dividend action?

3. Assume that immediately after the share dividend was distributed, the market value of UPS's share decreased from $61.02 per share to $55.473 per share. Does this decrease represent a loss to you? Explain.
4. Suppose UPS announces at the time of the share dividend that the company will continue to pay the annual $0.715 ***cash*** dividend per share, even after distributing the ***share*** dividend. Would you expect the market price of the share to decrease to $55.473 per share as in Requirement 3? Explain.

**Case 3.** ***(Learning Objectives 2, 3, 4, 5: Evaluating financial position and profitability)*** At December 31, 2000, **Enron Corporation** reported the following data (condensed in millions):

■ **writing assignment**

| | |
|---|---|
| Total assets | $65,503 |
| Total liabilities | 54,033 |
| Shareholders' equity | 11,470 |
| Net income, as reported, for 2000 | 979 |

During 2001, Enron restated company financial statements for 1997 to 2000, after reporting that some data had been omitted from those prior-year statements. Assume that the startling events of 2001 included the following:

- Several related companies should have been, but were not, included in the Enron statements for 2000. These companies had total assets of $5,700 million, liabilities totaling $5,600 million, and net losses of $130 million.
- In January 2001, Enron's shareholders got the company to give them $2,000 million of 12% long-term notes payable in return for their giving up their ordinary shares. Interest is accrued at year-end.

Take the role of a financial analyst. It is your job to analyze Enron Corporation and rate the company's long-term debt.

***Requirements***

1. Measure Enron's expected net income for 2001 in two ways:
   a. Assume 2001's net income should be the same as the amount of net income that Enron actually reported for 2000. (Given)
   b. Recompute expected net income for 2001 taking into account the new developments of 2001. (Challenge)
   c. Evaluate Enron's likely trend of net income for the future. Discuss ***why*** this trend is developing. Ignore income tax. (Challenge)
2. Write Enron's accounting equation in two ways:
   a. As actually reported at December 31, 2000.
   b. As adjusted for the events of 2001. (Challenge)
3. Measure Enron's debt ratio as reported at December 31, 2000, and again after making the adjustments for the events of 2001.
4. Based on your analysis, make a recommendation to the Debt-Rating Committee of Moody's Investor Services. Would you recommend upgrading, downgrading, or leaving Enron's debt rating undisturbed (currently, it is "high-grade")? (Challenge)

## Ethical Issues

**Ethical Issue 1.** *Note:* This case is based on a real situation.

■ **writing assignment**

George Campbell paid $50,000 for a franchise that entitled him to market Success Associates' software programs in the countries of the European Union. Campbell intended to sell individual franchises for the major language groups of western Europe—German, French, English, Spanish, and Italian. Naturally, investors considering buying a franchise from Campbell asked to see the financial statements of his business.

Believing the value of the franchise to be greater than $50,000, Campbell sought to capitalize his own franchise at $500,000. The law firm of McDonald & LaDue helped Campbell form a corporation chartered to issue 500,000 ordinary shares with par value of $1 per share. His attorneys suggested the following chain of transactions:

**a.** A third party borrows $500,000 and purchases the franchise from Campbell.
**b.** Campbell pays the corporation $500,000 to acquire all its shares.
**c.** The corporation buys the franchise from the third party, who repays the loan.

In the final analysis, the third party is debt-free and out of the picture. Campbell owns all the corporation's shares, and the corporation owns the franchise. The corporation balance sheet lists a franchise acquired at a cost of $500,000. This balance sheet is Campbell's most valuable marketing tool.

### *Requirements*

1. What is the ethical issue in this situation?
2. Who are the stakeholders to the suggested transaction?
3. Analyze this case from the following standpoints: (a) economic, (b) legal, (c) ethical. What are the consequences to each stakeholder?
4. How should the transaction be reported?

**writing assignment**

**Ethical Issue 2.** St. Genevieve Petroleum Company is an independent oil producer in Baton Parish, Louisiana. In February, company geologists discovered a pool of oil that tripled the company's proven reserves. Prior to disclosing the new oil to the public, St. Genevieve quietly bought most of its shares as treasury shares. After the discovery was announced, the company's share price increased from $6 to $27.

### *Requirements*

1. What is the ethical issue in this situation? What accounting principle is involved?
2. Who are the stakeholders?
3. Analyze the facts from the following standpoints: (a) economic, (b) legal, and (c) ethical. What is the impact to each stakeholder?
4. What decision would you have made?

## Focus on Financials: Vodafone Corporation

This case spans all 12 chapters and is based on the consolidated financial statements of **Vodafone Corporation**. As you work with Vodafone throughout this course, you will develop the confidence and ability to use the financial statements of other companies as well. Refer to Vodafone's financial statements in Appendix A. Alternatively, you may choose to obtain the full annual report from Vodafone's website at www.vodafone.com.

### *Requirements*

1. Refer to Appendix A and locate the disclosure related to Vodafone's share capital. Describe the class(es) of stocks or shares that Vodafone has authorized. How many shares of each class have been issued? How many are outstanding as of March 31, 2011?
2. Refer to the Consolidated Balance Sheets and the Consolidated Statements of Changes in Equity. How many shares of treasury stock did the company purchase during the year ended March 31, 2011? How much did it pay for it in total? How much per share?
3. Examine Vodafone's consolidated statement of shareholders' equity. Analyze the change that occurred in the company's Retained Earnings account during the year ended March 31, 2011. Can you link the changes to any of its other financial statements?
4. Create the T-account for Vodafone's Retained Earnings and show the beginning and ending balances, as well as all related activity for the year ended 31 March 2011. Journalize the transactions relating to profit, dividends and the cancellation of treasury shares.
5. Compute Vodafone's return on equity for 2011 and 2010 (note that the 2009 ending equity was £86,162 million). Has Vodafone's ROE improved or detoriated?

## Group Project in Ethics

The global financial crisis that started in 2007 has impacted every business, but it was especially hard on banks, automobile manufacturing, and retail companies. Banks were largely responsible for the recession. Some of the biggest banks made excessively risky investments collateralized by real estate mortgages, and many of these investments soured when the real estate markets collapsed. When banks had to write these investments down to market values, the regulatory authorities notified them that they had inadequate capital ratios on their balance sheets to operate. Banks stopped loaning money. Because share prices were depressed, companies could not raise capital by selling shares. With both debt and share financing frozen, many businesses had to close their doors.

Fearing collapse of the whole economy, the central governments of the United States and several European nations loaned money to banks to prop up their capital ratios and keep them open. The government also loaned massive amounts to the largest insurance company in the United States (AIG), as well as to General Motors and Chrysler, to help them stay in business. When asked why, many in government replied "these businesses were too important to fail." In several cases, the U.S. government has taken an "equity stake" in some banks and businesses by taking preference shares in exchange for the cash infusion.

Because of the recession, corporate downsizing has occurred on a massive scale throughout the world. While companies in the retail sector provide more jobs than the banking and automobile industry combined, the government has not chosen to "bail out" any retail businesses. Each company or industry mentioned in this book has pared down plant and equipment, laid off employees, or restructured operations. Some companies have been forced out of business altogether.

***Requirements***

**writing assignment**

1. Identify all the stakeholders of a corporation. A stakeholder is a person or a group who has an interest (that is, a stake) in the success of the organization.
2. Do you believe that some entities are "too important to fail?" Should a federal government help certain businesses to stay afloat during economic recessions, and allow others to fail?
3. Identify several measures by which a company may be considered deficient and in need of downsizing. How can downsizing help to solve this problem?
4. Debate the bailout issue. One group of students takes the perspective of the company and its shareholders, and another group of students takes the perspective of the other stakeholders of the company (the community in which the company operates and society at large).
5. What is the problem with the government taking an equity position such as preference shares in a private enterprise?

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## Quick Check Answers

1. *a* (20,000 shares × \$25 = \$500,000)
2. *c* (\$600,000/\$5 par = 120,000 shares)
3. *d* (\$375,000 + \$60,000 + \$600,000)
4. *d* (\$375,000 + \$60,000 + \$600,000 + \$325,000)
5. *c* (\$1,360,000 – \$10,000)
6. *d* [No gain or loss (for the income statement) on treasury shares transactions]
7. *a*
8. *b*
9. *d*
10. *c*
11. *d* [First, annual preference dividend = \$1,250 (2,500 × \$25 × 0.02)]. Five years of preference dividends must be paid (four in arrears plus the current year). [(\$1,250 × 5) + (\$125,000 × \$2.50 per share ordinary dividend) = \$318,750]
12. *a*
13. *c*
14. *c*
15. *d*
16. *c*

# 11 The Statement of Cash Flows



**SPOTLIGHT: Royal Philips Electronics** www.philips.com

Royal Philips Electronics (**Philips**) of the Netherlands is a diversified health and well-being company, and a world leader in healthcare, lifestyle, and lighting. Philips' sales revenue for 2011 amounted to over €22.5 billion. Unfortunately, the financial crisis brought about a loss of €1.3 billion in 2011, compared with a profit of €1.5 billion in 2010. Its cash (and cash equivalents) balance went from €5.8 to €3.1 billion in the same time period. Why did its cash balance decline much more than its €1.3 billion loss? Is profit (or loss) related to cash increases or decreases?

In periods of economic hardship, managing cash flows is extremely important. At the same time, with a cash balance of almost €5.8 billion at the start of 2011, Philips also continued to look for strategic business opportunities. What did Philips do in terms of its cash flows from operating, investing, and financing activities? Let's find out!

**Royal Philips Electronics**
**Consolidated Statement of Cash Flows (Adapted)**
For the year ended December 31

| | (In millions € Euros) | 2011 | 2010 | 2009 |
|---|---|---|---|---|
| 1 | Income (loss) for the period | (1,291) | 1,452 | 424 |
| 2 | Loss from discontinued operations | 515 | 26 | 52 |
| 3 | Depreciation and amortization | 1,456 | 1,356 | 1,395 |
| 4 | Impairment of goodwill and other assets | 1,387 | 5 | 2 |
| 5 | Net gain on sale of assets | (88) | (204) | (139) |
| 6 | Decrease (increase) in receivables and other current assets | (339) | (241) | 337 |
| 7 | Decrease (increase) in inventories | (81) | (498) | 516 |
| 8 | Increase (decrease) in payables and other current liabilities | (253) | 544 | (870) |
| 9 | Other items | (470) | (319) | (326) |
| 10 | Net cash provided by operating activities | 836 | 2,121 | 1,391 |
| 11 | Purchase of intangible assets | (116) | (80) | (96) |
| 12 | Expenditure on development assets | (231) | (193) | (162) |
| 13 | Capital expenditure on property, plant and equipment | (725) | (621) | (495) |
| 14 | Proceeds from disposal of property, plant and equipment | 128 | 129 | 125 |
| 15 | Purchase of other non-current financial assets | (43) | (16) | (6) |
| 16 | Proceeds from other non-current financial assets | 87 | 268 | 718 |
| 17 | Purchase of businesses, net of cash acquired | (509) | (225) | (295) |
| 18 | Proceeds from sale of businesses, net of cash disposed of | 19 | 117 | 84 |
| 19 | Other items | 26 | (25) | (38) |
| 20 | Net cash provided by investing activities | (1,364) | (646) | (165) |
| 21 | Proceeds from (payment on) issuance of short-term debt | (217) | 143 | (201) |
| 22 | Principal payments on long-term debt | (1,097) | (78) | (50) |
| 23 | Proceeds from issuance of long-term debt | 457 | 71 | 312 |
| 24 | Treasury shares transactions | (671) | 65 | 29 |
| 25 | Dividends paid | (259) | (296) | (634) |
| 26 | Net cash provided by financing activities | (1,787) | (95) | (544) |
| 27 | Net cash flow from continuing operations | (2,315) | 1,380 | 682 |
| 28 | Net cash flow from discontinued operations | (364) | (22) | 99 |
| 29 | Net cash flow | (2,679) | 1,358 | 781 |
| 30 | Changes in exchange rates on cash and cash equivalents | (7) | 89 | (15) |
| 31 | Cash and cash equivalents at the beginning of the year | 5,833 | 4,386 | 3,620 |
| 32 | Cash and cash equivalents at the end of the year | 3,147 | 5,833 | 4,386 |



In preceding chapters, we covered cash flows as they related to various topics: receivables, property, plant and equipment (PPE), liabilities, equity, and so on. In this chapter, we show you how to prepare and use the statement of cash flows.

We begin with the statement format used by the vast majority of companies, called the indirect method. Philips' cash flow from operating activities was prepared using this method. It may look a little complicated for now, but we explain how the indirect method works. We then proceed to discuss the cash flow from operating (using the indirect method), investing and financing activities. For courses that require materials on the preparation of cash flow from operating activities using the direct method, there is also a section on this. After working through this chapter, you will have a better understanding of the statement of cash flows and able to analyze the actual cash flows of companies.

## LEARNING OBJECTIVES

1 **Identify** the purposes of the statement of cash flows

2 **Distinguish** among operating, investing, and financing cash flows

3 **Prepare** cash flows from operating activities using the indirect method

4 **Prepare** cash flows from investing activities

5 **Prepare** cash flows from financing activities

6 **Prepare** cash flows from operating activities using the direct method

7 **Analyze** cash flows

# Overview of Statement of Cash Flows

**OBJECTIVE**

1 **Identify** the purposes of the statement of cash flows

The balance sheet reports financial position, and balance sheets from two periods show whether cash had increased or decreased. But that doesn't tell us *why* the cash balance had changed. The income statement reports net income and offers clues about cash, but the income statement doesn't tell *why* cash increased or decreased. We need a third financial statement.

The **statement of cash flows** reports **cash flows**—cash receipts and cash payments—in other words, where cash came from (receipts) and how it was spent (payments). The statement covers a span of time and therefore is labeled "Financial Year Ended December 31, 2012" or "Month Ended June 30, 2014."

*IAS 7—Cash Flow Statements* is the primary accounting standard that provides guidance on this financial statement. The statement of cash flows serves these purposes:

1. ***Predicts future cash flows.*** Past cash receipts and payments are reasonably good predictors of the timing, amount and certainty of future cash flows. For example, shareholders want dividends on their investments and creditors demand interest and principal on their loans. The statement of cash flows reports on an entity's ability to make these payments.
2. ***Evaluates management decisions.*** An entity's ability to adapt to changing circumstances and opportunities depends on its ability to generate funds from operations and raise funding from shareholders and creditors. It also enhances comparability of different entities as it reduces the effects of using different accounting treatments for the same transactions and events.

3. ***Shows the relationship of net income to cash flows.*** An entity's performance is measured using accrual accounting. Under accrual accounting, cash transfers are neither a prerequisite nor evidence of the revenue generation process. Therefore, it is important to understand the relationship between income and cash flows generated over a period time.

On a statement of cash flows, *cash* means more than just cash in the bank. It includes **cash equivalents**, which are highly liquid short-term investments that can be converted into known amounts of cash readily and not subject to significant risk of changes in its value. Examples include money-market accounts and investments in government securities. It may also include bank overdrafts, when used as an integral part of day-to-day cash management of the entity. Throughout this chapter, the term "cash" refers to cash and cash equivalents. Philips provided this explanation about its cash and cash equivalents.

**EXCERPTS (ADAPTED) FROM PHILIPS' NOTES TO THE 2011 FINANCIAL STATEMENTS**

Cash and cash equivalents include all cash balances and short-term highly liquid investments with an original maturity of three months or less that are readily convertible into known amounts of cash. For cash and cash equivalents, the carrying amount approximates fair value, because of the short maturity of these instruments.



Have a look again at Philips' consolidated statement of cash flows on page 672. Let's examine some common features of a cash flow statement:

1. It reports inflows and outflows across three categories: operating activities (lines 1–10), investing activities (lines 11–20), and financing activities (lines 21–26). Inflows are shown as positive numbers, and outflows are shown in brackets to indicate negative numbers.
2. The net cash flow from continuing operations (line 27) is the sum of the three cash flow subtotals (lines 10, 20, and 26).
3. Net cash flow (line 29), plus some other adjustment beyond the scope of this text (in Philips' case, they were discontinued operations, line 2 and 28, as well as changes in foreign exchange rates on cash and cash equivalents, line 30), explains the changes in cash and cash equivalent at the beginning of the year (line 31) and at the end of the year (line 32).

## How's Your Cash Flow? Telltale Signs of Financial Difficulty

Companies want to earn net income because profit measures success. Without net income, a business sinks. There will be no dividends, and the share price suffers. High net income attracts investors, but you can't pay bills with net income. That requires cash.

A company needs both net income and strong cash flow. Income and cash flow usually move together because net income generates cash. Sometimes, however, net income and cash flow take different paths. To illustrate, consider Fastech Company:

**Fastech Company**
**Income Statement**
Year Ended December 31, 20X6

| | |
|---|---|
| Sales revenue | $100,000 |
| Cost of goods sold | 30,000 |
| Operating expenses | 10,000 |
| Net income | $ 60,000 |

**Fastech Company**
**Balance Sheet**
December 31, 20X6

| | | | |
|---|---|---|---|
| Cash | $ 3,000 | Total current liabilities | $ 50,000 |
| Receivables | 37,000 | Long-term liabilities | 20,000 |
| Inventory | 40,000 | | |
| PPE, net | 60,000 | Shareholders' equity | 70,000 |
| Total assets | $140,000 | Total liabilities and equity | $140,000 |

What can we glean from Fastech's income statement and balance sheet?

- Fastech is profitable. Net income is 60% of revenue. Fastech's profitability looks outstanding.
- The current ratio is 1.6, and the debt ratio is only 50%. These measures suggest little trouble in paying bills.
- But Fastech is on the verge of bankruptcy. Can you spot the problem? Can you see what is causing the problem? Three trouble spots leap out to a financial analyst.
  1. The cash balance is very low. Three thousand dollars isn't enough cash to pay the bills of a company with sales of $100,000.
  2. Fastech isn't selling inventory fast enough. Fastech turned over its inventory only 0.75 times during the year. As we saw earlier (in Chapter 6), inventory turnover rates of eight times a year or more are common for merchandizers. A turnover ratio of 0.75 times means it takes Fastech far too long to sell its inventory, and that delays cash collections.
  3. Fastech's days' sales in receivables ratio is 135 days (see Chapter 5). Very few companies can wait that long to collect from customers.

The key takeaway lesson is that you need both income and cash flow to succeed in business! Let's turn now to the different categories of cash flows.

## Operating, Investing, and Financing Activities

**OBJECTIVE**

**2** **Distinguish** among operating, investing, and financing cash flows

A business engages in three types of business activities:

- Operating activities
- Investing activities
- Financing activities

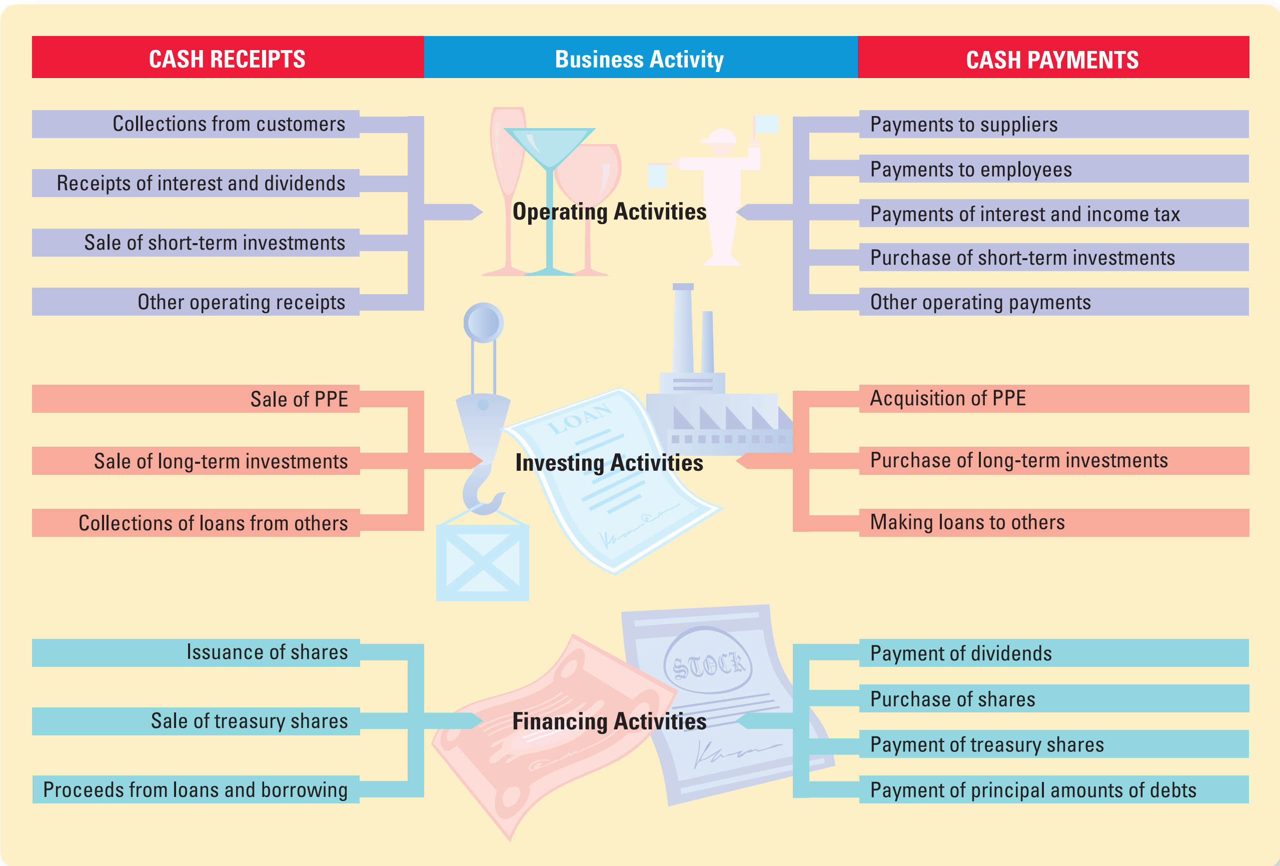
The statement of cash flows shows the cash receipts and payments related to these three activities. The major classes of cash receipts and payments are shown in Exhibit 11-1.

**Operating activities** create revenues, expenses, gains, and losses—*net income*, which is a product of accrual-basis accounting. The cash flow from operating activities thus reports these principal revenue-generating activities, i.e. transactions and other events that enter into the determination of profit or loss of an entity. Operating activities are the most important of the three categories because they reflect the core of the organization. *A successful business must generate most of its cash from operating activities*.

**Investing activities** increase and decrease non-current assets, such as PPE, intangible assets and investments in other companies. Purchases and sales of these assets are investing activities. Investing activities are important for a company's medium- and long-term operations, as they represent the extent to which investments have been made for resources intended to generate future income and cash flows.

**Financing activities** obtain cash from, and pay cash to, investors and creditors. Issuing shares, borrowing money, buying and selling treasury shares, and paying cash dividends are financing activities. Paying off a loan is another example. Financing cash flows relate to non-current liabilities and shareholders' equity. These activities are important to help readers predict claims on future cash flows by providers of capital to the entity.

**EXHIBIT 11-1 | Major Classes of Cash Receipts and Cash Payments on the Statement of Cash Flows**




## STOP & THINK . . .

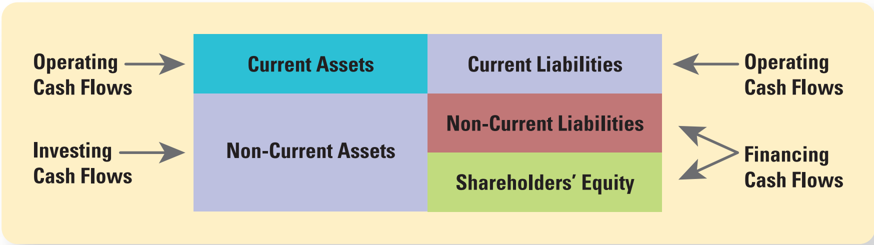
**Royal Dutch Shell** borrowed €1 billion from **Rabobank**. The term of the loan requires Shell to make a full payment in three years' time amounting to €1.1 billion, inclusive of interest. How should the cash outflow of €1.1 billion be reported on Shell's cash flow statement?

*Answers:*

The €1.1 billion outflow actually consists of two components, €1 billion for the loan principal repayment and €0.1 billion for the interest payment. Shell would report a cash outflow of €1 billion under cash flows from financing activities and €0.1 billion interest payments under cash flows from operations.

Exhibit 11-2 shows how operating, investing, and financing activities typically relate to the various parts of the balance sheet.

**EXHIBIT 11-2 | How Operating, Investing, and Financing Cash Flows Affect the Balance Sheet**




Philips' statement of cash flows reports cash flows under these three headings, as shown earlier. For the year ended December 31, 2011, Philips generated €0.8 billion from operating activities, and used €1.4 and €1.8 billion for investing and financing activities, respectively. You can also see the pattern of cash flows over the three years provided. These figures show that:

- Cash flows from operations (line 10) are consistently Philips' largest source of cash inflows and they have been very resilient over the three years, despite great fluctuations on net income.
- Philips is consistently investing in the future, with its biggest cash flow item over the three years being the capital expenditures on property, plant and equipment (line 13), and purchases of businesses (line 17) amounting to over €1.2 billion.
- Philips is still able to repay some loans (line 21 and 22) and maintain its dividend payments (line 25) despite tough economic conditions.

## A CLOSER LOOK

You may see some companies' cash flow items not being categorized in the same way we have done it in Exhibit 11-1, which is the most common way of classifying cash flow items. *IAS 7* allows for alternative classifications, "in a manner which is most appropriate to its business . . . in a consistent manner." *IAS 7* provides guidance on some of these alternatives:

- Interest paid, usually categorized as an operating cash flow item, may be classified as financing cash flow items or investing cash flows.
- Interest and dividends received, usually classified as operating cash flow items, may be classified as investing cash flow items.
- Dividends paid, usually categorized as a financing cash flow item, may be classified as cash flow from operations.
- Taxes paid, usually categorized as an operating cash flow item, may be classified as investing or financing activities (if it can be tied to an individual transaction that gives rise to such activities).

For the purposes of learning cash flow items, we will use the "usual" classifications of cash flow items, i.e. interest paid, interest and dividends received, taxes paid as operating cash flows, and dividends paid as financing cash flows. But remember that when you look at companies' real financial statements, you may see alternative placements of these items.

## Two Formats for Operating Activities

*IAS 7* requires an entity to report cash flows from operating activities using one of two methods:

1. **Indirect method**, which reconciles from net income to net cash provided by operating activities.
2. **Direct method**, which reports all cash receipts and cash payments from operating activities.

How do the two methods differ? The two methods use different computations, but they produce the same figure for cash flows from *operating activities*. The two methods do not affect *investing* or *financing activities*, which are prepared similarly to the direct method, by the reporting of major classes of cash receipts and payments in their respective activities.

A simple analogy provides a good explanation of the two methods. Suppose you are given a series of numbers: 2, 3, 5, 7, and 8, which totals 25. You are then asked to sum the prime numbers in the sequence. There are clearly two methods of doing this. You could identify the prime numbers, in this case 2, 3, 5, and 7 and sum them, the answer would be 17. This is the direct method, where you identify the items (or cash flows) and then add them up. Alternatively, since you know the total of the series was 25, and 8 is the only number that is not a prime number, you could arrive at the same answer by making use of this total, i.e. 25 − 8 = 17. The indirect method makes use of a total (in cash flow terms, it would be your net income, a total of revenues less expenses in your income statement) and adjust for items that are not prime, to arrive at the same answer. Note that 25 is not prime, neither is 8, but yet you get the 17 as the sum of prime numbers in the sequence.

*IAS 7* actually advocates for the direct method because it provides information which may be useful in estimating future cash flows that is not available under the indirect method. However, this is not heeded by most companies which mostly prepare their cash flow statements using the indirect method.

The following summarizes the differences between the indirect and direct methods:

| **Indirect Method** | | **Direct Method** | |
|---|---|---|---|
| Net income | $600 | Collections from customers | $2,000 |
| *Adjustments:* | | *Deductions:* | |
| Depreciation, etc. | 300 | Payments to suppliers, etc. | (1,100) |
| Net cash provided by operating activities | $900 | Net cash provided by operating activities | $ 900 |
| | same | | same |

We shall begin with the indirect method since it is the more common method that you are likely to see in financial reports. Philips' cash flow from operations was prepared using the indirect format. To illustrate the statement of cash flows, we use **The Roadster Factory, Inc. (TRF)**, a dealer in auto parts for sports cars. TRF's balance sheet and income statement are shown on the next page in Exhibits 11-3 and 11-4, respectively.

**EXHIBIT 11-3 | TRF's Income Statement**

**The Roadster Factory, Inc. (TRF)**
**Income Statement**
Year Ended December 31, 20X7

| (In thousands) | | |
|---|---|---|
| Revenues and gains: | | |
| Sales revenue | $303 | |
| Interest revenue | 2 | |
| Gain on sale of PPE | 8 | |
| Total revenues and gains | | $313 |
| Expenses: | | |
| Cost of goods sold | $150 | |
| Salary and wage expense | 56 | |
| Depreciation expense | 18 | |
| Other operating expense | 17 | |
| Income tax expense | 15 | |
| Interest expense | 7 | |
| Total expenses | | 263 |
| Net income | | $ 50 |

**EXHIBIT 11-4 | TRF's Balance Sheet**

**The Roadster Factory, Inc. (TRF)**
**Comparative Balance Sheets**
December 31, 20X7 and 20X6

| (In thousands) | 2011 | 2010 | Increase (Decrease) |
|---|---|---|---|
| **Assets** | | | |
| Current: | | | |
| Cash | $ 34 | $ 42 | $ (8) |
| Accounts receivable | 96 | 81 | 15 |
| Inventory | 35 | 38 | (3) |
| Prepaid expenses | 8 | 7 | 1 |
| Notes receivable | 21 | — | 21 |
| PPE, net | 343 | 219 | 124 |
| Total | $537 | $387 | $150 |
| **Liabilities** | | | |
| Current: | | | |
| Accounts payable | $ 91 | $ 57 | $ 34 |
| Salary and wage payable | 4 | 6 | (2) |
| Accrued liabilities | 1 | 3 | (2) |
| Long-term debt | 160 | 77 | 83 |
| **Shareholders' Equity** | | | |
| Ordinary share capital | 162 | 158 | 4 |
| Retained earnings | 119 | 86 | 33 |
| Total | $537 | $387 | $150 |

# Preparing Cash Flows from Operating Activities: Indirect Method

**OBJECTIVE**

**3 Prepare** cash flows from operating activities using the indirect method

You read earlier that *IAS 7* describes operating activities as principal revenue-generating activities, i.e. transactions and other events that enter into the determination of profit or loss of an entity. Under the indirect method, this is exactly how we start cash flows from operating activities. The operating section begins with the net income, taken from the income statement (see Exhibit 11-3), and is followed by "Adjustments to reconcile net income to net cash provided by operating activities." These adjustments include items that are *not* cash flows, just like our simple analogy earlier uses number 8 (from the series of 2, 3, 5, 7, 8) to determine the sum of the prime numbers. Let's discuss these adjustments.

To make it easier for our discussion, let's have a look at a template for the preparation of cash flow from operating activities using the indirect method (see Exhibit 11-5).

**EXHIBIT 11-5 | Template for Cash Flows from Operating Activities: Indirect Method**

**The Roadster Factory, Inc. (TRF)**
**Statement of Cash Flows (Partial)**
Year Ended December 31, 20X7

**Cash flows from operating activities**
Net income
Adjustments to reconcile net income to net cash provided by operating activities:
+ Depreciation/depletion/amortization expense
+ Loss on sale of long-term assets
– Gain on sale of long-term assets
– Increases in current assets other than cash
+ Decreases in current assets other than cash
+ Increases in current liabilities
– Decreases in current liabilities
Net cash provided by (used for) operating activities

Proceed as follows to prepare the cash flow from the operating activities (usually referred to as the "CFO" for short) section of the statement of cash flows by using the indirect method:

**Step 1** Start with net income from the income statement (Exhibit 11-3). The indirect method always starts with a summary number from the income statement. We use net income in our example here, but sometimes you may see companies using pre-tax income. If a company starts the indirect method with profit before tax, it will need to show a separate line on "income taxes paid" after Step 5 below.

**Step 2** From the income statement (Exhibit 11-3), add back depreciation, depletion, and amortization expense, and remove any gains (or add back losses) on the sale of long-term assets.

**Step 3** Examine the balance sheet (Exhibit 11-4) and identify changes in current assets and current liabilities (usually referred to as "changes in working capital"), except for cash and cash equivalents.

**Step 4** Deduct increases in current assets other than cash and add decreases in current assets other than cash.

**Step 5** Deduct decreases in current liabilities and add increases in current liabilities.

If you have completed the five steps using the exhibits above, you will probably have obtained something like Exhibit 11-6 below.

**EXHIBIT 11-6 | Statement of Cash Flows: Operating Activities by the Indirect Method**

**The Roadster Factory, Inc. (TRF)**
**Statement of Cash Flows (Partial, Indirect Method)**
For the Year Ended December 31, 20X7

| (In thousands) | | | |
|---|---|---|---|
| | **Cash flows from operating activities:** | | |
| | Net income | | $50 |
| | Adjustments to reconcile net income to net cash provided by operating activities: | | |
| Ⓐ | Depreciation | $ 18 | |
| Ⓑ | Gain on sale of PPE | (8) | |
| Ⓒ | Increase in accounts receivable | (15) | |
| Ⓒ | Decrease in inventory | 3 | |
| Ⓒ | Increase in prepaid expenses | (1) | |
| Ⓒ | Increase in accounts payable | 34 | |
| Ⓒ | Decrease in salary and wage payable | (2) | |
| Ⓒ | Decrease in accrued liabilities | (2) | 27 |
| | Net cash provided by operating activities | | $77 |

## Understanding Reconciliation of Net Income to Cash Flows from Operations

Ⓐ **Depreciation, Depletion, and Amortization Expenses.** These expenses are added back to net income to convert net income to cash flow. In fact, all non-cash expenses are added back, including any impairment charges reported on the income statement (see Chapter 7's discussion on impairment of assets). Let's see why. Depreciation is recorded as follows:

| | | | |
|---|---|---|---|
| | Depreciation Expense | 18,000 | |
| | Accumulated Depreciation | | 18,000 |

Depreciation has no effect on cash. But depreciation, like all other expenses, decreases net income. Therefore, to convert net income to cash flows, we add depreciation back to net income. The add-back cancels the earlier deduction.

*Example*: Suppose you had only two transactions, a $1,000 cash sale and depreciation expense of $300. Cash flow from operations is $1,000, and net income is $700 ($1,000 – $300). To go from net income ($700) to cash flow ($1,000), we add back the depreciation ($300). Depletion and amortization are treated like depreciation.

Look at the Philips statement of cash flow at the start of this chapter. Lines 3 and 4 are the non-cash expenses that were added back to net profit as the first step under the indirect method.

**® Gains and Losses on the Sale of Long-term Assets.** The proceeds from disposal of long-term assets are reported in the cash flow from investing activities (see Exhibit 11-1, line 14, 16 and 18). However, the resulting gains (or losses) from the disposal have been included in the determination of income. Therefore, to avoid double counting, we will need to adjust the net income. Losses are added back to net income and gains are deducted from net income. For TRF, we deduct $8 gain on sale of PPE (shown on the income statement) away from net income under the indirect method.

Accordingly, Philips deducted the net gain on sale of assets (line 5) of €88 million from its income/(loss) for the period.

**© Changes in the Current Asset and Current Liability Accounts.** Most current assets and current liabilities result from operating activities. For example, accounts receivable result from sales, inventory relates to cost of goods sold, and so on. Changes in the current accounts are adjustments to net income under the indirect method. The reasoning follows:

1. ***An increase in another current asset decreases cash.*** It takes cash to acquire assets. Suppose you make a sale on account. Accounts receivable are increased, but cash isn't affected yet. Exhibit 11-4 reports that, during 20X7, The Roadster Factory's Accounts Receivable increased by $15,000. To compute cash flow from operations, we must subtract the $15,000 increase in Accounts Receivable, as shown in Exhibit 11-6. The reason is this: We have *not* collected this $15,000 in cash. Similar logic applies to all the other current assets. If they increase, cash decreases.
2. ***A decrease in another current asset increases cash.*** Suppose TRF's Accounts Receivable balance decreased by $4,000. Cash receipts caused Accounts Receivable to decrease, so we add decreases in Accounts Receivable and the other current assets to net income.
3. ***A decrease in a current liability decreases cash.*** Payment of a current liability decreases both cash and the liability, so we subtract decreases in current liabilities from net income. In Exhibit 11-6, the $2,000 decrease in Accrued Liabilities is *subtracted* to compute net cash provided by operations.
4. ***An increase in a current liability increases cash.*** The Roadster Factory's Accounts Payable increased. That can occur only if cash was not spent to pay this debt. Cash payments are therefore less than expenses and TRF has more cash on hand. Thus, increases in current liabilities increase cash.

For Philips, you see these adjustments shown in lines 6–8. Remember, increases in current assets and decreases in current liabilities are shown as deductions (and vice versa) under the indirect method.

## A CLOSER LOOK

As mentioned earlier, you may see some companies start with "net income before tax" rather than "net income after tax" at the top of their statement of cash flows. This is typically because of a requirement to explicitly disclose how much does a company pay for tax during the year. If we have done this for TRF, we would have the following CFO:

**The Roadster Factory, Inc. (TRF)**
**Statement of Cash Flows (Partial, Indirect Method)**
For the Year Ended December 31, 20X6

| (In thousands) | | |
|---|---|---|
| **Cash flows from operating activities:** | | |
| Net income before tax | | $65 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | |
| Depreciation | $18 | |
| Gain on sale of PPE | (8) | |
| Increase in accounts receivable | (15) | |
| Decrease in inventory | 3 | |
| Increase in prepaid expenses | (1) | |
| Increase in accounts payable | 34 | |
| Decrease in salary and wage payable | (2) | |
| Decrease in accrued liabilities | (2) | 27 |
| Income tax paid | | (15) |
| Net cash provided by opearting activities | | $77 |

In this example, the income tax paid equals to income tax expense because there were no income tax payable balances at either the beginning or ending of the year. Had there been any income tax payable balances, they would affect the income tax paid and not be included in the changes in working capital adjustments. See Exhibit 11-15 (later) for calculations of income tax paid.

**Evaluating Cash Flows from Operating Activities.** Let's step back and evaluate The Roadster Factory's operating cash flows during 20X7. TRF's operations provided net cash flow of $77,000. This amount exceeds net income, which is one sign that TRF was able to translate profitability to cash generations.

If you want to immediately compare the indirect method above with the direct method, you can take a detour to pages 694–700 then return here to continue with the other cash flow activities.

## Evaluating Cash Flows from Investing Activities

**OBJECTIVE**

**4** **Prepare** cash flows from investing activities

Cash flows from investing activities (or "CFI") basically revolve around the cash inflows and outflows related to long-term assets of the entity. Exhibit 11-1 showed us that the major classes of cash receipts include sale of PPE and other non-current assets, sale of long-term investments and collections of loans to others; and the outflows are typically for acquisition of PPE and other non-current assets, purchase of long-term investments, and making loans to others.

Most of the data for this section are from the TRF's balance sheet (refer to Exhibit 11-4 earlier). Let's calculate the cash flow items under this category (remember, you don't have shortcuts like the CFO's indirect method for CFI).

**Computing Purchases and Sales of PPE.** Companies keep a separate account for each item of PPE. But for computing cash flows, it is helpful to combine all the PPE into a single summary account. Also, we subtract accumulated depreciation and use the net figure. It's easier to work with a single PPE account.

To illustrate, observe that The Roadster Factory's:

- balance sheet reports beginning PPE, net of accumulated depreciation, of \$219,000: the ending balance is \$343,000 (Exhibit 11-4);
- income statement shows a depreciation expense of \$18,000 and an \$8,000 gain on sale of PPE (Exhibit 11-3).

TRF's purchases of PPE during the year totaled \$196,000 (we shall take this as given). How much, then, are the proceeds from the sale of PPE? To do this, you must remember that (1) proceeds less book value of assets sold are equal to gain on disposal, and (2) the change in net PPE is caused by addition of new PPE, depreciation charge for the period and the book value of PPE sold. So, let's first determine the book value of the PPE sold, as follows:

PPE, Net

| Beginning balance | + | Acquisitions | − | Depreciation | − | Book value of assets sold | = | Ending balance |
|---|---|---|---|---|---|---|---|---|
| \$219,000 | + | \$196,000 | − | \$18,000 | | −X | = | \$343,000 |
| | | | | | | −X | = | \$343,000 − \$219,000 − \$196,000 + \$18,000 |
| | | | | | | X | = | \$54,000 |

The sale proceeds are \$62,000, determined as follows:

| Sale proceeds | = | Book value of assets sold | + | Gain | − | Loss |
|---|---|---|---|---|---|---|
| X | = | \$54,000 | + | \$8,000 | − | \$0 |
| X | = | \$62,000 | | | | |

The PPE T-account provides another look at the computation of the book value of the assets sold.

**PPE, Net**

| | | | |
|---|---|---|---|
| **Beginning balance** | **219,000** | **Depreciation** | **18,000** |
| **Acquisitions** | **196,000** | **Book value of assets sold** | **54,000** |
| **Ending balance** | **343,000** | | |

If the sale had resulted in a loss of \$3,000 instead, the sale proceeds would be \$51,000 (\$54,000 − \$3,000), and the statement of cash flows would report \$51,000 as a cash receipt from this investing activity.

**Computing Purchases and Sales of Investments, and Loans and Collections.** The cash amounts of investment transactions can be computed in the manner illustrated for PPE. Investments are easier because there is no depreciation, as shown in the following equation:

Investments (amounts assumed for illustration only)

| Beginning balance | + | Purchases | − | Book value of investments sold | = | Ending balance |
|---|---|---|---|---|---|---|
| $100,000 | + | $50,000 | | −X | = | $140,000 |
| | | | | −X | = | $140,000 − $100,000 − $50,000 |
| | | | | X | = | $10,000 |

The Investments T-account provides another look (amounts assumed).

**Investments**

| | | | |
|---|---|---|---|
| Beginning balance | 100 | | |
| Purchases | 50 | Book value of investments sold | 10 |
| Ending balance | 140 | | |

The Roadster Factory has a long-term receivable, and the cash flows from loan transactions on notes receivable can be determined as follows (data from Exhibit 11-4):

Notes Receivable

| Beginning balance | + | New loans made | − | Collections | = | Ending balance |
|---|---|---|---|---|---|---|
| $0 | + | X | | −0 | = | $21,000 |
| | | X | | | = | $21,000 |

**Notes Receivable**

| | | | |
|---|---|---|---|
| Beginning balance | 0 | | |
| New loans made | 21 | Collections | 0 |
| Ending balance | 21 | | |

**EXHIBIT 11-7 | Statement of Cash Flows: Investing Activities**

**The Roadster Factory, Inc. (TRF)**
**Statement of Cash Flows (Partial)**
For the Year Ended December 31, 20X7

| (In thousands) | | |
|---|---|---|
| **Cash flows from investing activities:** | | |
| Acquisition of PPE | $(196) | |
| Loan to another company | (21) | |
| Proceeds from sale of PPE | 62 | |
| Net cash used for investing activities | | (155) |

Exhibit 11-7 (p. 685) shows the statement of cash flows and Exhibit 11-8 summarizes the cash flows from investing activities, highlighted in color.

**EXHIBIT 11-8 | Computing Cash Flows from Investing Activities**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Receipts** | | | | | | | | | |
| From sale of PPE | Beginning PPE, net | + | Acquisition cost | − | Depreciation | − | Book value of assets sold | = | Ending PPE, net |
| | Cash received | = | Book value of assets sold | + or − | Gain on sale<br>Loss on sale | | | | |
| From sale of investments | Beginning investments | + | Purchase cost of investments | − | Cost of investments sold | = | Ending investments | | |
| | Cash received | = | Cost of investments sold | + or − | Gain on sale<br>Loss on sale | | | | |
| From collection of notes receivable | Beginning notes receivable | + | New loans made | − | Collections | = | Ending notes receivable | | |
| **Payments** | | | | | | | | | |
| For acquisition of PPE | Beginning PPE, net | + | Acquisition cost | − | Depreciation | − | Book value of assets sold | = | Ending PPE, net |
| For purchase of investments | Beginning investments | + | Purchase cost of investments | − | Cost of investments sold | = | Ending investments | | |
| For new loans made | Beginning notes receivable | + | New loans made | − | Collections | = | Ending notes receivable | | |

For Philips, you can see that despite its loss for the period, it has continued to invest in intangible assets (€116 million, line 11), development assets (€231 million, line 12), PPE (€725 million, line 13), other non-current financial assets (€43 million, line 15), and even new businesses (€509 million, line 17). In fact, it paid a total of €1,624 million for investing activities. Some assets were sold off and Philips report the proceeds from such a sale in this section of the cash flow statement as well (line 14, 16 and 18, totaling €234 million).

## Preparing Cash Flows from Financing Activities

**OBJECTIVE**

**5** **Prepare** cash flows from financing activities

Cash flows from financing activities (or "CFF" for short) are those that relate to the capital structure and owners of the entity. Financing activities affect long-term liabilities and equity accounts such as Notes Payable, Bonds Payable, Long-Term Debt, Share Capital, Paid-in Capital in Excess of Par, Treasury Shares, and Retained Earnings. Most of the data come from the balance sheet (see Exhibit 11-4).

Exhibit 11-1 showed us that the major classes of cash receipts include issuance of shares, proceeds from selling treasury shares, loans and borrowings; and the outflows include repurchase of shares ("share buy-back") either for cancellation or treasury, and repayment of loans and borrowings. Let's work out TRF's cash flows from financing activities.

**Computing Issuances and Payments of Long-Term Debt.** The beginning and ending balances of Long-Term Debt, Notes Payable, or Bonds Payable come from the balance sheet. If either new issuances or payments are known, the other amount can be computed. The Roadster Factory's new debt issuances total $94,000 (take this amount as given). Debt payments are computed from the Long-Term Debt account (see Exhibit 11-4).

Long-Term Debt (Notes Payable, Bonds Payable)

| Beginning balance | + | Issuance of new debt | − | Payments of debt | = | Ending balance |
|---|---|---|---|---|---|---|
| $77,000 | + | $94,000 | | −X | = | $160,000 |
| | | | | −X | = | $160,000 − $77,000 − $94,000 |
| | | | | X | = | $11,000 |

**Long-Term Debt**

| | | | |
|---|---|---|---|
| | | Beginning balance | 77,000 |
| Payments | 11,000 | Issuance of new debt | 94,000 |
| | | Ending balance | 160,000 |

If the $94,000 new debt issuance information was not given, we would have naturally assumed that the TRF had simply borrowed an additional $83,000 (i.e. $160,000 ending balance less $77,000 beginning balance).

**Computing Issuances of Shares and Purchases of Treasury Shares.** These cash flows can be determined from the share capital accounts. For example, cash received from issuing shares is computed from Share Capital and Capital in Excess of Par. We use a single summary Share Capital account as we do for PPE. The Roadster Factory data are as follows:

Share capital

| Beginning balance | + | Issuance of new shares | = | Ending balance |
|---|---|---|---|---|
| $158,000 | + | $4,000 | = | $162,000 |

**Share Capital**

| | | | |
|---|---|---|---|
| | | Beginning balance | 158,000 |
| | | Issuance of new shares | 4,000 |
| | | Ending balance | 162,000 |

This $4,000 would have been the net impact of the issuances and repurchases of shares. You could have been told in the question that the issuance of shares for the period was $20,000. You would have noticed that TRF must have bought back some shares, otherwise $158,000 + $20,000 would not equal $162,000. In such situations, TRF must have bought back $16,000 worth of shares, either for treasury or cancellation.

**Computing Dividend Declarations and Payments.** If dividend declarations and payments are not given elsewhere, they can be computed. For The Roadster Factory, this computation is as follows:

Retained Earnings

| Beginning balance | + | Net income | − | Dividend payments | = | Ending balance |
|---|---|---|---|---|---|---|
| $86,000 | + | $50,000 | | −X | = | $119,000 |
| | | | | −X | = | $119,000 – $86,000 – $50,000 |
| | | | | X | = | $17,000 |

The T-account also shows the dividend computation.

| Retained Earnings | | | |
|---|---|---|---|
| Dividend payments | 17,000 | Beginning balance | 86,000 |
| | | Net income | 50,000 |
| | | Ending balance | 119,000 |

Our completed statement of cash flows from financing would look something like that shown in Exhibit 11-9.

**EXHIBIT 11-9 | Statement of Cash Flows: Investing Activities**

**The Roadster Factory, Inc. (TRF)**
**Statement of Cash Flows (Partial)**
For the Year Ended December 31, 20X7

| (In thousands) | | |
|---|---|---|
| **Cash flows from financing activities:** | | |
| Proceeds from issuance of long-term debt | $ (94) | |
| Proceeds from issuance of shares | (4) | |
| Payment of long-term debt | (11) | |
| Payment of dividends | (17) | |
| Net cash provided by financing activities | | 70 |

Exhibit 11-10 summarizes the cash flows from financing activities, highlighted in color.

**EXHIBIT 11-10 | Computing Cash Flows from Financing Activities**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Receipts** | | | | | | | | |
| From borrowing—issuance of long-term debt | Beginning long-term debt | + | Cash received from issuance of long-term debt | − | Payment of debt | = | Ending long-term debt |
| From issuance of share | Beginning share capital | + | Cash received from issuance of new shares | − | Share cancellations | = | Ending share capital |
| **Payments** | | | | | | | |
| Of long-term debt | Beginning long-term debt | + | Cash received from issuance of long-term debt | − | Payment of debt | = | Ending long-term debt |
| To purchase treasury share | Beginning treasury share | + | Purchase cost of treasury shares | | | = | Ending treasury share |
| Of dividends | Beginning retained earnings | + | Net income | − | Dividend payment | = | Ending retained earnings |

Let's see how Philips reports its CFF activities. Philips paid debt totaling €1,314 million (lines 21 and 22), borrowed an additional €457 million (line 23), treasury transactions amounted to €671 million (line 24) and paid dividends totaling €259 million (line 25).

## STOP & THINK . . .

Classify each of the following as an operating activity, an investing activity, or a financing activity as reported on the statement of cash flows prepared by the *indirect* method.

a. Issuance of shares
b. Borrowing
c. Sales revenue
d. Payment of dividends
e. Purchase of land
f. Purchase of treasury shares
g. Paying bonds payable
h. Interest expense
i. Sale of equipment
j. Cost of goods sold
k. Purchase of another company
l. Making a long-term loan to another company

*Answers:*

a. Financing
b. Financing
c. Operating
d. Financing
e. Investing
f. Financing
g. Financing
h. Operating
i. Investing
j. Operating
k. Investing
l. Investing

## Completing the Statement of Cash Flows (Indirect CFO)

Now that we have prepared all the three categories of cash flow activities, it is time to complete the cash flow statement. Let's assemble what we have done into one single statement and calculate the net cash flows from the three cash flow activities (see Exhibit 11-11). This is often a very stressful time, because if we have done our work carefully, we sure want our net cash flows to reconcile the change in cash on the balance sheet.

**EXHIBIT 11-11 | Statement of Cash Flows: Indirect Method**

**The Roadster Factory, Inc. (TRF)**
**Statement of Cash Flows**
For the Year Ended December 31, 20X7

(In thousands)

| | | | |
|---|---|---|---|
| | **Cash flows from operating activities:** | | |
| | Net income | | $ 50 |
| | Adjustments to reconcile net income to net cash provided by operating activities: | | |
| Ⓐ | Depreciation | $ 18 | |
| Ⓑ | Gain on sale of PPE | (8) | |
| Ⓒ | Increase in accounts receivable | (15) | |
| Ⓒ | Decrease in inventory | 3 | |
| Ⓒ | Increase in prepaid expenses | (1) | |
| Ⓒ | Increase in accounts payable | 34 | |
| Ⓒ | Decrease in salary and wage payable | (2) | |
| Ⓒ | Decrease in accrued liabilities | (2) | 27 |
| | Net cash provided by operating activities | | 77 |
| | **Cash flows from investing activities:** | | |
| | Acquisition of PPE | $(196) | |
| | Loan to another company | (21) | |
| | Proceeds from sale of PPE | 62 | |
| | Net cash used for investing activities | | (155) |
| | **Cash flows from financing activities:** | | |
| | Proceeds from issuance of long-term debt | $ 94 | |
| | Proceeds from issuance of shares | 4 | |
| | Payment of long-term debt | (11) | |
| | Payment of dividends | (17) | |
| | Net cash provided by financing activities | | 70 |
| | **Net (decrease) in cash** | | $ (8) |
| | Cash balance, December 31, 20X6 | | 42 |
| | Cash balance, December 31, 20X7 | | $ 34 |

As you can see, we did a pretty a good job! The net cash flows for the period show a decrease of $8,000, which explains why TRF's cash went from $42,000 to $34,000. What does the statement of cash flow tell us? TRF was able to generate cash flow from operating activities, which is used (together with some borrowings) to expand its investments in new PPE. Reflect on TRF's financial position (its balance sheet, Exhibit 11-4) and financial performance (its income statement, Exhibit 11-5). Whilst they were your source data for the cash flow statement, the insights you get from the cash flow statement clearly supplement what you already have.

## Non-cash Investing and Financing Activities

Companies sometimes make investments that do not require cash. They may also obtain financing other than cash. Alternatively, they may sell assets for non-cash considerations, akin to "swapping" one asset for another. Our TRF working example has none of these non-cash investing and financing transactions. Now suppose The

Roadster Factory issued shares valued at $300,000 to acquire a warehouse. TRF would journalize this transaction as follows:

| | | | |
|---|---|---|---|
| | Warehouse Building | 300,000 | |
| | Share Capital | | 300,000 |

This transaction would not be reported as a cash payment because TRF paid no cash. But the investment in the warehouse and the issuance of shares are important. These non-cash investing and financing activities can be reported in a separate schedule under the statement of cash flows. Exhibit 11-12 illustrates non-cash investing and financing activities (all amounts are assumed).

**EXHIBIT 11-12 | Non-Cash Investing and Financing Activities (All Amounts Assumed)**

| | Thousands |
|---|---|
| **Non-cash Investing and Financing Activities:** | |
| Acquisition of building by issuing shares | $300 |
| Acquisition of land by issuing note payable | 70 |
| Payment of long-term debt by issuing shares | 100 |
| Total noncash investing and financing activities | $470 |

At the end of its cash flow statements, Philips disclosed that it has non-cash transactions amounting to €18 million as detailed in its notes to the accounts below.

**EXCERPTS (ADAPTED) FROM PHILIPS' NOTES TO THE 2011 FINANCIAL STATEMENTS**

**Assets in lieu of cash from sale of businesses**

In 2011, the Company entered into four transactions with different venture capital partners where certain incubator activities were transferred in exchange for shares in separately established investment entities. The investment entities represented a value of EUR 18 million at the date that these transactions were closed.

In August 2010, the Company acquired a 49.9% interest in Shapeways Inc. in exchange for the transfer of certain Consumer Lifestyle incubator activities, which represented a value of EUR 3 million at the date of the closing of that transaction.

In 2009, the Company received only cash as consideration in connection with the sale of businesses.



Now let's apply what you've learned about the statement of cash flows prepared by the indirect method.

# MID-CHAPTER SUMMARY PROBLEM

Lucas Corporation reported the following income statement and comparative balance sheets, along with transaction data for 20X7:

**Lucas Corporation**
**Income Statement**
Year Ended December 31, 20X7

| | | |
|---|---|---|
| Sales revenue | | $662,000 |
| Cost of goods sold | | 560,000 |
| Gross profit | | 102,000 |
| Operating expenses | | |
| Salary expenses | $46,000 | |
| Depreciation expense—equipment | 7,000 | |
| Amortization expense—patent | 3,000 | |
| Rent expense | 2,000 | |
| Total operating expenses | | 58,000 |
| Income from operations | | 44,000 |
| Other items: | | |
| Loss on sale of equipment | | (2,000) |
| Income before income tax | | 42,000 |
| Income tax expense | | 16,000 |
| Net income | | $ 26,000 |

**Lucas Corporation**
**Comparative Balance Sheets**
December 31, 20X7 and 20X6

| Assets | 20X7 | 20X6 | Liabilities | 20X7 | 20X6 |
|---|---|---|---|---|---|
| Current: | | | Current: | | |
| Cash and equivalents | $ 19,000 | $ 3,000 | Accounts payable | $ 35,000 | $ 26,000 |
| Accounts receivable | 22,000 | 23,000 | Accrued liabilities | 7,000 | 9,000 |
| Inventories | 34,000 | 31,000 | Income tax payable | 10,000 | 10,000 |
| Prepaid expenses | 1,000 | 3,000 | Total current liabilities | 52,000 | 45,000 |
| Total current assets | 76,000 | 60,000 | Long-term note payable | 44,000 | — |
| Long-term investments | 18,000 | 10,000 | Bonds payable | 40,000 | 53,000 |
| Equipment, net | 67,000 | 52,000 | **Owners' Equity** | | |
| Patent, net | 44,000 | 10,000 | Share capital | 52,000 | 20,000 |
| | | | Retained earnings | 27,000 | 19,000 |
| | | | Less: Treasury shares | (10,000) | (5,000) |
| Total assets | $205,000 | $132,000 | Total liabilities and equity | $205,000 | $132,000 |

| **Transaction Data for 20X7:** | | | |
|---|---|---|---|
| Purchase of equipment | $ 98,000 | Issuance of long-term note payable to purchase patent | $ 37,000 |
| Payment of cash dividends | 18,000 | Issuance of long-term note payable to borrow cash | 7,000 |
| Issuance of shares to retire bonds payable | 13,000 | Issuance of shares for cash | 19,000 |
| Purchase of long-term investment | 8,000 | Sale of equipment (book value, $76,000) | 74,000 |
| Purchase of treasury shares | 5,000 | | |

### *Requirement*

Prepare Lucas Corporation's statement of cash flows (indirect method) for the year ended December 31, 20X7. Follow the four steps outlined below. For Step 4, prepare a T-account to show the transaction activity in each long-term balance sheet account. For each PPE, use a single account, net of accumulated depreciation (for example: Equipment, Net).

**Step 1** Lay out the template of the statement of cash flows.
**Step 2** From the comparative balance sheet, determine the increase in cash during the year, $16,000.
**Step 3** From the income statement, take net income, depreciation, amortization, and the loss on sale of equipment to the statement of cash flows.
**Step 4** Complete the statement of cash flows. Account for the year-to-year change in each balance sheet account.

## Answer

**Lucas Corporation**
**Statement of Cash Flows**
Year Ended December 31, 20X7

| | | |
|---|---|---|
| **Cash flows from operating activities:** | | |
| Net income | | $ 26,000 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | |
| Depreciation | $ 7,000 | |
| Amortization | 3,000 | |
| Loss on sale of equipment | 2,000 | |
| Decrease in accounts receivable | 1,000 | |
| Increase in inventories | (3,000) | |
| Decrease in prepaid expenses | 2,000 | |
| Increase in accounts payable | 9,000 | |
| Decrease in accrued liabilities | (2,000) | 19,000 |
| Net cash provided by operating activities | | 45,000 |
| **Cash flows from investing activities:** | | |
| Purchase of equipment | $(98,000) | |
| Sale of equipment | 74,000 | |
| Purchase of long-term investment | (8,000) | |
| Net cash used for investing activities | | (32,000) |
| **Cash flows from financing activities:** | | |
| Issuance of shares | $ 19,000 | |
| Payment of cash dividends | (18,000) | |
| Issuance of long-term note payable | 7,000 | |
| Purchase of treasury shares | (5,000) | |
| Net cash provided by financing activities | | 3,000 |
| **Net increase in cash** | | **16,000** |
| Cash balance, December 31, 20X6 | | 3,000 |
| Cash balance, December 31, 20X7 | | $ 19,000 |
| **Non-cash investing and financing activities:** | | |
| Issuance of long-term note payable to purchase patent | | $ 37,000 |
| Issuance of shares to retire bonds payable | | 13,000 |
| Total non-cash investing and financing activities | | $ 50,000 |

**Long-Term Investments**

| | | | |
|---|---|---|---|
| Bal | 10,000 | | |
| | 8,000 | | |
| Bal | 18,000 | | |

**Equipment, Net**

| | | | |
|---|---|---|---|
| Bal | 52,000 | | |
| | 98,000 | | 76,000 |
| | | | 7,000 |
| Bal | 67,000 | | |

**Patent, Net**

| | | | |
|---|---|---|---|
| Bal | 10,000 | | |
| | 37,000 | | 3,000 |
| Bal | 44,000 | | |

**Long-Term Note Payable**

| | | | |
|---|---|---|---|
| | | Bal | 0 |
| | | | 37,000 |
| | | | 7,000 |
| | | Bal | 44,000 |

**Bonds Payable**

| | | | |
|---|---|---|---|
| | | Bal | 53,000 |
| | 13,000 | | |
| | | Bal | 40,000 |

**Share Capital**

| | | | |
|---|---|---|---|
| | | Bal | 20,000 |
| | | | 13,000 |
| | | | 19,000 |
| | | Bal | 52,000 |

**Retained Earnings**

| | | | |
|---|---|---|---|
| | | Bal | 19,000 |
| | 18,000 | | 26,000 |
| | | Bal | 27,000 |

**Treasury Shares**

| | | | |
|---|---|---|---|
| Bal | 5,000 | | |
| | 5,000 | | |
| Bal | 10,000 | | |

## Preparing Cash Flows from Operating Activities: Direct Method

**OBJECTIVE**

**6 Prepare** cash flows from operating activities using the direct method

The direct method is the method advocated by *IAS 7* because it provides clearer information about the sources and uses of cash. But very few companies use this method because it requires more computations than the indirect method. Here's an example of a CFO prepared using the direct method. **Billabong** is an Australian company famous for its surf and beach wear. The direct method CFO reports the major inflows and outflows of cash from and for operating activities, similar to the items depicted in Exhibit 11-1 earlier.

**EXCERPTS (ADAPTED) FROM BILLABONG 2011 STATEMENT OF CASH FLOWS**

For the years ended June 30 (in thousands Australian Dollar, AUD)

| **Cash flows from operating activities** | **2011** | **2010** |
|---|---|---|
| Receipts from customers | 1,733,303 | 1,551,174 |
| Payments to suppliers and employees | (1,673,100) | (1,299,033) |
| | 100,203 | 252,141 |
| Interest received | 2,287 | 3,319 |
| Other revenue received | 2,264 | 3,726 |
| Interest paid | (35,688) | (22,774) |
| Income taxes paid | (44,730) | (49,165) |
| **Net cash inflow from operating activities** | 24,336 | 187,247 |



We shall use the same example, The Roadster Factory (TRF), to illustrate the preparation of cash flow from operating activities using the direct method. The direct method will require you to actually calculate each (major class of) cash inflow and cash outflow.

## Computing Operating Cash Flows by the Direct Method

To compute operating cash flows by the direct method, we use the income statement and the *changes* in the balance sheet accounts. Exhibit 11-13 illustrates the process. We reproduce The Roadster Factory's income statement in Exhibit 11-14 and its comparative balance sheet in Exhibit 11-15 for ease of reference.

**EXHIBIT 11-13 | Direct Method of Computing Cash Flows from Operating Activities**

| RECEIPTS / PAYMENTS | Income Statement Account | Change in Related Balance Sheet Account | |
|---|---|---|---|
| **RECEIPTS:** | | | |
| From customers | Sales Revenue | + Decrease in Accounts Receivable<br>− Increase in Accounts Receivable | |
| Of interest | Interest Revenue | + Decrease in Interest Receivable<br>− Increase in Interest Receivable | |
| **PAYMENTS:** | | | |
| To suppliers | Cost of Goods Sold | + Increase in Inventory<br>− Decrease in Inventory | + Decrease in Accounts Payable<br>− Increase in Accounts Payable |
| | Operating Expense | + Increase in Prepaids<br>− Decrease in Prepaids | + Decrease in Accrued Liabilities<br>− Increase in Accrued Liabilities |
| To employees | Salary (Wage) Expense | + Decrease in Salary (Wage) Payable<br>− Increase in Salary (Wage) Payable | |
| For interest | Interest Expense | + Decrease in Interest Payable<br>− Increase in Interest Payable | |
| For income tax | Income Tax Expense | + Decrease in Income Tax Payable<br>− Increase in Income Tax Payable | |

*We thank Professor Barbara Gerrity for suggesting this exhibit.

**EXHIBIT 11-14 | TRF's Income Statement**

**The Roadster Factory, Inc. (TRF)**
**Income Statement**
Year Ended December 31, 20X7

| (In thousands) | | |
|---|---|---|
| Revenues and gains: | | |
| Sales revenue | $303 | |
| Interest revenue | 2 | |
| Gain on sale of PPE | 8 | |
| Total revenues and gains | | $313 |
| Expenses: | | |
| Cost of goods sold | $150 | |
| Salary and wage expense | 56 | |
| Depreciation expense | 18 | |
| Other operating expense | 17 | |
| Income tax expense | 15 | |
| Interest expense | 7 | |
| Total expenses | | 263 |
| Net income | | $ 50 |

**EXHIBIT 11-15 | TRF's Balance Sheets**

**The Roadster Factory, Inc. (TRF)**
**Comparative Balance Sheets**
December 31, 20X7 and 20X6

| (In thousands) | 20X7 | 20X6 | Increase (Decrease) |
|---|---|---|---|
| **Assets** | | | |
| Current: | | | |
| Cash | $ 34 | $ 42 | $ (8) |
| Accounts receivable | 96 | 81 | 15 |
| Inventory | 35 | 38 | (3) |
| Prepaid expenses | 8 | 7 | 1 |
| Notes receivable | 21 | — | 21 |
| PPE, net | 343 | 219 | 124 |
| Total | $537 | $387 | $150 |
| **Liabilities** | | | |
| Current: | | | |
| Accounts payable | $ 91 | $ 57 | $ 34 |
| Salary and wage payable | 4 | 6 | (2) |
| Accrued liabilities | 1 | 3 | (2) |
| Long-term debt | 160 | 77 | 83 |
| **Shareholders' Equity** | | | |
| Ordinary share capital | 162 | 158 | 4 |
| Retained earnings | 119 | 86 | 33 |
| Total | $537 | $387 | $150 |

**Computing Cash Collections from Customers.** Collections start with sales revenue (an accrual-basis amount). The Roadster Factory's income statement (Exhibit 11-14) reports sales of $303,000. Accounts receivable increased from $81,000 at the beginning of the year to $96,000 at year-end, a $15,000 increase (Exhibit 11-15). Based on those amounts, cash collections equal $288,000, as follows. We must solve for cash collections (X):

Accounts Receivable

| Beginning balance | + | Sales | − | Collections | = | Ending balance |
|---|---|---|---|---|---|---|
| $81,000 | + | $303,000 | | −X | = | $96,000 |
| | | | | −X | = | $96,000 − $81,000 − $303,000 |
| | | | | X | = | $288,000 |

The T-account for Accounts Receivable provides another view of the same computation.

**Accounts Receivable**

| | | | |
|---|---|---|---|
| **Beginning balance** | 81,000 | | |
| **Sales** | 303,000 | Collections | 288,000 |
| **Ending balance** | 96,000 | | |

Accounts Receivable increased, so collections must be less than sales. All collections of receivables are computed this way. Let's turn now to cash receipts of interest revenue. In our example, The Roadster Factory earned interest revenue and collected cash of $2,000 (because there was no interest receivable in the beginning and at the end of the period). The amounts of interest revenue and cash receipts of interest often differ and Exhibit 11-13 shows how to make this computation, when necessary.

**Computing Payments to Suppliers.** This computation includes two parts:

- Payments for inventory
- Payments for operating expenses (other than interest and income tax).

Payments for inventory are computed by converting cost of goods sold to the cash basis. We use Cost of Goods Sold, Inventory, and Accounts Payable. First, we must solve for purchases. All the amounts come from Exhibits 11-14 and 11-15.

Cost of Goods Sold

| Beginning inventory | + | Purchases | − | Ending inventory | = | Cost of goods sold |
|---|---|---|---|---|---|---|
| $38,000 | + | X | − | $35,000 | = | $150,000 |
| | | X | | | = | $150,000 − $38,000 + $35,000 |
| | | X | | | = | $147,000 |

Now we can compute cash payments for inventory (Y), as follows:

Accounts Payable

| Beginning balance | + | Purchases | − | Payments for inventory | = | Ending balance |
|---|---|---|---|---|---|---|
| $57,000 | + | $147,000 | | −Y | = | $91,000 |
| | | | | −Y | = | $91,000 − $57,000 − $147,000 |
| | | | | Y | = | $113,000 |

The T-accounts show where the data come from. Start with Cost of Goods Sold.

**Cost of Goods Sold**

| | | | |
|---|---|---|---|
| Beg inventory | 38,000 | End inventory | 35,000 |
| Purchases | 147,000 | | |
| Cost of goods sold | 150,000 | | |

**Accounts Payable**

| | | | |
|---|---|---|---|
| Payments for inventory | 113,000 | Beg bal | 57,000 |
| | | Purchases | 147,000 |
| | | End bal | 91,000 |

Accounts Payable increased, so payments for inventory are less than purchases.

**Computing Payments for Operating Expenses.** Payments for operating expenses other than interest and income tax are computed from three accounts: Prepaid Expenses, Accrued Liabilities, and Other Operating Expenses. All The Roadster Factory data come from Exhibits 11-14 and 11-15.

We can assume that the beginning prepayments will be used in the period and the ending prepayment is what we paid for during the year. Similarly, we can assume that the beginning accrued liabilities will be paid for during the year, and the ending balance will remain owing.

**Prepaid Expenses**

| Beginning balance | + | Payments | – | Expiration of prepaid expense (assumed) | = | Ending balance |
|---|---|---|---|---|---|---|
| $7,000 | + | X | – | $7,000 | = | $8,000 |
| | | X | | | = | $8,000 – $7,000 + $7,000 |
| | | X | | | = | $8,000 |

**Accrued Liabilities**

| Beginning balance | + | Accrual of expense at year-end (assumed) | – | Payments | = | Ending balance |
|---|---|---|---|---|---|---|
| $3,000 | + | $1,000 | | –X | = | $1,000 |
| | | | | –X | = | $1,000 – $3,000 – $1,000 |
| | | | | X | = | $3,000 |

**Other Operating Expenses**

| Accrual of expense at year-end | + | Expiration of prepaid expense | – | Payments | = | Ending balance |
|---|---|---|---|---|---|---|
| $1,000 | + | $7,000 | | X | = | $17,000 |
| | | | | X | = | $17,000 – $1,000 – $7,000 |
| | | | | X | = | $9,000 |
| | | | | Total payments for operating expenses | = | $8,000 + $3,000 + $9,000 |
| | | | | | = | $20,000 |

The T-accounts give another picture of the same data.

**Prepaid Expenses**

| | | | |
|---|---|---|---|
| Beg bal | 7,000 | Expiration of prepaid expense | 7,000 |
| Payments | 8,000 | | |
| End bal | 8,000 | | |

**Accrued Liabilities**

| | | | |
|---|---|---|---|
| Payment | 3,000 | Beg bal | 3,000 |
| | | Accrual of expense at year-end | 1,000 |
| | | End bal | 1,000 |

**Other Operating Expenses**

| | | | |
|---|---|---|---|
| Accrual of expense at year-end | 1,000 | | |
| Expiration of prepaid expense | 7,000 | | |
| Payments | 9,000 | | |
| End bal | 17,000 | | |

Total payments for operating expenses = $20,000($8,000 + $3,000 + $9,000)

Now we can compute Payments to Suppliers as follows:

| Payments to Suppliers | = | Payments for Inventory | + | Payments for Operating Expenses |
|---|---|---|---|---|
| $133,000 | + | $113,000 | + | $20,000 |

**Computing Payments to Employees.** It is convenient to combine all payments to employees into one account, Salary and Wage Expense. We then adjust the expense for the change in Salary and Wage Payable, as shown here:

Salary and Wage Payable

| Beginning balance | + | Salary and wage expense | − | Payments | = | Ending balance |
|---|---|---|---|---|---|---|
| $6,000 | + | $56,000 | | −X | = | $4,000 |
| | | | | −X | = | $4,000 − $6,000 − $56,000 |
| | | | | X | = | $58,000 |

**Salary and Wage Payable**

| | | | |
|---|---|---|---|
| | | Beginning balance | 6,000 |
| Payments to employees | 58,000 | Salary and wage expense | 56,000 |
| | | Ending balance | 4,000 |

**Computing Payments of Interest and Income Taxes.** The Roadster Factory's expense and payment amounts are the same for interest and income tax (because interest payable and tax payable balances are zero), so no analysis is required. If the expense and the payment differ, the payment can be computed as shown in Exhibit 11-13.

Let's put the direct method of cash flow from operations all together.

**The Roadster Factory, Inc. (TRF)**
**Statement of Cash Flows (Partial, Direct Method)**
For Year Ended December 31, 20X7

| (In thousands) | | |
|---|---|---|
| **Cash flows from operating activities:** | | |
| Receipts: | | |
| Collections from customers | $ 288 | |
| Interest received | 2 | |
| Total cash receipts | | $ 290 |
| Payments: | | |
| To suppliers | $ (133) | |
| To employees | (58) | |
| For income tax | (15) | |
| For interest | (7) | |
| Total cash payments | | (213) |
| Net cash provided by operating activities | | 77 |

As you can see, the cash flow from operating activities is $77,000, the same results obtained earlier using the indirect method (Exhibit 11-6). Remember both methods give you the same cash flows from operating activities; they are just derived differently, one by identifying the actual cash flows, and the other by a reconciliation of net income to CFO.

## STOP & THINK . . .

Fidelity Company reported the following for 20X7 and 20X6 (in millions):

| At December 31 | 20X7 | 20X6 |
|---|---|---|
| Receivables, net | $3,500 | $3,900 |
| Inventory | 5,200 | 5,000 |
| Accounts payable | 900 | 1,200 |
| Income taxes payable | 600 | 700 |

| Year Ended December 31 | 20X7 |
|---|---|
| Revenues | $23,000 |
| Cost of goods sold | 14,100 |
| Income tax expense | 900 |

Based on these figures, how much cash did:

- Fidelity collect from customers during 20X7?
- Fidelity pay for inventory during 20X7?
- Fidelity pay for income taxes during 20X7?

*Answers*

| | | Beginning Receivables | + | Revenues | − | Collections | = | Ending Receivables |
|---|---|---|---|---|---|---|---|---|
| Collections from customers | = | $3,900 | + | $23,000 | − | | = | $3,500 |

| | | Cost of Goods Sold | + | Increase in Inventory | − | Decrease in Accounts Payable | = |
|---|---|---|---|---|---|---|---|
| Payments for inventory | = | $14,100 | + | ($5,200 – $5,000) | + | ($1,200 – $900) | = |

| | | Beginning Income Taxes Payable | + | Income Tax Expense | − | | = | Ending Income Taxes Payable |
|---|---|---|---|---|---|---|---|---|
| Payment of income taxes | = | $700 | + | $900 | − | | = | $600 |

# Analyzing the Statement of Cash Flows

**OBJECTIVE**

**7 Analyse** cash flows

**Analysts find the statement of cash flows more helpful for spotting weaknesses than for gauging successes**. Why? Because a *shortage* of cash can throw a company into bankruptcy, but lots of cash doesn't ensure success. What do you think of the following statement of cash flows?

**Enix Corporation**
**Statement of Cash Flows**
Year Ended June 30, 20X6

| (In millions) | | |
|---|---|---|
| **Operating activities:** | | |
| Net income | | $ 35,000 |
| Adjustments for non-cash items: | | |
| Depreciation | $ 14,000 | |
| Net increase in current assets other than cash | (24,000) | |
| Net increase in current liabilities | 8,000 | (2,000) |
| Net cash provided by operating activities | | 33,000 |
| **Investing activities:** | | |
| Sale of property, plant and equipment | $ 91,000 | |
| Net cash provided by investing activities | | 91,000 |
| **Financing activities:** | | |
| Borrowing | $ 22,000 | |
| Payment of long-term debt | (90,000) | |
| Purchase of treasury shares | (9,000) | |
| Payment of dividends | (23,000) | |
| Net cash used for financing activities | | (100,000) |
| Increase (decrease) in cash | | $ 24,000 |

Perhaps some of your observations include the following points:

- Enix's operations provide less cash than net income. That's strange. Ordinarily, cash provided by operations exceeds net income because of the add-back of depreciation and amortization. The increases in current assets and current liabilities should cancel out over time. For Enix Corporation, current assets increased far more than current liabilities during the year. This may be harmless, but it may signal difficulty in collecting receivables or selling inventory. Either event will cause trouble.
- The sale of PPE is Enix's major source of cash. This is okay if this is a one-time situation. Enix may be shifting from one line of business to another, and it may be selling off old assets. But if the sale of long-term assets is the major source of cash for several periods, Enix will face a cash shortage. A company can't sell off its PPE forever. Soon it will go out of business.
- The only strength shown by the statement of cash flows is that Enix paid off more long-term debt than it did new borrowing. This will improve the debt ratio and Enix's credit standing.

Here are some cash-flow signs of a healthy company:

- Operations are the major *source* of cash (not a *use* of cash).
- Investing activities include more purchases than sales of long-term assets.
- Financing activities are not dominated by new loans and borrowings.

## Free Cash Flow

Throughout this chapter, we have focused on cash flows from operating, investing, and financing activities. Some investors want to know how much cash a company can "free up" for new opportunities. **Free cash flow** (Fcf) is the amount of cash available from operations after paying for capital expenditures (typically investments in new PPE). Free cash flow can be computed as follows:

| | | | | |
|---|---|---|---|---|
| Free cash flow = | Net cash provided by operating activities | − | Cash payments for investments in PPE | |

Philips uses a slightly modified version of our FCF formula above. It uses "net capital expenditure", as shown in the excerpts below.

**EXCERPTS (ADAPTED) FROM PHILIPS' NOTES TO THE 2011 FINANCIAL STATEMENTS**

. . . Free cash flow, being net cash from operating activities minus net capital expenditures, is presented separately to facilitate the reader's understanding of the Company's funding requirements. Net capital expenditures comprise of purchase of intangible assets, expenditures on development assets, capital expenditures on property, plant and equipment and proceeds from disposals of property, plant and equipment. This measure is widely used by management to calculate free cash flow.

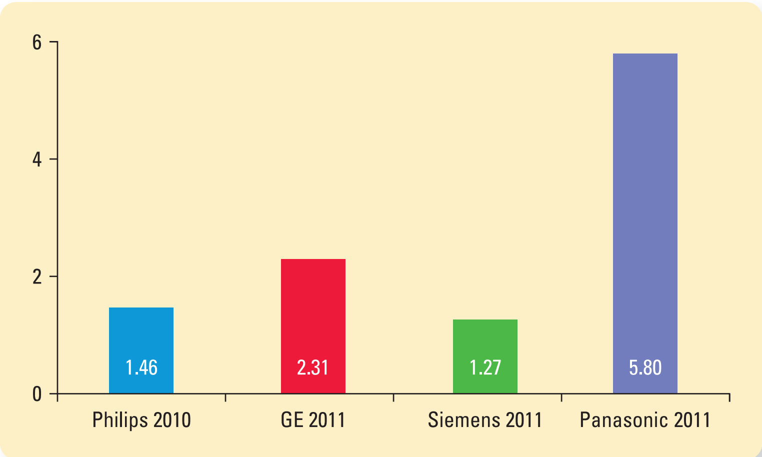
| **Free Cash Flows** (in € millions) | **2011** | **2010** | **2009** |
|---|---|---|---|
| Cash flow from operating activities | 836 | 2,121 | 1,391 |
| Net capital expenditure | (944) | (765) | (628) |
| Free Cash Flows | (108) | 1,356 | 763 |



## Cash Realization Ratio

One cash flow ratio that is becoming more popular is the **cash realization ratio**. This basically measures how much of net profit is reflected in actual cash generated from operations. It can be calculated as a ratio of CFO over net profit. As Philips has a loss in 2011, the cash realization ratio is not meaningful. But a year earlier, Philips' CFO realization ratio for 2010 was €2,121 divided by €1,452 = 1.46 times. A number greater than 1 is considered a good ability to realize cash from profits. Exhibit 11.16 shows how Philips compared to other major players in the industry such as General Electric, Siemens, and Panasonic.

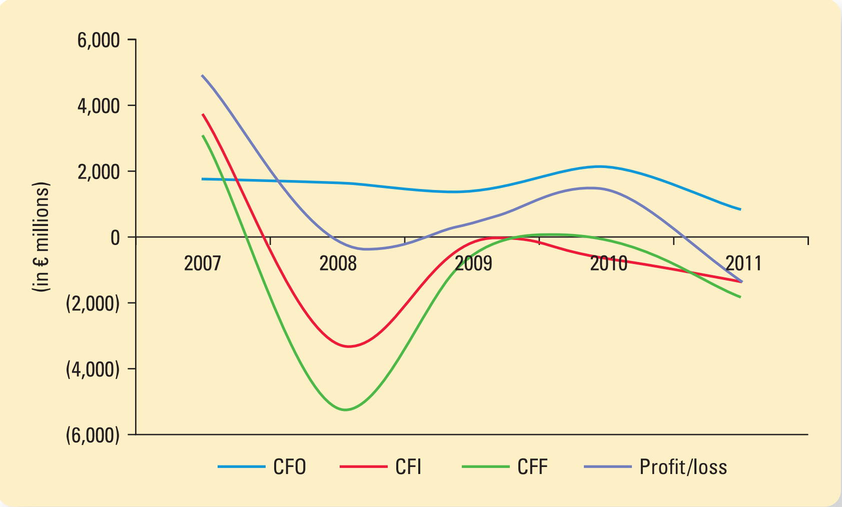
**EXHIBIT 11-16 | Cash Realization Comparisons**



## Examining Cash Flow Patterns

A company's cash flows should be examined over a period of time, not just at the end of one financial year. One simple but insightful cash flow analysis is to simply plot the cash flow patterns over a number of years. Exhibit 11-17 shows Philips' cash flow patterns for the past five years. We have also plotted net profit for the years for comparison.

**EXHIBIT 11-17 | Philip's Cash Flow Patterns 2007–11**




## STOP & THINK . . .

What observations can you make from Philips' cash flow patterns from 2007 to 2011?

***Answers:***

- Philips' CFO has always been positive, even with a significant drop in profit in 2008 and 2011.
- Generally, if a company is investing, its CFI should be negative. Philips must have sold something in 2007 that caused a large positive CFI (upon further investigation it was "proceeds from other non-current financial assets" of over €4 billion). This gave Philips a large cash cushion as it entered into tough market conditions during the global financial crisis.
- Philips seemed to be conserving cash in 2008 and 2009, with CFI and CFF becoming much smaller than previous years.

The Decision Guidelines that follow show some ways to use cash-flow and income data for investment and credit analysis.

# DECISION GUIDELINES

## INVESTORS' AND CREDITORS' USE OF CASH-FLOW AND RELATED INFORMATION

Jan Childres is a private investor. Through years of experience she has devised some guidelines for evaluating both share investments and bond investments. Childres uses a combination of accrual-accounting data and cash-flow information. Here are her decision guidelines for both investors and creditors.

### INVESTORS

| Questions | Factors to Consider | Financial Statement Predictor/Decision Model |
|---|---|---|
| 1. How much in dividends can I expect to receive from an investment in shares? | Expected future net income<br>Expected future cash balance<br>Future dividend policy | Income from continuing operations<br>Net cash flows from CFO, CFI and CFF<br>Current and past dividend policy |
| 2. Is the share price likely to increase or decrease? | Expected future net income<br>Expected future cash flows from operating activities | Income from continuing operations<br>Income from continuing operations<br>Net cash flow from operating activities |
| 3. How much free cash does the company have at its disposal to pursue additional business opportunities? | Cash flows from operations | CFO – Capital expenditure |
| 4. How much cash did the company generate out of its profits? | Cash Realization Ratio | $\frac{\text{CFO}}{\text{Net profit}}$ |

### CREDITORS

| Questions | Factors to Consider | Financial Statement Predictor |
|---|---|---|
| Can the company pay the interest and principal at the maturity of a loan? | Expected future net cash flows from operating activities | Income from continuing operations/<br>Net cash flow from operating activities |

# END-OF-CHAPTER SUMMARY PROBLEM

Adeva Health Foods, Inc., reported the following comparative balance sheet and income statement for 20X7.

**Adeva Health Foods, Inc.**
**Comparative Balance Sheets**
December 31, 20X7 and 20X6

| | 20X7 | 20X6 |
|---|---|---|
| Cash | $ 19,000 | $ 3,000 |
| Accounts receivable | 22,000 | 23,000 |
| Inventories | 34,000 | 31,000 |
| Prepaid expenses | 1,000 | 3,000 |
| Equipment, net | 90,000 | 79,000 |
| Intangible assets | 9,000 | 9,000 |
| | $175,000 | $148,000 |
| Accounts payable | $ 14,000 | $ 9,000 |
| Accrued liabilities | 16,000 | 19,000 |
| Income tax payable | 14,000 | 12,000 |
| Notes payable | 45,000 | 50,000 |
| Share capital | 31,000 | 20,000 |
| Retained earnings | 64,000 | 40,000 |
| Treasury shares | (9,000) | (2,000) |
| | $175,000 | $148,000 |

**Adeva Health Foods, Inc.**
**Income Statement**
Year Ended December 31, 20X7

| | |
|---|---|
| Sales revenue | $190,000 |
| Gain on sale of equipment | 6,000 |
| Total revenue and gains | 196,000 |
| Cost of goods sold | 85,000 |
| Depreciation expense | 19,000 |
| Other operating expenses | 36,000 |
| Total expenses | 140,000 |
| Income before income tax | 56,000 |
| Income tax expense | 18,000 |
| Net income | $ 38,000 |

Assume that **Berkshire Hathaway Inc.** is considering buying Adeva. Berkshire Hathaway requests the following cash-flow data for 20X7. There were no non-cash investing and financing activities.

**a.** Collections from customers
**b.** Cash payments for inventory
**c.** Cash payments for operating expenses

**d.** Cash payment for income tax
**e.** Cash received from the sale of equipment (Adeva paid $40,000 for new equipment during the year.)
**f.** Issuance of shares
**g.** Issuance of notes payable (Adeva paid off $20,000 during the year.)
**h.** Cash dividends (There were no share dividends.)

Provide the requested data. Show your working.

## Answers

**a.** Analyze Accounts Receivable (let X = Collections from customers):

| Beginning | + | Sales | − | Collections | = | Ending |
|---|---|---|---|---|---|---|
| $23,000 | + | $190,000 | − | X | = | $22,000 |
| | | | | X | = | $191,000 |

**b.** Analyze Inventory and Accounts Payable (let X = Purchases, and let Y = Payments for inventory):

| Beginning Inventory | + | Purchases | − | Ending Inventory | = | Cost of Goods Sold |
|---|---|---|---|---|---|---|
| $31,000 | + | X | − | $34,000 | = | $85,000 |
| | | X | | | = | $88,000 |

| Beginning Accounts Payable | + | Purchases | − | Payments | = | Ending Accounts Payable |
|---|---|---|---|---|---|---|
| $9,000 | + | $88,000 | − | Y | = | $14,000 |
| | | | | Y | = | $83,000 |

**c.** Start with Other Operating Expenses, and adjust for the changes in Prepaid Expenses and Accrued Liabilities:

| Other Operating Expenses | − Decrease in Prepaid Expenses | + Decrease in Accrued Liabilities | = | Payments for Operating Expenses |
|---|---|---|---|---|
| $36,000 | − $2,000 | + $3,000 | = | $37,000 |

**d.** Analyze Income Tax Payable (let X = Payment of income tax):

| Beginning | + | Income Tax Expense | − | Payments | = | Ending |
|---|---|---|---|---|---|---|
| $12,000 | + | $18,000 | − | X | = | $14,000 |
| | | | | X | = | $16,000 |

**e.** Analyze Equipment, Net (let X = Book value of equipment sold. Then combine with the gain or loss to compute cash received from the sale.)

| Beginning | + | Acquisitions | − | Depreciation | − | Book Value Sold | = | Ending |
|---|---|---|---|---|---|---|---|---|
| $79,000 | + | $40,000 | − | $19,000 | − | X | = | $90,000 |
| | | | | | | X | = | $10,000 |

| Cash Received from Sale | = | Book Value Sold | + | Gain on Sale |
|---|---|---|---|---|
| $16,000 | = | $10,000 | + | $6,000 |

**f.** Analyze Share Capital (let X = Issuance) of shares

| Beginning | + | Issuance | = | Ending |
|---|---|---|---|---|
| $20,000 | + | X | = | $31,000 |
| | | X | = | $11,000 |

**g.** Analyze Notes Payable (let X = Issuance) of notes payable:

| Beginning | + | Issuance | − | Payment | = | Ending |
|---|---|---|---|---|---|---|
| $50,000 | + | X | − | $20,000 | = | $45,000 |
| | | X | | | = | $15,000 |

**h.** Analyze Retained Earnings (let X = Dividends) payments

| Beginning | + | Net Income | − | Dividends | = | Ending |
|---|---|---|---|---|---|---|
| $40,000 | + | $38,000 | − | X | = | $64,000 |
| | | | | X | = | $14,000 |

# REVIEW STATEMENT OF CASH FLOWS

## Quick Check (Answers are given at the end of the chapter.)

**1.** All of the following activities are reported on the statement of cash flows except
**a.** marketing activities.
**b.** investing activities.
**c.** operating activities.
**d.** financing activities.

**2.** Activities that create long-term liabilities are usually
**a.** financing activities.
**b.** operating activities.
**c.** non-cash investing and financing activities.
**d.** investing activities.

**3.** Activities affecting long-term assets are
**a.** financing activities.
**b.** marketing activities.
**c.** operating activities.
**d.** investing activities.

**4.** In 20X6, PMW Corporation borrowed $110,000, paid dividends of $34,000, issued 10,000 shares for $45 per share, purchased land for $240,000, and received dividends of $10,000. Net income was $150,000, and depreciation for the year totaled $8,000. How much should be reported as net cash provided by operating activities by the indirect method?
**a.** $194,000
**b.** $158,000
**c.** $234,000
**d.** $134,000

**5.** Activities that obtain the cash needed to launch and sustain a company are
**a.** marketing activities.
**b.** income activities.
**c.** investing activities.
**d.** financing activities.

6. The exchange of shares for land would be reported as
   a. Exchanges are not reported on the statement of cash flows.
   b. financing activities.
   c. non-cash investing and financing activities.
   d. investing activities.

**Use the following Montana Company information for questions 7–10.**

| | | | |
|---|---|---|---|
| Net income | $50,000 | Increase in accounts payable | $ 9,000 |
| Depreciation expense | 10,000 | Acquisition of equipment | 35,000 |
| Payment of dividends | 1,000 | Sale of treasury shares | 4,000 |
| Increase in accounts receivable | 8,000 | Payment of long-term debt | 16,000 |
| Collection of long-term notes receivable | 5,000 | Proceeds from sale of land | 40,000 |
| Loss on sale of land | 15,000 | Decrease in inventories | 3,000 |

7. Under the indirect method, net cash provided by operating activities would be
   a. $84,000.
   b. $76,000.
   c. $79,000.
   d. $89,000.
8. Net cash provided by (used for) investing activities would be
   a. $20,000.
   b. $10,000.
   c. $(15,000).
   d. $(10,000).
9. Net cash provided by (used for) financing activities would be
   a. $3,000.
   b. $(13,000).
   c. $(21,000).
   d. $1,000.
10. The cost of land must have been
    a. $40,000.
    b. $55,000.
    c. $25,000.
    d. cannot be determined from the data given.
11. Sweet Treat Ice Cream began the year with $60,000 in accounts receivable and ended the year with $50,000 in accounts receivable. If sales for the year were $700,000, the cash collected from customers during the year amounted to
    a. $690,000.
    b. $760,000.
    c. $750,000.
    d. $710,000.
12. Nassau Farms, Ltd., made sales of $750,000 and had cost of goods sold of $410,000. Inventory decreased by $10,000 and accounts payable decreased by $12,000. Operating expenses were $180,000. How much was Nassau Farms's net income for the year?
    a. $150,000
    b. $160,000
    c. $148,000
    d. $340,000
13. Use the Nassau Farms data from question 12. How much cash did Nassau Farms pay for inventory during the year?
    a. $410,000
    b. $400,000
    c. $422,000
    d. $412,000

## Accounting Vocabulary

**cash equivalents** (p. 674) Highly liquid short-term investments that can be converted into cash immediately.

**cash flows** (p. 673) Cash receipts and cash payments (disbursements).

**cash realization ratio** (p. 702) An entity's ability to generate cash from net or operating profit. Calculated as cash flows from operations divided by net profit.

**direct method** (p. 678) Format of the operating activities section of the statement of cash flows; lists the major categories of operating cash receipts (collections from customers and receipts of interest and dividends) and cash disbursements (payments to suppliers, to employees, for interest and income taxes).

**financing activities** (p. 676) Activities that obtain from investors and creditors the cash needed to launch and sustain the business; a section of the statement of cash flows.

**free cash flow** (p. 702) The amount of cash available from operations after paying for capital expenditures such as investments in PPE.

**indirect method** (p. 678) Format of the operating activities section of the statement of cash flows; starts with net income and reconciles to cash flows from operating activities.

**investing activities** (p. 676) Activities that increase or decrease the long-term assets available to the business; a section of the statement of cash flows.

**operating activities** (p. 675) Activities that create revenue or expense in the entity's major line of business; a section of the statement of cash flows. Operating activities affect the income statement.

**statement of cash flows** (p. 673) Reports cash receipts and cash payments classified according to the entity's major activities: operating, investing, and financing.

# ASSESS YOUR PROGRESS

## Short Exercises

**S11-1** *(Learning Objectives 1, 2, 3: Explaining the purposes of the statement of cash flows)* State how the statement of cash flows helps investors and creditors perform each of the following functions:

**a.** Predict future cash flows.
**b.** Evaluate management decisions.

**S11-2** *(Learning Objectives 1, 2, 3: Explaining the purposes of the statement of cash flows)* Rondeau Ltd. has experienced an unbroken string of nine years of growth in net income. Nevertheless, the company is facing bankruptcy. Creditors are calling all of Rondeau's loans for immediate payment, and the cash is simply not available. It is clear that the company's top managers overemphasized profits and gave too little attention to cash flows.

■ **writing assignment**

*Requirement*

1. Write a brief memo, in your own words, to explain to the managers of Rondeau Ltd the purposes of the statement of cash flows.

**S11-3** ***(Learning Objective 3: Evaluating operating cash flows—indirect method)*** Examine the statement of cash flows of Clock, Inc.

| Clock, Inc.<br>Consolidated Statement of Cash Flows (Adapted; in millions)<br>Year Ended December 31, 20X6 | | |
|---|---|---|
| **Cash Flows from Operating Activities** | | |
| Net income | $ 983 | |
| Adjustment to reconcile net income to net cash provided by operating activities: | | |
| Depreciation and amortization | 278 | |
| Change in assets and liabilities, net of acquired businesses: | | |
| Accounts receivable | (587) | |
| Other current assets | (200) | |
| Accounts payable | (98) | |
| Accrued expenses and other liabilities | (298) | |
| Unearned revenue | 31 | |
| Income taxes payable | (333) | |
| Other, net | 33 | |
| Net cash used in operating activities | | (191) |
| **Cash Flows from Investing Activities** | | |
| Purchase of property and equipment | $ (1,991) | |
| Purchase of investments | (26,603) | |
| Sale of investments | 24,108 | |
| Acquisitions of other companies | (454) | |
| Net cash used in investing activities | | (4,940) |
| **Cash Flows from Financing Activities** | | |
| Proceeds from the issuance of shares, net | $ 1,043 | |
| Other, net | 473 | |
| Net cash provided by financing activities | | 1,516 |
| Other, net | | 22 |
| Net increase (decrease) in cash and cash equivalents | | (3,593) |
| Cash and cash equivalents at beginning of year | | 5,194 |
| Cash and cash equivalents at end of year | | $ 1,601 |

Suppose Clock's operating activities *provided*, rather than *used*, cash. Identify three things under the indirect method that could cause operating cash flows to be positive.

**■ writing assignment**

**S11-4** ***(Learning Objectives 1, 2: Using cash-flow data to evaluate performance)*** Top managers of Tranquility Inns are reviewing company performance for 20X6. The income statement reports a 25% increase in net income over 20X5. However, most of the increase resulted from an exceptional gain from a lawsuit Tranquility Inns has last won against a competitor. The balance sheet shows a large increase in receivables. The cash flows statement, in summarized form, reports the following:

| | |
|---|---|
| Net cash used for operating activities | $(50,000) |
| Net cash provided by investing activities | 30,000 |
| Net cash provided by financing activities | 25,000 |
| Increase in cash during 20X6 | $ 5,000 |

**Requirement**

1. Write a memo giving Tranquility Inns's managers your assessment of 20X6 operations and your outlook for the future. Focus on the information content of the cash flow data.

**S11-5** ***(Learning Objective 3: Reporting cash flows from operating activities—indirect method)*** Beautiful Atlantic Transportation (BAT) began 20X6 with accounts receivable, inventory, and prepaid expenses totaling $58,000. At the end of the year, BAT had a total of $55,000 for these current assets. At the beginning of 20X6, BAT owed current liabilities of $20,000, and at year-end current liabilities totaled $32,000.

Net income for the year was $12,000. Included in net income were a $2,000 loss on the sale of land and a depreciation expense of $8,000.

Show how BAT should report cash flows from operating activities for 20X6. BAT uses the *indirect* method.

**S11-6** ***(Learning Objectives 2, 3: Identifying items for reporting cash flows from operations—indirect method)*** Campbell Clinic, Inc., is preparing its statement of cash flows (*indirect* method) for the year ended March 31, 20X6. Consider the following items in preparing the company's statement of cash flows. Identify each item as an operating activity—addition to net income (O+) or subtraction from net income (O–)—an investing activity (I), a financing activity (F), or an activity that is not used to prepare the cash flows statement by the indirect method (N). Place the appropriate symbol in the blank space.

| | |
|---|---|
| | **a.** Increase in accounts payable |
| | **b.** Purchase of equipment |
| | **c.** Decrease in prepaid expense |
| | **d.** Collection of cash from customers |
| | **e.** Net income |
| | **f.** Retained earnings |
| | **g.** Payment of dividends |
| | **h.** Decrease in accrued liabilities |
| | **i.** Issuance of shares |
| | **j.** Gain on sale of building |
| | **k.** Loss on sale of land |
| | **l.** Depreciation expense |
| | **m.** Increase in inventory |
| | **n.** Decrease in accounts receivable |

**S11-7** ***(Learning Objective 3: Computing operating cash flows—indirect method)*** Ethan Corporation accountants have assembled the following data for the year ended June 30, 20X6.

| | | | |
|---|---|---|---|
| Net income | $ ? | Cost of goods sold | $116,000 |
| Payment of dividends | 5,600 | Other operating expenses | 33,000 |
| Proceeds from the issuance of shares | 26,000 | Purchase of equipment | 43,000 |
| Sales revenue | 228,000 | Increase in current liabilities | 7,000 |
| Decrease in current assets other than cash | 35,000 | Payment of note payable | 32,000 |
| Purchase of treasury shares | 6,000 | Proceeds from sale of land | 29,000 |
| | | Depreciation expense | 11,000 |

Prepare the *operating activities section* of Ethan's statement of cash flows for the year ended June 30, 20X6. Ethan uses the *indirect* method for operating cash flows.

**S11-8** ***(Learning Objectives 3, 4, 5: Preparing a statement of cash flows—indirect method)*** Use the data in Short Exercise 11-7 to prepare Ethan Corporation's statement of cash flows for the year ended June 30, 20X6. Ethan uses the *indirect* method for operating activities.

**S11-9** ***(Learning Objective 4: Computing investing cash flows)*** Motorsports of Munich reported the following financial statements for 20X6:

**Motorsports of Miami, Inc.**
**Income Statement**
Year Ended December 31, 20X6

| (In thousands) | |
|---|---|
| Service revenue | $770 |
| Cost of goods sold | 330 |
| Salary expense | 40 |
| Depreciation expense | 30 |
| Other expenses | 170 |
| Total expenses | 570 |
| Net income | $200 |

**Motorsports of Munich**
**Comparative Balance Sheets**
December 31, 20X6 and 20X5

(In thousands)

| **Assets** | **20X6** | **20X5** | **Liabilities** | **20X6** | **20X5** |
|---|---|---|---|---|---|
| Current: | | | Current: | | |
| Cash | $ 28 | $ 11 | Accounts payable | $ 48 | $ 43 |
| Accounts receivable | 54 | 43 | Salary payable | 26 | 24 |
| Inventory | 77 | 89 | Accrued liabilities | 16 | 19 |
| Prepaid expenses | 6 | 5 | Long-term notes payable | 69 | 54 |
| Long-term investments | 54 | 79 | | | |
| PPE, net | 229 | 188 | **Shareholders' Equity** | | |
| | | | Share capital | 48 | 38 |
| | | | Retained earnings | 241 | 237 |
| Total | $448 | $415 | Total | $448 | $415 |

Compute the following investing cash flows (enter all amounts in thousands):

**a.** Acquisitions of PPE (all were for cash). Motorsports of Munich sold no PPE.
**b.** Proceeds from the sale of investments. Motorsports of Munich purchased no investments.

**S11-10** ***(Learning Objective 5: Computing financing cash flows)*** Use the Motorsports of Munich data in Short Exercise 11-9 to compute the following (enter all amounts in thousands):

**a.** New borrowing or payment of long-term notes payable. Motorsports of Munich had only one long-term note payable transaction during the year.
**b.** Issuance of share capital or retirement of shares. Motorsports of Munich had only one share capital transaction during the year.
**c.** Payment of cash dividends (same as dividends declared).

**S11-11** ***(Learning Objective 6: Computing operating cash flows—direct method)*** Use the Motorsports of Munich data in Short Exercise 11-9 to compute the following (enter all amounts in thousands):

**a.** Collections from customers
**b.** Payments for inventory

**S11-12** ***(Learning Objective 6: Computing operating cash flows—direct method)*** Use the Motorsports of Munich data in Short Exercise 11-9 to compute the following (enter all amounts in thousands):

**a.** Payments to employees
**b.** Payments of other expenses

**S11-13** ***(Learning Objectives 4, 5, 6, 7: Preparing and analyzing a statement of cash flows—direct method)*** Horse Heaven Farm began 20X6 with cash of $170,000. During the year, Horse Heaven earned service revenue of $590,000 and collected $480,000 from customers. Expenses for the year totaled $320,000, with $310,000 paid in cash to suppliers and employees. Horse Heaven also paid $136,000 to purchase equipment and a cash dividend of $49,000 to shareholders. During 20X6, Horse Heaven borrowed $26,000 by issuing a note payable. Prepare the company's statement of cash flows for the year. Format operating activities by the *direct* method. Calculate Horse's free cash flow and cash realization ratio.

**S11-14** ***(Learning Objective 6: Computing operating cash flows—direct method)*** Middleton Golf Club has assembled the following data for the year ended September 30, 20X6:

| | | | |
|---|---|---|---|
| Cost of goods sold | $104,000 | Payment of dividends | $ 8,000 |
| Payments to suppliers | 90,000 | Proceeds from issuance | |
| Purchase of equipment | 42,000 | of shares | 16,000 |
| Payments to employees | 75,000 | Sales revenue | 211,000 |
| Payment of note payable | 15,000 | Collections from customers | 203,000 |
| Proceeds from sale of land | 61,000 | Payment of income tax | 14,000 |
| Depreciation expense | 6,000 | Purchase of treasury shares | 5,700 |

Prepare the *operating activities section* of Middleton Golf Club's statement of cash flows for the year ended September 30, 20X6. Middleton uses the *direct* method for operating cash flows.

**S11-15** ***(Learning Objectives 4, 5, 6, 7: Preparing and analyzing a statement of cash flows—direct method)*** Use the data in Short Exercise 11-14 to prepare Middleton Golf Club's statement of cash flows for the year ended September 30, 20X6. Middleton uses the *direct* method for operating activities. Calculate Middleton's free cash flow and cash realization ratio.

## Exercises

All of the A and B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

MyAccountingLab

### (Group A)

**E11-16A** ***(Learning Objectives 2, 3: Identifying activities for the statement of cash flows—indirect method)*** Tucker-Breen Investments specializes in low-risk government bonds. Identify each of Tucker-Breen's transactions as operating (O), investing (I), financing (F), non-cash investing and financing (NIF), or a transaction that is not reported on the statement of cash flows (N). Indicate whether each item increases (+) or decreases (–) cash. The *indirect* method is used for operating activities.

| | |
|---|---|
| | **a.** Sale of long-term investment |
| | **b.** Issuance of long-term note payable to borrow cash |
| | **c.** Increase in prepaid expenses |
| | **d.** Payment of cash dividend |
| | **e.** Loss of sale of equipment |
| | **f.** Decrease in merchandise inventory |
| | **g.** Acquisition of equipment by issuance of note payable |
| | **h.** Increase in accounts payable |
| | **i.** Amortization of intangible assets |
| | **j.** Net income |
| | **k.** Payment of long-term debt |
| | **l.** Accrual of salary expense |
| | **m.** Cash sale of land |
| | **n.** Purchase of long-term investment |
| | **o.** Acquisition of building by cash payment |
| | **p.** Purchase of treasury shares |
| | **q.** Issuance of shares for cash |
| | **r.** Decrease in accrued liabilities |
| | **s.** Depreciation of equipment |

**E11-17A** ***(Learning Objectives 2, 3: Classifying transactions for the statement of cash flows—indirect method)*** Indicate whether each of the following transactions records an operating activity, an investing activity, a financing activity, or a non-cash investing and financing activity.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a. | Depreciation Expense | 11,000 | | h. | Cash | 50,000 | |
| | Accumulated Depreciation | | 11,000 | | Accounts Receivable | 9,000 | |
| b. | Treasury Shares | 7,800 | | | Service Revenue | | 59,000 |
| | Cash | | 7,800 | i. | Bonds Payable | 47,000 | |
| c. | Land | 83,000 | | | Cash | | 47,000 |
| | Cash | | 83,000 | j. | Cash | 74,000 | |
| d. | Equipment | 19,000 | | | Share Capital | | 11,000 |
| | Cash | | 19,000 | | Capital in Excess of Par | | 63,000 |
| e. | Salary Expense | 24,000 | | k. | Dividends Payable | 17,100 | |
| | Cash | | 24,000 | | Cash | | 17,100 |
| f. | Furniture and Fixtures | 24,200 | | l. | Loss on Disposal of Equipment | 1,200 | |
| | Cash | | 24,200 | | Equipment, Net | | 1,200 |
| g. | Building | 159,000 | | m. | Cash | 6,900 | |
| | Note Payable, Long-Term | | 159,000 | | Long-Term Investment | | 6,900 |

■ **writing assignment**

**E11-18A** ***(Learning Objective 3: Computing cash flows from operating activities—indirect method)*** The accounting records of North East Distributors, Inc., reveal the following:

| | | | |
|---|---|---|---|
| Net income | $38,000 | Depreciation | $17,000 |
| Collection of dividend revenue | 7,800 | Decrease in current liabilities | 19,000 |
| Payment of interest | 11,000 | Increase in current assets | |
| Sales revenue | 13,000 | other than cash | 24,000 |
| Loss on sale of land | 22,000 | Payment of dividends | 7,800 |
| Acquisition of land | 42,000 | Payment of income tax | 15,000 |

## Requirement

1. Compute cash flows from operating activities by the *indirect* method. Use the format of the operating activities section of Exhibit 11-6. Also evaluate the operating cash flow of North East Distributors. Give the reason for your evaluation.

**E11-19A** ***(Learning Objective 3: Computing cash flows from operating activities—indirect method)*** The accounting records of Wilderness Fruit Traders include these accounts:

| Cash | | | |
|---|---|---|---|
| May 1 | 90,000 | | |
| Receipts | 440,000 | Payments | 445,000 |
| May 31 | 85,000 | | |

| Accounts Receivable | | | |
|---|---|---|---|
| May 1 | 1,000 | | |
| Receipts | 540,000 | Collections | 440,000 |
| May 31 | 101,000 | | |

| Inventory | | | |
|---|---|---|---|
| May 1 | 3,000 | | |
| Purchases | 438,000 | Cost of sales | 336,000 |
| May 31 | 105,000 | | |

| Equipment | | | |
|---|---|---|---|
| May 1 | 185,000 | | |
| Acquisition | 5,000 | | |
| May 31 | 190,000 | | |

| Accumulated Deprec.—Equipment | | | |
|---|---|---|---|
| | | May 1 | 55,000 |
| | | Depreciation | 5,000 |
| | | May 31 | 60,000 |

| Accounts Payable | | | |
|---|---|---|---|
| | | May 1 | 14,500 |
| Payments | 327,000 | Purchases | 438,000 |
| | | May 31 | 125,500 |

| Accrued Liabilities | | | |
|---|---|---|---|
| | | May 1 | 19,000 |
| Payments | 32,000 | Receipts | 26,000 |
| | | May 31 | 13,000 |

| Retained Earnings | | | |
|---|---|---|---|
| Quarterly | | May 1 | 63,000 |
| Dividend | 16,000 | Net Income | 20,000 |
| | | May 31 | 67,000 |

## Requirement

1. Compute Wilderness net cash provided by (used for) operating activities during May. Use the *indirect* method. Does Wilderness have trouble collecting receivables or selling inventory? How can you tell?

**E11-20A** ***(Learning Objective 3, 4, 5, 7: Preparing and analyzing the statement of cash flows—indirect method)*** The income statement and additional data of Newbury Travel Products, Inc., follow:

■ **writing assignment**

**Newbury Travel Products, Inc.**
**Income Statement**
Year Ended December 31, 20X6

| | | |
|---|---|---|
| **Revenues:** | | |
| Service revenue | $283,000 | |
| Dividend revenue | 8,000 | $291,000 |
| **Expenses:** | | |
| Cost of goods sold | 103,000 | |
| Salary expense | 78,000 | |
| Depreciation expense | 26,000 | |
| Advertising expense | 4,500 | |
| Interest expense | 2,600 | |
| Income tax expense | 8,000 | 222,100 |
| Net income | | $ 68,900 |

Additional data:

**a.** Acquisition of PPE was \$212,000. Of this amount, \$160,000 was paid in cash and \$52,000 by signing a note payable.
**b.** Proceeds from sale of land totaled \$27,000.
**c.** Proceeds from issuance of shares totaled \$80,000.
**d.** Payment of long-term note payable was \$17,000.
**e.** Payment of dividends was \$13,000.
**f.** From the balance sheets:

| | December 31 20X6 | December 31 20X5 |
|---|---|---|
| **Current Assets:** | | |
| Cash | \$30,000 | \$10,800 |
| Accounts receivable | 42,000 | 59,000 |
| Inventory | 30,000 | 91,000 |
| Prepaid expenses | 9,400 | 8,700 |
| **Current Liabilities:** | | |
| Accounts payable | \$38,000 | \$27,000 |
| Accrued liabilities | 18,000 | 99,000 |

## *Requirements*

1. Prepare Newbury's statement of cash flows for the year ended December 31, 20X6, using the *indirect* method.
2. Evaluate Newbury's cash flows for the year, including its free cash flow and cash realization ratio. In your evaluation, review all three categories of cash flows and give the reason for your evaluation.

**E11-21A** ***(Learning Objective 3, 4, 5: Interpreting a statement of cash flows—indirect method)*** Donald is reviewing his nephews' cash flows. Huey, Dewey and Louie all report the same income number (\$20,000) and bought the same equipment (\$83,000) during the year. Explain how Huey, Dewey and Louie fund their respective PPE purchase. Whose cash flow would you rate as the best? The worst?

| | Huey | Dewey | Louie |
|---|---|---|---|
| Cash flows from operating activities | | | |
| Net income | \$ 20,000 | \$ 20,000 | \$ 20,000 |
| Depreciation and amortization | 9,000 | 9,000 | 9,000 |
| Increase in current assets | (22,000) | (2,000) | (11,000) |
| Decrease in current liabilities | (10,000) | (4,000) | (1,000) |
| | (3,000) | 23,000 | 17,000 |
| Cash flows from investing activities: | | | |
| Acquisition of PPE | (83,000) | (83,000) | (83,000) |
| Sales of PPE | 9,000 | 37,000 | 90,000 |
| | (74,000) | (46,000) | 7,000 |
| Cash flows from financing activities: | | | |
| Issuance of shares | 97,000 | 62,000 | 15,000 |
| Payment of debt | (22,000) | (38,000) | (23,000) |
| | 75,000 | 24,000 | (8,000) |
| Net increase (decrease) in cash | \$ (2,000) | \$ 1,000 | \$ 16,000 |

**E11-22A** ***(Learning Objectives 4, 5: Computing investing and financing amounts for the statement of cash flows)*** Compute the following items for the statement of cash flows:

**a.** Beginning and ending PPE, Net, are $110,000 and $106,000, respectively. Depreciation for the period was $9,000, and purchases of new PPE were $33,000. PPE were sold at a $4,000 loss. What were the cash proceeds of the sale?

**b.** Beginning and ending Retained Earnings are $49,000 and $74,000, respectively. Net income for the period was $58,000, and dividends were $7,000. How much were cash dividends?

**E11-23A** ***(Learning Objective 6: Computing cash flows from operating activities—direct method)*** The accounting records of Princeton Pharmaceuticals, Inc., reveal the following:

writing assignment

| | | | |
|---|---|---|---|
| Payment of salaries and wages | $35,000 | Net income | $60,000 |
| Depreciation | 20,000 | Payment of income tax | 24,000 |
| Decrease in current liabilities | 22,000 | Collection of dividend revenue | 10,000 |
| Increase in current assets other than cash | 23,000 | Payment of interest | 17,000 |
| Payment of dividends | 7,000 | Cash sales | 33,000 |
| Collection of accounts receivable | 50,000 | Loss on sale of land | 6,000 |
| | | Acquisition of land | 38,000 |
| | | Payment of accounts payable | 58,000 |

### *Requirement*

1. Compute cash flows from operating activities by the *direct* method. Also evaluate Princeton's operating cash flow. Give the reason for your evaluation.

**E11-24A** ***(Learning Objective 4, 5, 6: Identifying items for the statement of cash flows—direct method)*** Selected accounts of Ashley Antiques show the following:

**Salary Payable**

| | | | |
|---|---|---|---|
| | | Beginning balance | 10,000 |
| Payments | 30,000 | Salary expense | 28,000 |
| | | Ending balance | 8,000 |

**Buildings**

| | | | |
|---|---|---|---|
| Beginning balance | 80,000 | Depreciation | 20,000 |
| Acquisitions | 120,000 | Book value of building sold | 119,000* |
| Ending balance | 61,000 | | |

*Sale price was 150,000.

**Notes Payable**

| | | | |
|---|---|---|---|
| | | Beginning balance | 234,000 |
| Payments | 67,000 | Issuance of note payable for cash | 74,000 |
| | | Ending balance | 241,000 |

### *Requirement*

1. For each account, identify the item or items that should appear on a statement of cash flows prepared by the *direct* method. State where to report the item.

**writing assignment**

**E11-25A** ***(Learning Objective 4, 5, 6, 7: Preparing and analyzing the statement of cash flows—direct method)*** The income statement and additional data of Cobbs Hill, Inc., follow:

**Cobbs Hill, Inc.**
**Income Statement**
Year Ended April 30, 20X6

| | | |
|---|---|---|
| **Revenues:** | | |
| Sales revenue | $232,000 | |
| Dividend revenue | 11,000 | $243,000 |
| **Expenses:** | | |
| Cost of goods sold | 108,000 | |
| Salary expense | 46,000 | |
| Depreciation expense | 31,000 | |
| Advertising expense | 11,500 | |
| Interest expense | 2,100 | |
| Income tax expense | 9,000 | 207,600 |
| Net income | | $ 35,400 |

Additional data:

- **a.** Collections from customers are $13,000 more than sales.
- **b.** Payments to suppliers are $1,300 less than the sum of cost of goods sold plus advertising expense.
- **c.** Payments to employees are $2,000 more than salary expense.
- **d.** Dividend income, interest expense, and income tax expense equal their cash amounts.
- **e.** Acquisition of PPE is $143,000. Of this amount, $100,000 is paid in cash and $43,000 by signing a note payable.
- **f.** Proceeds from sale of land total $28,000.
- **g.** Proceeds from issuance of shares total $93,000.
- **h.** Payment of long-term note payable is $17,000.
- **i.** Payment of dividends is $8,500.
- **j.** Cash balance, April 30, 20X5, was $21,000.

### *Requirements*

1. Prepare Cobbs Hill, Inc.'s statement of cash flows and accompanying schedule of non-cash investing and financing activities. Report operating activities by the *direct* method.
2. Evaluate Cobbs Hill's cash flows for the year, including its free cash flow and cash realization ratio. In your evaluation, review all three categories of cash flows and give the reason for your evaluation.

**E11-26A** ***(Learning Objective 4, 5, 6: Computing amounts for the statement of cash flows—direct method)*** Compute the following items for the statement of cash flows:

- **a.** Beginning and ending Accounts Receivable are $25,000 and $20,000, respectively. Credit sales for the period total $62,000. How much are cash collections from customers?
- **b.** Cost of goods sold is $79,000. Beginning Inventory was $26,000, and ending Inventory balance is $29,000. Beginning and ending Accounts Payable are $11,000 and $9,000, respectively. How much are cash payments for inventory?

## (Group B)

**E11-27B** ***(Learning Objectives 2, 3: Identifying activities for the statement of cash flows—indirect method)*** Burke-Cassidy Investments specializes in low-risk government bonds. Identify each of Burke-Cassidy's transactions as operating (O), investing (I), financing (F), non-cash investing and financing (NIF), or a transaction that is not reported on the statement of cash flows (N). Indicate whether each item increases (+) or decreases (–) cash. The *indirect* method is used for operating activities.

| | |
|---|---|
| | **a.** Acquisition of building by cash payment |
| | **b.** Decrease in merchandise inventory |
| | **c.** Depreciation of equipment |
| | **d.** Decrease in accrued liabilities |
| | **e.** Payment of cash dividend |
| | **f.** Purchase of long-term investment |
| | **g.** Issuance of long-term note payable to borrow cash |
| | **h.** Increase in prepaid expenses |
| | **i.** Accrual of salary expense |
| | **j.** Acquisition of equipment by issuance of note payable |
| | **k.** Sale of long-term investment |
| | **l.** Issuance of shares for cash |
| | **m.** Increase in accounts payable |
| | **n.** Amortization of intangible assets |
| | **o.** Loss of sale of equipment |
| | **p.** Payment of long-term debt |
| | **q.** Cash sale of land |
| | **r.** Purchase of treasury shares |
| | **s.** Net income |

**E11-28B** ***(Learning Objectives 2, 3: Classifying transactions for the statement of cash flows—indirect method)*** Indicate whether each of the following transactions records an operating activity, an investing activity, a financing activity, or a non-cash investing and financing activity.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| a. | Cash | 85,000 | | g. | Equipment | 15,600 | |
| | Share Capital | | 14,000 | | Cash | | 15,600 |
| | Capital in Excess of Par | | 71,000 | h. | Dividends Payable | 18,200 | |
| b. | Furniture and Fixtures | 25,600 | | | Cash | | 18,200 |
| | Cash | | 25,600 | i. | Salary Expense | 19,400 | |
| c. | Cash | 72,000 | | | Cash | | 19,400 |
| | Accounts Receivable | 15,000 | | j. | Building | 146,000 | |
| | Service Revenue | | 87,000 | | Note Payable—Long-Term | | 146,000 |
| d. | Cash | 9,100 | | k. | Dividends Payable | 17,100 | |
| | Long-Term Investment | | 9,100 | | Cash | | 17,100 |
| e. | Loss on Disposal of Equipment | 1,500 | | l. | Depreciation Expense | 7,000 | |
| | Equipment, Net | | 1,500 | | Accumulated Depreciation | | 7,000 |
| f. | Land | 20,300 | | m. | Bonds Payable | 49,000 | |
| | Cash | | 20,300 | | Cash | | 49,000 |

■ writing assignment

**E11-29B** ***(Learning Objective 3: Computing cash flows from operating activities—indirect method)*** The accounting records of Central Distributors, Inc., reveal the following:

| | | | |
|---|---|---|---|
| Net income | €40,000 | Depreciation | €15,000 |
| Collection of dividend revenue | 6,900 | Increase in current liabilities | 23,000 |
| Payment of interest | 14,000 | Decrease in current assets other than cash | 28,000 |
| Sales revenue | 12,000 | Payment of dividends | 7,200 |
| Loss on sale of land | 19,000 | Payment of income tax | 12,000 |
| Acquisition of land | 43,000 | | |

***Requirement***

1. Compute cash flows from operating activities by the *indirect* method. Use the format of the operating activities section of Exhibit 11-6. Also evaluate the operating cash flow of Central Distributors. Give the reason for your evaluation.

**E11-30B** ***(Learning Objective 3: Computing cash flows from operating activities—indirect method)*** The accounting records of Lawrence Fruit Traders include these accounts:

**Cash**

| | | | |
|---|---|---|---|
| Oct 1 | 11,000 | | |
| Receipts | 537,000 | Payments | 446,000 |
| Oct 31 | 102,000 | | |

**Accounts Receivable**

| | | | |
|---|---|---|---|
| Oct 1 | 8,000 | | |
| Receipts | 538,000 | Collections | 537,000 |
| Oct 31 | 9,000 | | |

**Inventory**

| | | | |
|---|---|---|---|
| Oct 1 | 4,000 | | |
| Purchases | 437,000 | Cost of sales | 434,000 |
| Oct 31 | 7,000 | | |

**Equipment**

| | | | |
|---|---|---|---|
| Oct 1 | 188,000 | | |
| Acquisition | 7,000 | | |
| Oct 31 | 195,000 | | |

**Accumulated Deprec.—Equipment**

| | | | |
|---|---|---|---|
| | | Oct 1 | 52,000 |
| | | Depreciation | 9,000 |
| | | Oct 31 | 61,000 |

**Accounts Payable**

| | | | |
|---|---|---|---|
| | | Oct 1 | 14,000 |
| Payments | 328,000 | Purchases | 437,000 |
| | | Oct 31 | 123,000 |

**Accrued Liabilities**

| | | | |
|---|---|---|---|
| | | Oct 1 | 12,000 |
| Payments | 28,000 | Receipts | 22,000 |
| | | Oct 31 | 6,000 |

**Retained Earnings**

| | | | |
|---|---|---|---|
| Quarterly | | Oct 1 | 66,000 |
| Dividend | 18,000 | Net Income | 35,000 |
| | | Oct 31 | 83,000 |

***Requirement***

1. Compute Lawrence's net cash provided by (used for) operating activities during October. Use the *indirect* method. Does Lawrence have trouble collecting receivables or selling inventory? How can you tell?

■ writing assignment

**E11-31B** *(Learning Objectives 3, 4, 5, 7: Preparing and analyzing the statement of cash flows—indirect method)* The income statement and additional data of Norton Travel Products, Inc., follow:

**Norton Travel Products, Inc.**
**Income Statement**
Year Ended December 31, 20X6

| | | |
|---|---|---|
| **Revenues:** | | |
| Service revenue | €235,000 | |
| Dividend revenue | 8,300 | €243,300 |
| **Expenses:** | | |
| Cost of goods sold | 102,000 | |
| Salary expense | 62,000 | |
| Depreciation expense | 33,000 | |
| Advertising expense | 4,300 | |
| Interest expense | 2,400 | |
| Income tax expense | 7,000 | 210,700 |
| Net income | | € 32,600 |

Additional data:

**a.** Acquisition of PPE was €170,000. Of this amount, €140,000 was paid in cash and €30,000 by signing a note payable.
**b.** Proceeds from sale of land totaled €48,000.
**c.** Proceeds from issuance of shares totaled €31,000.
**d.** Payment of long-term note payable was €16,000.
**e.** Payment of dividends was €10,000.
**f.** From the balance sheets:

| | December 31 | |
|---|---|---|
| | **20X6** | **20X5** |
| **Current Assets:** | | |
| Cash | €32,000 | €13,300 |
| Accounts receivable | 41,000 | 57,000 |
| Inventory | 48,000 | 87,000 |
| Prepaid expenses | 9,100 | 8,200 |
| **Current Liabilities:** | | |
| Accounts payable | €32,000 | €17,000 |
| Accrued liabilities | 14,000 | 43,000 |

## *Requirements*

1. Prepare Norton's statement of cash flows for the year ended December 31, 20X6, using the *indirect* method.
2. Evaluate Norton's cash flows for the year, including its free cash flow and cash realization ratio. In your evaluation, review all three categories of cash flows and give the reason for your evaluation.

**E11-32B** ***(Learning Objectives 3, 4, 5: Interpreting a statement of cash flows—indirect method)*** Daisy is reviewing her nieces' cash flows. April, May and June all report the same income number (€10,000) and bought the same equipment (€99,000) during the year. Explain how April, May and June fund their respective PPE purchase. Whose cash flow would you rate as the best? The worst?

| | April | May | June |
|---|---|---|---|
| Cash flows from operating activities | | | |
| Net income | € 10,000 | € 10,000 | € 10,000 |
| Depreciation and amortization | 12,000 | 12,000 | 12,000 |
| Increase in current assets | 1,000 | (5,000) | 2,000 |
| Decrease in current liabilities | 2,000 | (19,000) | 3,000 |
| | 25,000 | (2,000) | 27,000 |
| Cash flows from investing activities: | | | |
| Acquisition of PPE | (99,000) | (99,000) | (99,000) |
| Sales of PPE | 104,000 | 20,000 | 33,000 |
| | 5,000 | (79,000) | (66,000) |
| Cash flows from financing activities: | | | |
| Issuance of shares | 18,000 | 105,000 | 73,000 |
| Payment of debt | (27,000) | (20,000) | (32,000) |
| | (9,000) | 85,000 | 41,000 |
| Net increase (decrease) in cash | € 21,000 | € 4,000 | € 2,000 |

**E11-33B** ***(Learning Objectives 4, 5: Computing investing and financing amounts for the statement of cash flows)*** Compute the following items for the statement of cash flows:

**a.** Beginning and ending PPE, Net, are €102,000 and €97,000, respectively. Depreciation for the period was €12,000, and purchases of new PPE were €30,000. PPE were sold at a €5,000 gain. What were the cash proceeds of the sale?

**b.** Beginning and ending Retained Earnings are €46,000 and €70,000, respectively. Net income for the period was €48,000, and dividends were €11,000. How much were cash dividends?

■ **writing assignment**

**E11-34B** ***(Learning Objective 6: Computing cash flows from operating activities—direct method)*** The accounting records of One Stop Pharmaceuticals, Inc., reveal the following:

| | | | |
|---|---|---|---|
| Payment of salaries and wages | €40,000 | Net income | €20,000 |
| Depreciation | 25,000 | Payment of income tax | 8,000 |
| Increase in current liabilities | 27,000 | Collection of dividend revenue | 7,000 |
| Increase in current assets other than cash | 28,000 | Payment of interest | 13,000 |
| Payment of dividends | 6,000 | Cash sales | 36,000 |
| Collection of accounts receivable | 80,000 | Gain on sale of land | 2,000 |
| | | Acquisition of land | 35,000 |
| | | Payment of accounts payable | 51,000 |

### *Requirement*

1. Compute cash flows from operating activities by the *direct* method. Also evaluate One Stop's operating cash flow. Give the reason for your evaluation.

**E11-35B** ***(Learning Objectives 4, 5, 6: Identifying items for the statement of cash flows—direct method)*** Selected accounts of Elizabeth Antiques show the following:

**Salary Payable**

| | | | |
|---|---|---|---|
| | | Beginning balance | 14,000 |
| Payments | 20,000 | Salary expense | 42,000 |
| | | Ending balance | 36,000 |

**Buildings**

| | | | |
|---|---|---|---|
| Beginning balance | 100,000 | Depreciation | 22,000 |
| Acquisitions | 155,000 | Book value of building sold | 117,000* |
| Ending balance | 116,000 | | |

*Sale price was 160,000.

**Notes Payable**

| | | | |
|---|---|---|---|
| | | Beginning balance | 244,000 |
| Payments | 72,000 | Issuance of note payable for cash | 90,000 |
| | | Ending balance | 262,000 |

### *Requirement*

1. For each account, identify the item or items that should appear on a statement of cash flows prepared by the *direct* method. State where to report the item.

**E11-36B** ***(Learning Objectives 4, 5, 6, 7: Preparing and analyzing the statement of cash flows—direct method)*** The income statement and additional data of Happy Life, Inc., follow:

**Happy Life, Inc.**
**Income Statement**
Year Ended November 30, 20X6

| | | |
|---|---|---|
| **Revenues:** | | |
| Sales revenue | €223,000 | |
| Dividend revenue | 10,500 | €233,500 |
| **Expenses:** | | |
| Cost of goods sold | 102,000 | |
| Salary expense | 42,000 | |
| Depreciation expense | 19,000 | |
| Advertising expense | 14,000 | |
| Interest expense | 4,500 | |
| Income tax expense | 8,000 | 189,500 |
| Net income | | € 44,000 |

Additional data:

a. Collections from customers are €16,500 more than sales.
b. Payments to suppliers are €1,200 more than the sum of cost of goods sold plus advertising expense.
c. Payments to employees are €1,700 less than salary expense.
d. Dividend income, interest expense, and income tax expense equal their cash amounts.

- **e.** Acquisition of PPE is €154,000. Of this amount, €108,000 is paid in cash and €46,000 by signing a note payable.
- **f.** Proceeds from sale of land total €21,000.
- **g.** Proceeds from issuance of shares total €86,000.
- **h.** Payment of long-term note payable is €13,000.
- **i.** Payment of dividends is €9,000.
- **j.** Cash balance, November 30, 20X5, was €23,000.

### *Requirements*

1. Prepare Happy Life, Inc.'s statement of cash flows and accompanying schedule of non-cash investing and financing activities. Report operating activities by the *direct* method.
2. Evaluate Happy Life's cash flows for the year, including its free cash flow and cash realization ratio. In your evaluation, review all three categories of cash flows and give the reason for your evaluation.

**E11-37B** ***(Learning Objectives 4, 5, 6: Computing amounts for the statement of cash flows—direct method)*** Compute the following items for the statement of cash flows:

- **a.** Beginning and ending Accounts Receivable are €20,000 and €17,000, respectively. Credit sales for the period total €61,000. How much are cash collections from customers?
- **b.** Cost of goods sold is €79,000. Beginning Inventory balance is €28,000, and ending Inventory balance is €24,000. Beginning and ending Accounts Payable are €12,000 and €13,000, respectively. How much are cash payments for inventory?

## Challenge Exercises

**E11-38** ***(Learning Objectives 3, 6: Computing cash-flow amounts)*** Tip Top, Inc., reported the following in its financial statements for the year ended May 30, 20X6 (in thousands):

| | 20X6 | 20X5 |
|---|---|---|
| **Income Statement** | | |
| Net sales | $23,984 | $21,674 |
| Cost of sales | 18,026 | 15,432 |
| Depreciation | 266 | 227 |
| Other operating expenses | 3,875 | 4,254 |
| Income tax expense | 536 | 488 |
| Net income | $ 1,281 | $ 1,273 |
| **Balance Sheet** | | |
| Cash and equivalents | $ 16 | $ 15 |
| Accounts receivable | 603 | 614 |
| Inventory | 3,140 | 2,872 |
| Property and equipment, net | 4,346 | 3,436 |
| Accounts payable | 1,551 | 1,371 |
| Accrued liabilities | 935 | 632 |
| Income tax payable | 197 | 193 |
| Long-term liabilities | 480 | 468 |
| Share capital | 515 | 445 |
| Retained earnings | 4,427 | 3,828 |

### Requirement

1. Determine the following cash receipts and payments for Tip Top, Inc., during 20X6: (Enter all amounts in thousands.)
   a. Collections from customers
   b. Payments for inventory
   c. Payments for other operating expenses
   d. Payment of income tax
   e. Proceeds from issuance of shares
   f. Payment of cash dividends

**E11-39** ***(Learning Objective 3: Using the balance sheet and the statement of cash flows together)*** Delorme Specialties reported the following at December 31, 20X6 (in thousands):

| | 20X6 | 20X5 |
|---|---|---|
| From the comparative balance sheet: | | |
| Property and equipment, net | €10,950 | €9,630 |
| Long-term notes payable | 4,500 | 3,040 |
| From the statement of cash flows: | | |
| Depreciation | € 1,950 | |
| Capital expenditures | (4,090) | |
| Proceeds from sale of property and equipment | 740 | |
| Proceeds from issuance of long-term note payable | 1,250 | |
| Payment of long-term note payable | (80) | |
| Issuance of shares | 389 | |

### Requirement

1. Determine the following items for Delorme Specialties during 20X6:
   a. Gain or loss on the sale of property and equipment
   b. Amount of long-term debt issued for something other than cash

## Quiz

*Test your understanding of the statement of cash flows by answering the following questions. Select the best choice from among the possible answers given.*

**Q11-40** Paying off bonds payable is reported on the statement of cash flows under
a. non-cash investing and financing activities.
b. investing activities.
c. operating activities.
d. financing activities.

**Q11-41** The sale of inventory for cash is reported on the statement of cash flows under
a. financing activities.
b. non-cash investing and financing activities.
c. investing activities.
d. operating activities.

**Q11-42** Selling equipment is reported on the statement of cash flows under
a. financing activities.
b. investing activities.
c. non-cash investing and financing activities.
d. operating activities.

**Q11-43** Which of the following terms appears on a statement of cash flows—indirect method?
a. Cash receipt of interest revenue
b. Collections from customers
c. Depreciation expense
d. Payments to suppliers

**Q11-44** On an indirect method statement of cash flows, an increase in a prepaid insurance would be

**a.** added to increases in current assets.
**b.** included in payments to suppliers.
**c.** deducted from net income.
**d.** added to net income.

**Q11-45** On an indirect method statement of cash flows, an increase in accounts payable would be

**a.** reported in the financing activities section.
**b.** reported in the investing activities section.
**c.** added to net income in the operating activities section.
**d.** deducted from net income in the operating activities section.

**Q11-46** On an indirect method statement of cash flows, a gain on the sale of PPE would be

**a.** reported in the investing activities section.
**b.** added to net income in the operating activities section.
**c.** deducted from net income in the operating activities section.
**d.** ignored, since the gain did not generate any cash.

**Q11-47** Select an activity for each of the following transactions:

**1.** Paying cash dividends is a/an ________________ activity.
**2.** Receiving cash dividends is a/an ________________ activity.

**Q11-48** Click Camera Co. sold equipment with a cost of $21,000 and accumulated depreciation of $9,000 for an amount that resulted in a gain of $1,000. What amount should Click report on the statement of cash flows as "proceeds from sale of PPE?"

**a.** $10,000
**b.** $20,000
**c.** $13,000
**d.** Some other amount

**Questions 49–57 use the following data. Sheehan Corporation formats operating cash flows by the *indirect* method.**

**Sheehan's Income Statement for 20X6**

| | | |
|---|---|---|
| Sales revenue | $177,000 | |
| Gain on sale of equipment | 9,000* | $186,000 |
| Cost of goods sold | 114,000 | |
| Depreciation | 6,500 | |
| Other operating expenses | 24,000 | 144,500 |
| Net income | | $ 41,500 |

*The book value of equipment sold during 20X6 was $21,000.

**Sheehan's Comparative Balance Sheet at the end of 20X6**

| | 20X6 | 20X5 | | 20X6 | 20X5 |
|---|---|---|---|---|---|
| Cash | $ 5,500 | $ 3,000 | Accounts payable | $ 8,000 | $ 9,000 |
| Accounts receivable | 5,000 | 13,000 | Accrued liabilities | 6,000 | 4,000 |
| Inventory | 11,000 | 10,000 | Long-term Debt | 25,000 | 10,000 |
| Plant and equipment, net | 97,000 | 71,000 | Share Capital | 18,000 | 9,000 |
| | $118,500 | $97,000 | Retained earnings | 61,500 | 65,000 |
| | | | | $118,500 | $97,000 |

**Q11-49** Which of the following items would *not* be found in Sheehan's cash flow from operating activities section of the cash flow statement?

**a.** Depreciation
**b.** Gain on sale of equipment
**c.** Increase in share capital
**d.** Increase in inventory

**Q11-50** How do Sheehan's accrued liabilities affect the company's statement of cash flows for 20X6?

**a.** Increase in cash used by investing activities
**b.** Increase in cash provided by operating activities
**c.** Increase in cash used by financing activities
**d.** They don't, because the accrued liabilities are not yet paid

**Q11-51** How do accounts receivable affect Sheehan's cash flows from operating activities for 20X6?

**a.** Decrease in cash provided by operating activities
**b.** Decrease in cash used by investing activities
**c.** Increase in cash provided by operating activities
**d.** They don't, because accounts receivable result from investing activities

**Q11-52** Sheehan's net cash provided by operating activities during 20X6 was

**a.** $53,000.
**b.** $50,000.
**c.** $47,000.
**d.** $44,000.

**Q11-53** Which of the following items would *not* be found in Sheehan's cash flow from investing activities section of the cash flow statement?

**a.** Proceeds from the sale of PPE
**b.** Profit from the sale of PPE
**c.** Purchase of PPE
**d.** Purchase of other long-term assets (if any)

**Q11-54** The book value of equipment sold during 20X6 was $21,000. Sheehan's net cash flow from investing activities for 20X6 was

**a.** net cash used of $23,500.
**b.** net cash used of $53,000.
**c.** net cash used of $50,000.
**d.** net cash used of $44,000.

**Q11-55** Which of the following items would *not* be found in Sheehan's cash flow from financing activities section of the cash flow statement?

**a.** Proceeds from bank loan.
**b.** Proceeds from disposal of PPE.
**c.** Shares bought back.
**d.** Payment of dividends.

**Q11-56** Sheehan's largest financing cash flow for 20X6 resulted from

**a.** payment of dividends.
**b.** sale of equipment.
**c.** purchase of equipment.
**d.** issuance of shares.

**Q11-57** Sheehan's net cash flow from financing activities for 20X6 was

**a.** net cash used of $21,000.
**b.** net cash used of $50,000.
**c.** net cash provided of $9,000.
**d.** net cash used of $44,000.

**Q11-58** Sales totaled $820,000, accounts receivable increased by $50,000, and accounts payable decreased by $30,000. How much cash did the company collect from customers?

**a.** $800,000
**b.** $820,000
**c.** $770,000
**d.** $870,000

**Q11-59** Income Tax Payable was $4,500 at the end of the year and $3,000 at the beginning. Income tax expense for the year totaled $59,500. What amount of cash did the company pay for income tax during the year?

**a.** $62,500
**b.** $58,000
**c.** $61,000
**d.** $59,500

## Problems

MyAccountingLab

All of the A and B problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

### (Group A)

**P11-60A** ***(Learning Objectives 2, 3, 4, 5: Preparing an income statement, balance sheet, and statement of cash flows—indirect method)*** Antique Automobiles of Dubai, Inc., was formed on January 1, 20X6. The following transactions occurred during 20X6:

On January 1, 20X6, Antique issued its shares for $440,000. Early in January, Antique made the following cash payments:

- **a.** $180,000 for equipment
- **b.** $203,000 for inventory (seven cars at $29,000 each)
- **c.** $17,000 for 20X6 rent on a store building

In February, Antique purchased two cars for inventory on account. Cost of this inventory was $80,000 ($40,000.00 each). Before year-end, Antique paid $56,000 of this debt. Antique uses the FIFO method to account for inventory.

During 20X6, Antique sold eight vintage autos for a total of $488,000. Before year-end, Antique collected 80% of this amount.

The business employs five people. The combined annual payroll is $125,000, of which Antique owes $7,000 at year-end. At the end of the year, Antique paid income tax of $12,600.

Late in 20X6, Antique declared and paid cash dividends of $12,000.

For equipment, Antique uses the straight-line depreciation method, over five years, with zero residual value.

#### *Requirements*

1. Prepare Antique Automobiles of Dubai, Inc.'s income statement for the year ended December 31, 20X6.
2. Prepare Antique's balance sheet at December 31, 20X6.
3. Prepare Antique's statement of cash flows for the year ended December 31, 20X6. Format cash flows from operating activities by using the *indirect* method.

**P11-61A** ***(Learning Objectives 2, 4, 5, 6: Preparing an income statement, balance sheet, and statement of cash flows—direct method)*** Use the Antique Automobiles of Dubai, Inc., data from Problem 11-60A.

#### *Requirements*

1. Prepare Antique's income statement for the year ended December 31, 20X6.
2. Prepare Antique's balance sheet at December 31, 20X6.
3. Prepare Antique's statement of cash flows for the year ended December 31, 20X6. Format cash flows from operating activities by using the *direct* method.

**P11-62A** ***(Learning Objectives 2, 3, 4, 5: Preparing the statement of cash flows—indirect method)*** Morgensen Software Corp. has assembled the following data for the years ending December 31, 20X6 and 20X5.

| | December 31 20X6 | 20X5 |
|---|---|---|
| **Current Accounts:** | | |
| Current assets: | | |
| Cash and cash equivalents | $120,400 | $30,000 |
| Accounts receivable | 69,900 | 64,400 |
| Inventories | 8,600 | 80,000 |
| Prepaid expenses | 3,100 | 1,500 |
| Current liabilities: | | |
| Accounts payable | $ 57,200 | $55,800 |
| Income tax payable | 18,600 | 16,700 |
| Accrued liabilities | 15,500 | 27,200 |

**Transaction Data for 20X6:**

| | | | |
|---|---|---|---|
| Acquisition of land by issuing long-term note payable | $201,000 | Purchase of treasury shares | $10,700 |
| Stock dividends | 31,400 | Loss on sale of equipment | 5,000 |
| Collection of loan | 10,600 | Payment of cash dividends | 9,300 |
| Depreciation expense | 17,000 | Issuance of long-term note payable to borrow cash | 34,500 |
| Purchase of building | 97,000 | Net income | 6,500 |
| Retirement of bonds payable by issuing ordinary shares | 64,000 | Issuance of ordinary shares for cash | 36,500 |
| Purchase of long-term investment | 44,600 | Proceeds from sale of equipment | 81,000 |
| | | Amortization expense | 5,000 |

## *Requirement*

1. Prepare Morgensen Software Corp.'s statement of cash flows using the *indirect* method to report operating activities. Include an accompanying schedule of non-cash investing and financing activities.

■ writing assignment

■ spreadsheet

**P11-63A** ***(Learning Objectives 2, 3, 4, 5, 7: Preparing and analyzing the statement of cash flows—indirect method)*** The comparative balance sheets of Maynard Movie Theater Company at June 30, 20X6 and 20X5, reported the following:

| | June 30 20X6 | 20X5 |
|---|---|---|
| **Current assets:** | | |
| Cash and cash equivalents | $52,600 | $17,000 |
| Accounts receivable | 14,500 | 21,600 |
| Inventories | 63,500 | 61,100 |
| Prepaid expenses | 3,100 | 8,000 |
| **Current liabilities:** | | |
| Accounts payable | $57,800 | $56,200 |
| Accrued liabilities | 37,300 | 17,300 |
| Income tax payable | 9,100 | 10,100 |

Maynard Movie Theater's transactions during the year ended June 30, 20X6, included the following:

| | | | |
|---|---|---|---|
| Acquisition of land by issuing note payable ..... | $100,000 | Sale of long-term investment.... | $12,700 |
| Amortization expense........... | 9,000 | Depreciation expense ........... | 15,700 |
| Payment of cash dividend...... | 29,000 | Cash purchase of building..... | 44,000 |
| Cash purchase of equipment ........................ | 79,000 | Net income.......................... | 54,000 |
| Issuance of long-term note payable to borrow cash..... | 42,000 | Issuance of share for cash...... | 24,000 |
| | | Dividend ............................. | 11,000 |

### Requirements

1. Prepare Maynard Movie Theater Company's statement of cash flows for the year ended June 30, 20X6, using the *indirect* method to report cash flows from operating activities. Report non-cash investing and financing activities in an accompanying schedule.
2. Evaluate Maynard Movie Theater's cash flows for the year, including its free cash flow and cash realization ratio. Review all three categories of cash flows and give the reason for your evaluation.

■ writing assignment

■ spreadsheet

**P11-64A** ***(Learning Objectives 2, 3, 4, 5: Preparing the statement of cash flows—indirect method)*** The 20X6 and 20X5 comparative balance sheets and 20X6 income statement of Affordable Supply Corp. follow:

**Affordable Supply Corp.**
**Comparative Balance Sheets**

| | December 31 20X6 | 20X5 | Increase (Decrease) |
|---|---|---|---|
| Current assets: | | | |
| Cash and cash equivalents ............ | $ 17,300 | $ 4,000 | $ 13,300 |
| Accounts receivable ...................... | 45,700 | 44,500 | 1,200 |
| Inventories ................................... | 61,400 | 47,000 | 14,400 |
| Prepaid expenses.......................... | 1,800 | 3,900 | (2,100) |
| PPE: | | | |
| Land ............................................ | 69,100 | 22,600 | 46,500 |
| Equipment, net ............................ | 53,100 | 49,500 | 3,600 |
| Total assets............................................ | $248,400 | $171,500 | $ 76,900 |
| Current liabilities: | | | |
| Accounts payable.......................... | $ 35,200 | $ 26,900 | $ 8,300 |
| Salary payable ............................. | 24,000 | 13,100 | 10,900 |
| Other accrued liabilities................. | 22,100 | 23,700 | (1,600) |
| Long-term liabilities: | | | |
| Notes payable.............................. | 51,000 | 34,000 | 17,000 |
| Shareholders' equity: | | | |
| Share Capital, no-par.................... | 88,600 | 65,900 | 22,700 |
| Retained earnings ......................... | 27,500 | 7,900 | 19,600 |
| Total liabilities and Shareholders' equity..... | $248,400 | $171,500 | $ 76,900 |

**Affordable Supply Corp.**
**Income Statement**
Year Ended December 31, 20X6

| | | |
|---|---|---|
| **Revenues:** | | |
| Sales revenue | | $446,000 |
| **Expenses:** | | |
| Cost of goods sold | $186,600 | |
| Salary expense | 76,000 | |
| Depreciation expense | 17,700 | |
| Other operating expense | 49,700 | |
| Interest expense | 24,100 | |
| Income tax expense | 29,000 | |
| Total expenses | | 383,100 |
| Net income | | $ 62,900 |

Affordable Supply had no non-cash investing and financing transactions during 20X6. During the year, there were no sales of land or equipment, no payment of notes payable, no retirements of shares, and no treasury shares transactions.

### *Requirements*

1. Prepare the 20X6 statement of cash flows, formatting operating activities by using the *indirect* method.
2. How will what you learned in this problem help you evaluate an investment?

**P11-65A** ***(Learning Objectives 2, 4, 5, 6: Preparing the statement of cash flows—direct method)*** Use the Affordable Supply Corp. data from Problem 11-64A.

**writing assignment**

**spreadsheet**

### *Requirements*

1. Prepare the 20X6 statement of cash flows by using the *direct* method.
2. How will what you learned in this problem help you evaluate an investment?

**P11-66A** ***(Learning Objectives 2, 4, 5, 6, 7: Preparing and analyzing the statement of cash flows—direct method)*** Ramirez Furniture Gallery, Inc., provided the following data from the company's records for the year ended May 31, 20X6:

**writing assignment**

- **a.** Credit sales, $584,500
- **b.** Loan to another company, $12,300
- **c.** Cash payments to purchase PPE, $72,100
- **d.** Cost of goods sold, $312,400
- **e.** Proceeds from issuance of ordinary shares, $7,000
- **f.** Payment of cash dividends, $48,300
- **g.** Collection of interest, $4,600
- **h.** Acquisition of equipment by issuing short-term note payable, $16,000
- **i.** Payments of salaries, $78,000
- **j.** Proceeds from sale of PPE, $22,600, including $6,900 loss
- **k.** Collections on accounts receivable, $428,500
- **l.** Interest revenue, $3,500
- **m.** Cash receipt of dividend income, $8,900
- **n.** Payments to suppliers, $368,000
- **o.** Cash sales, $191,300
- **p.** Depreciation expense, $40,100

q. Proceeds from issuance of note payable, $24,500
r. Payments of long-term notes payable, $83,000
s. Interest expense and payments, $13,400
t. Salary expense, $75,800
u. Loan collections, $11,900
v. Proceeds from sale of investments, $9,500, including $4,400 gain
w. Payment of short-term note payable by issuing long-term note payable, $94,000
x. Amortization expenses, $3,100
y. Income tax expense and payments, $38,300
z. Cash balance: May 31, 20X5, $19,100; May 31, 20X6, $14,500

### *Requirements*

1. Prepare Ramirez Furniture Gallery, Inc.'s statement of cash flows for the year ended May 31, 20X6. Use the *direct* method for cash flows from operating activities. Include an accompanying schedule of non-cash investing and financing activities.
2. Evaluate 20X6 from a cash-flows standpoint. Give your reasons.

**P11-67A** ***(Learning Objectives 3, 4, 5, 6: Preparing the statement of cash flows—direct and indirect methods)*** To prepare the statement of cash flows, accountants for Daisy Electric Company have summarized 20X6's activities in two accounts as follows:

**Cash**

| | | | |
|---|---|---|---|
| Beginning balance | 49,600 | Payments on accounts payable | 402,000 |
| Sale of long-term investment | 14,600 | Payments of dividends | 47,900 |
| Collections from customers | 661,800 | Payments of salaries and wages | 143,600 |
| Issuance of shares | 61,000 | Payments of interest | 26,600 |
| Receipts of dividends | 16,900 | Purchase of equipment | 31,000 |
| | | Payments of operating expenses | 34,500 |
| | | Payment of long-term note payable | 41,500 |
| | | Purchase of treasury shares | 22,400 |
| | | Payment of income tax | 17,000 |
| Ending Balance | 37,400 | | |

**Share Capital**

| | | | |
|---|---|---|---|
| | | Beginning balance | 74,200 |
| | | Issuance for cash | 61,000 |
| | | Issuance to acquire land | 80,800 |
| | | Issuance to retire note payable | 20,000 |
| | | Ending balance | 236,000 |

Daisy's 20X6 income statement and balance sheet data follow:

**Daisy Electric Company**
**Income Statement**
Year Ended December 31, 20X6

| | | |
|---|---|---|
| **Revenues:** | | |
| Sales revenue | | $689,200 |
| Dividend revenue | | 16,900 |
| Total revenue | | 706,100 |
| **Expenses and losses:** | | |
| Cost of goods sold | $334,000 | |
| Salary and wage expense | 135,800 | |
| Depreciation expense | 19,000 | |
| Other operating expense | 23,700 | |
| Interest expense | 29,100 | |
| Income tax expense | 14,500 | |
| Loss on sale of investments | 22,100 | |
| Total expenses and losses | | 578,200 |
| Net income | | $127,900 |

**Daisy Electric Company**
**Selected Balance Sheet Data**
December 31, 20X6

| | Increase (Decrease) |
|---|---|
| Current assets: | |
| Cash and cash equivalents | $(12,200) |
| Accounts receivable | 27,400 |
| Inventories | 59,700 |
| Prepaid expenses | 600 |
| Long-term investments | (36,700) |
| Equipment, net | 12,000 |
| Land | 80,800 |
| Current liabilities: | |
| Accounts payable | (8,300) |
| Interest payable | 2,500 |
| Salary payable | (7,800) |
| Other accrued liabilities | (10,200) |
| Income tax payable | (2,500) |
| Long-term note payable | (61,500) |
| Share capital | 161,800 |
| Retained earnings | 80,000 |
| Treasury shares | (22,400) |

### *Requirements*

1. Prepare the statement of cash flows of Daisy Electric Company for the year ended December 31, 20X6 using the *direct* method to report operating activities. Also prepare the accompanying schedule of non-cash investing and financing activities.
2. Use Daisy's 20X6 income statement and balance sheet to prepare a supplementary schedule of cash flows from operating activities by using the *indirect* method.

**P11-68A** ***(Learning Objectives 3, 4, 5, 6: Preparing the statement of cash flows—indirect and direct methods)*** The comparative balance sheets of Ibrahim Design Studio, Inc., at June 30, 20X6 and 20X5, and transaction data for fiscal 20X6 are as follows:

**Ibrahim Design Studio**
**Comparative Balance Sheets**

| | June 30 20X6 | June 30 20X5 | Increase (Decrease) |
|---|---|---|---|
| Current assets: | | | |
| Cash | $ 28,900 | $ 21,000 | $ 7,900 |
| Accounts receivable | 48,800 | 31,700 | 17,100 |
| Inventories | 78,400 | 80,700 | (2,300) |
| Prepaid expenses | 3,100 | 2,200 | 900 |
| Long-term investment | 10,300 | 5,600 | 4,700 |
| Equipment, net | 74,000 | 73,300 | 700 |
| Land | 33,100 | 94,500 | (61,400) |
| | $276,600 | $309,000 | $(32,400) |
| Current liabilities: | | | |
| Notes payable, short-term | $ 14,000 | $19,000 | $(5,000) |
| Accounts payable | 29,400 | 40,400 | (11,000) |
| Income tax payable | 13,200 | 14,400 | (1,200) |
| Accrued liabilities | 3,700 | 9,400 | (5,700) |
| Interest payable | 3,400 | 2,400 | 1,000 |
| Salary payable | 1,000 | 4,400 | (3,400) |
| Long-term note payable | 47,200 | 94,000 | (46,800) |
| Share capital | 59,400 | 52,000 | 7,400 |
| Retained earnings | 105,300 | 73,000 | 32,300 |
| | $276,600 | $309,000 | $(32,400) |

Transaction data for the year ended June 30, 20X6:

**a.** Net income, $80,700
**b.** Depreciation expense on equipment, $13,900
**c.** Purchased long-term investment, $4,700
**d.** Sold land for $54,900, including $6,500 loss
**e.** Acquired equipment by issuing long-term note payable, $14,600
**f.** Paid long-term note payable, $61,400
**g.** Received cash for issuance of shares, $2,400
**h.** Paid cash dividends, $48,400
**i.** Paid short-term note payable by issuing shares, $5,000

### *Requirements*

1. Prepare the statement of cash flows of Ibrahim Design Studio, Inc., for the year ended June 30, 20X6, using the *indirect* method to report operating activities. Also prepare the accompanying schedule of non-cash investing and financing activities. All current accounts except short-term notes payable result from operating transactions.
2. Prepare a supplementary schedule showing cash flows from operations by the *direct* method. The accounting records provide the following: collections from customers, $241,700; interest received, $1,700; payments to suppliers, $118,600; payments to employees, $41,900; payments for income tax, $12,900; and payment of interest, $4,900.

## (Group B)

**P11-69B** ***(Learning Objectives 2, 3, 4, 5: Preparing an income statement, balance sheet, and statement of cash flows—indirect method)*** Sweet Automobiles of Dubai, Inc., was formed on January 1, 20X6. The following transactions occurred during 20X6:

On January 1, 20X6, Sweet issued its shares for €350,000. Early in January, Sweet made the following cash payments:

- **a.** €140,000 for equipment
- **b.** €175,000 for inventory (five cars at €35,000 each)
- **c.** €19,000 for 20X6 rent on a store building

In February, Sweet purchased six cars for inventory on account. Cost of this inventory was €282,000 (€47,000 each). Before year-end, Sweet paid €197,400 of this debt. Sweet uses the FIFO method to account for inventory.

During 20X6, Sweet sold six vintage autos for a total of €426,000. Before year-end, Sweet collected 90% of this amount.

The business employs three people. The combined annual payroll is €90,000, of which Sweet owes €5,000 at year-end. At the end of the year, Sweet paid income tax of €14,000.

Late in 20X6, Sweet declared and paid cash dividends of €16,000.

For equipment, Sweet uses the straight-line depreciation method, over five years, with zero residual value.

### *Requirements*

1. Prepare Sweet Automobiles of Dubai, Inc.'s income statement for the year ended December 31, 20X6.
2. Prepare Sweet's balance sheet at December 31, 20X6.
3. Prepare Sweet's statement of cash flows for the year ended December 31, 20X6. Format cash flows from operating activities by using the *indirect* method.

**P11-70B** ***(Learning Objectives 2, 4, 5, 6: Preparing an income statement, balance sheet, and statement of cash flows—direct method)*** Use the Sweet Automobiles of Dubai, Inc., data from Problem 12-69B.

### *Requirements*

1. Prepare Sweet's income statement for the year ended December 31, 20X6.
2. Prepare Sweet's balance sheet at December 31, 20X6.
3. Prepare Sweet's statement of cash flows for the year ended December 31, 20X6. Format cash flows from operating activities by using the *direct* method.

**P11-71B** ***(Learning Objectives 2, 3, 4, 5: Preparing the statement of cash flows—indirect method)*** Neighbor Software Corp. has assembled the following data for the year ended December 31, 20X6 and 20X5:

| | December 31 | |
|---|---|---|
| | **20X6** | **20X5** |
| **Current Accounts:** | | |
| Current assets: | | |
| Cash and cash equivalents | €60,000 | €26,000 |
| Accounts receivable | 22,000 | 64,100 |
| Inventories | 88,500 | 85,000 |
| Prepaid expenses | 3,200 | 2,400 |
| Current liabilities: | | |
| Accounts payable | 57,700 | 55,500 |
| Income tax payable | 29,000 | 16,900 |
| Accrued liabilities | 15,500 | 7,600 |

**Transaction Data for 20X6:**

| | | | |
|---|---|---|---|
| Acquisition of land by issuing long-term note payable | €198,000 | Purchase of treasury shares | €14,400 |
| Dividends | 31,600 | Loss on sale of equipment | 3,000 |
| Collection of loan | 11,000 | Payment of cash dividends | 18,800 |
| Depreciation expense | 17,000 | Issuance of long-term note payable to borrow cash | 34,000 |
| Purchase of building | 159,000 | Net income | 58,000 |
| Retirement of bonds payable by issuing ordinary shares | 71,000 | Issuance of ordinary shares for cash | 74,200 |
| Purchase of long-term investment | 49,900 | Proceeds from sale of equipment | 12,900 |
| | | Amortization expense | 6,000 |

### *Requirement*

1. Prepare Neighbor Software Corp.'s statement of cash flows using the *indirect* method to report operating activities. Include an accompanying schedule of non-cash investing and financing activities.

■ **writing assignment**

■ **spreadsheet**

**P11-72B** ***(Learning Objectives 2, 3, 4, 5, 7: Preparing and analyzing the statement of cash flows—indirect method)*** The comparative balance sheets of Medford Movie Theater Company at June 30, 20X6 and 20X5, reported the following:

| | June 30 | |
|---|---|---|
| | **20X6** | **20X5** |
| **Current assets:** | | |
| Cash and cash equivalents | € 5,800 | €16,000 |
| Accounts receivable | 14,000 | 21,700 |
| Inventories | 63,000 | 60,800 |
| Prepaid expenses | 17,200 | 8,000 |
| **Current liabilities:** | | |
| Accounts payable | €58,000 | €55,900 |
| Accrued liabilities | 57,400 | 47,400 |
| Income tax payable | 6,500 | 10,500 |

Medford's transactions during the year ended June 30, 20X6, included the following:

| | | | |
|---|---|---|---|
| Acquisition of land by issuing note payable | €115,000 | Sale of long-term investment | €13,400 |
| Amortization expense | 6,000 | Depreciation expense | 15,600 |
| Payment of cash dividend | 34,000 | Cash purchase of building | 59,000 |
| Cash purchase of equipment | 45,600 | Net income | 50,000 |
| Issuance of long-term note payable to borrow cash | 26,000 | Issuance of shares for cash | 13,000 |
| | | Share dividend | 9,000 |

### *Requirements*

1. Prepare Medford Movie Theater Company's statement of cash flows for the year ended June 30, 20X6, using the *indirect* method to report cash flows from operating activities. Report non-cash investing and financing activities in an accompanying schedule.
2. Evaluate Medford's cash flows for the year, including its free cash flow and cash realization ratio. Review all three categories of cash flows and give the reason for your evaluation.

**P11-73B** *(Learning Objectives 2, 3, 4, 5: Preparing the statement of cash flows—indirect method)* The 20X6 and 20X5 comparative balance sheets and 20X6 income statement of King Supply Corp. follow:

■ writing assignment

■ spreadsheet

**King Supply Corp.**
**Comparative Balance Sheets**

| | December 31 20X6 | 20X5 | Increase (Decrease) |
|---|---|---|---|
| Current assets: | | | |
| Cash and cash equivalents | € 17,600 | € 5,000 | € 12,600 |
| Accounts receivable | 45,500 | 44,500 | 1,000 |
| Inventories | 79,100 | 67,500 | 11,600 |
| Prepaid expenses | 2,100 | 6,000 | (3,900) |
| PPE: | | | |
| Land | 69,100 | 21,900 | 47,200 |
| Equipment, net | 53,100 | 49,200 | 3,900 |
| Total assets | €266,500 | €194,100 | € 72,400 |
| Current liabilities: | | | |
| Accounts payable | € 35,800 | € 25,600 | € 10,200 |
| Salary payable | 22,000 | 15,600 | 6,400 |
| Other accrued liabilities | 22,900 | 24,200 | (1,300) |
| Long-term liabilities: | | | |
| Notes payable | 50,000 | 37,000 | 13,000 |
| Shareholders' equity: | | | |
| Share capital, no-par | 88,600 | 64,300 | 24,300 |
| Retained earnings | 47,200 | 27,400 | 19,800 |
| Total liabilities and Shareholders' equity | €266,500 | €194,100 | € 72,400 |

**King Supply Corp.**
**Income Statement**
Year Ended December 31, 20X6

| | | |
|---|---|---|
| **Revenues:** | | |
| Sales revenue | | €445,000 |
| **Expenses:** | | |
| Cost of goods sold | €185,100 | |
| Salary expense | 76,400 | |
| Depreciation expense | 17,400 | |
| Other operating expense | 49,800 | |
| Interest expense | 24,800 | |
| Income tax expense | 29,500 | |
| Total expenses | | 383,000 |
| Net income | | € 62,000 |

King Supply had no non-cash investing and financing transactions during 20X6. During the year, there were no sales of land or equipment, no payment of notes payable, no retirements of shares, and no treasury share transactions.

### Requirements

1. Prepare the 20X6 statement of cash flows, formatting operating activities by using the *indirect* method.
2. How will what you learned in this problem help you evaluate an investment?

■ writing assignment

■ spreadsheet

**P11-74B** ***(Learning Objectives 2, 4, 5, 6: Preparing the statement of cash flows—direct method)*** Use the King Supply Corp. data from Problem P11-73B.

### Requirements

1. Prepare the 20X6 statement of cash flows by using the *direct* method.
2. How will what you learned in this problem help you evaluate an investment?

■ writing assignment

**P11-75B** ***(Learning Objectives 2, 4, 5, 6: Preparing the statement of cash flows—direct method)*** Dunleavy Furniture Gallery, Inc., provided the following data from the company's records for the year ended December 31, 20X6:

**a.** Credit sales, €567,000
**b.** Loan to another company, €12,800
**c.** Cash payments to purchase PPE, €59,900
**d.** Cost of goods sold, €382,700
**e.** Proceeds from issuance of ordinary shares, €7,000
**f.** Payment of cash dividends, €48,000
**g.** Collection of interest, €4,200
**h.** Acquisition of equipment by issuing short-term note payable, €16,500
**i.** Payments of salaries, €93,700
**j.** Proceeds from sale of PPE, €22,300, including €7,000 loss
**k.** Collections on accounts receivable, €406,000
**l.** Interest revenue, €3,300
**m.** Cash receipt of dividend income, €4,000
**n.** Payments to suppliers, €387,200
**o.** Cash sales, €201,000
**p.** Depreciation expense, €40,100
**q.** Proceeds from issuance of note payable, €19,300
**r.** Payments of long-term notes payable, €69,000
**s.** Interest expense and payments, €13,700
**t.** Salary expense, €91,600
**u.** Loan collections, €12,100
**v.** Proceeds from sale of investments, €11,200, including €3,800 gain
**w.** Payment of short-term note payable by issuing long-term note payable, €68,000
**x.** Amortization expenses, €3,200
**y.** Income tax expense and payments, €36,800
**z.** Cash balance: December 31, 20X5, €40,000; December 31, 20X6, €6,000

### Requirements

1. Prepare Dunleavy Furniture Gallery, Inc.'s statement of cash flows for the year ended December 31, 20X6. Use the *direct* method for cash flows from operating activities. Include an accompanying schedule of non-cash investing and financing activities.
2. Evaluate 20X6 from a cash-flow standpoint. Give your reasons.

**P11-76B** ***(Learning Objectives 3, 4, 5, 6: Preparing the statement of cash flows—direct and indirect methods)*** To prepare the statement of cash flows, accountants for Spencer Electric Company have summarized 20X6 activity in two accounts as follows:

**Cash**

| | | | |
|---|---|---|---|
| Beginning balance | 71,500 | Payments on accounts payable | 399,500 |
| Sale of long-term investment | 20,000 | Payments of dividends | 27,600 |
| Collections from customers | 661,600 | Payments of salaries and wages | 143,300 |
| Issuance of shares | 22,200 | Payments of interest | 27,100 |
| Receipts of dividends | 16,800 | Purchase of equipment | 31,700 |
| | | Payments of operating expenses | 34,900 |
| | | Payment of long-term note payable | 41,300 |
| | | Purchase of treasury shares | 26,300 |
| | | Payment of income tax | 18,600 |
| Ending Balance | 41,800 | | |

**Share capital**

| | | | |
|---|---|---|---|
| | | Beginning balance | 73,200 |
| | | Issuance for cash | 22,200 |
| | | Issuance to acquire land | 61,700 |
| | | Issuance to retire note payable | 17,000 |
| | | Ending balance | 174,100 |

Spencer's 20X6 income statement and balance sheet data follow:

**Spencer Electric Company**
**Income Statement**
Year Ended December 31, 20X6

| | | |
|---|---|---|
| **Revenues:** | | |
| Sales revenue | | €647,200 |
| Dividend revenue | | 16,800 |
| Total revenue | | 664,000 |
| **Expenses and losses:** | | |
| Cost of goods sold | €404,600 | |
| Salary and wage expense | 150,500 | |
| Depreciation expense | 16,400 | |
| Other operating expense | 30,500 | |
| Interest expense | 24,900 | |
| Income tax expense | 16,100 | |
| Loss on sale of investments | 16,700 | |
| Total expenses and losses | | 659,700 |
| Net income | | € 4,300 |

**Spencer Electric Company**
**Selected Balance Sheet Data**
December 31, 20X6

| | Increase (Decrease) |
|---|---|
| Current assets: | |
| Cash and cash equivalents | €(29,700) |
| Accounts receivable | (14,400) |
| Inventories | (12,900) |
| Prepaid expenses | (6,000) |
| Long-term investments | (36,700) |
| Equipment, net | 15,300 |
| Land | 61,700 |
| Current liabilities: | |
| Accounts payable | (7,800) |
| Interest payable | (2,200) |
| Salary payable | 7,200 |
| Other accrued liabilities | (10,400) |
| Income tax payable | (2,500) |
| Long-term note payable | (58,300) |
| Share capital | 100,900 |
| Retained earnings | (23,300) |
| Treasury shares | (26,300) |

### *Requirements*

1. Prepare the statement of cash flows of Spencer Electric Company for the year ended December 31, 20X6, using the *direct* method to report operating activities. Also prepare the accompanying schedule of non-cash investing and financing activities.
2. Use Spencer's 20X6 income statement and balance sheet to prepare a supplementary schedule of cash flows from operating activities by using the *indirect* method.

**P11-77B** ***(Learning Objectives 3, 4, 5, 6: Preparing the statement of cash flows—indirect and direct methods)*** The comparative balance sheets of Salim Design Studio, Inc., at June 30, 20X6 and 20X5, and transaction data for fiscal 20X6 are as follows:

**Salim Design Studio**
**Comparative Balance Sheets**

| | June 30 20X6 | June 30 20X5 | Increase (Decrease) |
|---|---|---|---|
| Current assets: | | | |
| Cash | € 28,900 | € 2,400 | € 26,500 |
| Accounts receivable | 59,000 | 22,300 | 36,700 |
| Inventories | 98,200 | 40,400 | 57,800 |
| Prepaid expenses | 3,500 | 2,500 | 1,000 |
| Long-term investment | 10,000 | 5,000 | 5,000 |
| Equipment, net | 74,900 | 73,600 | 1,300 |
| Land | 58,100 | 98,900 | (40,800) |
| | €332,600 | €245,100 | € 87,500) |
| Current liabilities: | | | |
| Notes payable, short-term | € 13,200 | €20,200 | € (7,000) |
| Accounts payable | 42,300 | 41,300 | 1,000 |
| Income tax payable | 13,300 | 14,400 | (1,100) |
| Accrued liabilities | 97,400 | 9,300 | 88,100 |
| Interest payable | 3,500 | 2,500 | 1,000 |
| Salary payable | 400 | 3,100 | (2,700) |
| Long-term note payable | 48,700 | 94,200 | (45,500) |
| Share capital | 79,700 | 51,600 | 28,100 |
| Retained earnings | 34,100 | 8,500 | 25,600 |
| | €332,600 | €245,100 | € 87,500 |

Transaction data for the year ended June 30, 20X6:

**a.** Net income, €73,400
**b.** Depreciation expense on equipment, €13,900
**c.** Purchased long-term investment, €5,000
**d.** Sold land for €33,800, including €7,000 loss
**e.** Acquired equipment by issuing long-term note payable, €15,200
**f.** Paid long-term note payable, €60,700
**g.** Received cash for issuance of shares, €21,100
**h.** Paid cash dividends, €47,800
**i.** Paid short-term note payable by issuing shares, €7,000

## *Requirements*

1. Prepare the statement of cash flows of Salim Design Studio, Inc., for the year ended June 30, 20X6 using the *indirect* method to report operating activities. Also prepare the accompanying schedule of non-cash investing and financing activities. All current accounts except short-term notes payable result from operating transactions.
2. Prepare a supplementary schedule showing cash flows from operations by the *direct* method. The accounting records provide the following: collections from customers, €272,300; interest received, €1,400; payments to suppliers, €130,900; payments to employees, €40,000; payments for income tax, €12,500; and payment of interest, €5,200.

# APPLY YOUR KNOWLEDGE

## Decision Cases

■ writing assignment

**Case 1.** ***(Learning Objective 3, 4, 5: Preparing and using the statement of cash flows to evaluate operations)*** The 20X7 income statement and the 20X7 comparative balance sheet of T-Bar-M Camp, Inc., have just been distributed at a meeting of the camp's board of directors. The directors raise a fundamental question: Why is the cash balance so low? This question is especially troublesome since 20X7 showed record profits. As the controller of the company, you must answer the question.

**T-Bar-M Camp, Inc.**
**Income Statement**
Year Ended December 31, 20X7

| (In thousands) | | |
|---|---|---|
| **Revenues:** | | |
| Sales revenue | | $436 |
| **Expenses:** | | |
| Cost of goods sold | $221 | |
| Salary expense | 48 | |
| Depreciation expense | 46 | |
| Interest expense | 13 | |
| Amortization expense | 11 | |
| Total expenses | 339 | |
| Net income | | $ 97 |

**T-Bar-M Camp, Inc.**
**Comparative Balance Sheets**
December 31, 20X7 and 20X6

| (In thousands) | 20X7 | 20X6 |
|---|---|---|
| **Assets** | | |
| Cash | $ 17 | $ 63 |
| Accounts receivable, net | 72 | 61 |
| Inventories | 194 | 181 |
| Long-term investments | 31 | 0 |
| Property, plant and equipment | 369 | 259 |
| Accumulated depreciation | (244) | (198) |
| Patents | 177 | 188 |
| Totals | $ 616 | $ 554 |
| **Liabilities and Owners' Equity** | | |
| Accounts payable | $ 63 | $ 56 |
| Accrued liabilities | 12 | 17 |
| Notes payable, long-term | 179 | 264 |
| Share capital, no par | 149 | 61 |
| Retained earnings | 213 | 156 |
| Totals | $ 616 | $ 554 |

### *Requirements*

1. Prepare a statement of cash flows for 20X7 in the format that best shows the relationship between net income and operating cash flow. The company sold no PPE or long-term investments and issued no notes payable during 20X7. There were *no* non-cash investing and financing transactions during the year. Show all amounts in thousands.
2. Answer the board members' question: Why is the cash balance so low? Point out the two largest cash payments during 20X7. (Challenge)
3. Considering net income and the company's cash flows during 20X7, was it a good year or a bad year? Give your reasons.

**writing assignment**

**Case 2.** ***(Learning Objectives 1, 2: Using cash-flow data to evaluate an investment)*** Applied Technology, Inc., and Four-Star Catering are asking you to recommend their shares to your clients. Because Applied and Four-Star earn about the same net income and have similar financial positions, your decision depends on their statements of cash flows, summarized as follows:

| | Applied | | Four–Star | |
|---|---|---|---|---|
| Net cash provided by operating activities: | | $ 30,000 | | $ 70,000 |
| Cash provided by (used for) investing activities: | | | | |
| Purchase of PPE | $(20,000) | | $(100,000) | |
| Sale of PPE | 40,000 | 20,000 | 10,000 | (90,000) |
| Cash provided by (used for) financing activities: | | | | |
| Issuance of shares | | — | | 30,000 |
| Paying off long-term debt | | (40,000) | | — |
| Net increase in cash | | $ 10,000 | | $10,000 |

Based on their cash flows, which company looks better? Give your reasons. (Challenge)

## Ethical Issue

**writing assignment**

Copenhagen Motors is having a bad year. Net income is only €37,000. Also, two important overseas customers are falling behind in their payments to Copenhagen, and Copenhagen's accounts receivable are ballooning. The company desperately needs a loan. The board of directors is considering ways to put the best face on the company's financial statements. Copenhagen's bank closely examines cash flow from operations. Daniel Peavey, Copenhagen's controller, suggests reclassifying as long-term the receivables from the slow-paying clients. He explains to the board that removing the €80,000 rise in accounts receivable from current assets will increase net cash provided by operations. This approach may help Copenhagen get the loan.

### *Requirements*

1. Using only the amounts given, compute net cash provided by operations, both without and with the reclassification of the receivables. Which reporting makes Copenhagen look better?
2. Identify the ethical issue(s).
3. Who are the stakeholders?
4. Analyze the issue from the (a) economic, (b) legal, and (c) ethical standpoints. What is the potential impact on all stakeholders?
5. What should the board do?
6. Under what conditions would the reclassification of the receivables be considered ethical?

## Focus on Financials: Vodafone Corporation

This case spans all 12 chapters and is based on the consolidated financial statements of **Vodafone Corporation**. As you work with Vodafone throughout this course, you will develop the confidence and ability to use the financial statements of other companies as well. Refer to Vodafone's financial statements in Appendix A. Alternatively, you may choose to obtain the full annual report from Vodafone's website at www.vodafone.com.

### Requirements

1. By which method does Vodafone report cash flows from operating activities? How can you tell?
2. Suppose Vodafone reported net cash flows from operating activities using the direct method. Compute these amounts for the year ended March 31, 2011 (ignore the statement of cash flows, and use only Vodafone's income statement and balance sheet).
   a. Collections from vendors, customers, and others. Assume that all sales are on account.
   b. Payments to suppliers. Assume all inventory is purchased on account, and that all cash payments to suppliers are made from accounts payable.
3. What is Vodafone's main source of cash? Is this good news or bad news to Vodafone's managers, shareholders, and creditors? What is Vodafone's main use of cash? Good news or bad news?
4. Calculate Vodafone's free cash flow and cash realization ratio for 2011 and 2010.

## Group Projects

**Project 1.** Each member of the group should obtain the annual report of a different company. Select companies in different industries. Evaluate each company's trend of cash flows for the most recent two years. In your evaluation of the companies' cash flows, you may use any other information that is publicly available—for example, the other financial statements (income statement, balance sheet, statement of changes in equity, and the related notes) and news stories from magazines and newspapers. Rank the companies' cash flows from best to worst and write a two-page report on your findings.

**Project 2.** Select a company and obtain its annual report, including all the financial statements. Focus on the statement of cash flows and, in particular, the cash flows from operating activities. Specify whether the company uses the direct method or the indirect method to report operating cash flows. As necessary, use the other financial statements (income statement, balance sheet, and statement of changes in equity) and the notes to prepare the company's cash flows from operating activities by using the *other* method.

---

## Quick Check Answers

1. *a*
2. *a*
3. *d*
4. *b* ($150,000 + $8,000)
5. *d*
6. *c*
7. *c* ($50,000 + $10,000 – $8,000 + $15,000 + $9,000 + $3,000)
8. *b* ($5,000 – $35,000 + $40,000)
9. *b* (–$1,000 + $4,000 – $16,000)
10. *b* ($40,000 + $15,000)
11. *d* ($60,000 + $700,000 – $50,000)
12. *b* ($750,000 – $410,000 – $180,000)
13. *d* ($410,000 – $10,000 + $12,000)

# 12 Financial Statement Analysis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**SPOTLIGHT: Vodafone Group plc** **www.vodafone.com**

Vodafone, a British-based telecommunication company, has a global footprint. It has over 370 million mobile subscribers, who generated a total of 850 billion minutes of voice traffic and 161 petabytes (that's 161 million gigabytes!) of data traffic across its networks. As a shareholder or potential investor, how would you evaluate Vodafone's financial performance and financial position? What analysis techniques can we use for financial analysis? How do we make sense of the numbers?

The objective of financial reporting, through financial statements and other disclosures, is to help users make economic decisions. One of the primary tools available to you is a process we call financial statement analysis. This includes examining year-on-year changes, component and common-size analysis, as well as using the common financial ratios to help you make an economic decision on the financial position and financial performance of an entity.

In this chapter, we cover this process, using the financial statements of Vodafone Group plc, whose annual report is reproduced in parts in Appendix A.

**Vodafone Group plc**
**Consolidated Income Statement (Adapted)**
For year ended March 31

| | (In millions £, Pound Sterling) | 2011 | 2010 | 2009 |
|---|---|---|---|---|
| 1 | Revenue | 45,884 | 44,472 | 41,017 |
| 2 | Cost of sales | (30,814) | (29,439) | (25,842) |
| 3 | Gross profit | 15,070 | 15,033 | 15,175 |
| 4 | Selling and distribution expenses | (3,067) | (2,981) | (2,738) |
| 5 | Administrative expenses | (5,300) | (5,328) | (4,771) |
| 6 | Share of results in associates | 5,059 | 4,742 | 4,091 |
| 7 | Impairment losses | (6,150) | (2,100) | (5,900) |
| 8 | Other income and expense | (16) | 114 | 0 |
| 9 | Operating profit | 5,596 | 9,480 | 5,857 |
| 10 | Non-operating income and expense | 3,022 | (10) | (44) |
| 11 | Investment income | 1,309 | 716 | 795 |
| 12 | Financing costs | (429) | (1,512) | (2,419) |
| 13 | Profit before taxation | 9,498 | 8,674 | 4,189 |
| 14 | Income tax expense | (1,628) | (56) | (1,109) |
| 15 | Profit for the financial year | 7,870 | 8,618 | 3,080 |



This chapter covers the basic tools of financial analysis. The first part of the chapter shows how we can evaluate Vodafone from year to year and how to compare it to other companies that are in the same lines of business. For this comparison, we can use other telecommunication companies around the world, including **China Mobile**, the largest telecommunication company in the world by number of customers, **Telenor** and **Bharti Airtel**, who are market leaders in Norway and India, respectively. The second part of the chapter discusses the more commonly used financial ratios. You have seen many of these ratios in earlier chapters—the current ratio, days' sales in receivables, and inventory turnover, return on assets, and return on equity.

By studying all these ratios together:

- You will learn the basic tools of financial analysis.
- You will enhance your ability to assess operations of a business.

Regardless of your chosen field—marketing, management, finance, entrepreneurship, or accounting—you will find these analytical tools useful as you move through your career.

## LEARNING OBJECTIVES

1 **Perform** a horizontal analysis of financial statements

2 **Perform** a vertical analysis of financial statements

3 **Prepare** common-size financial statements

4 **Compute** the standard financial ratios

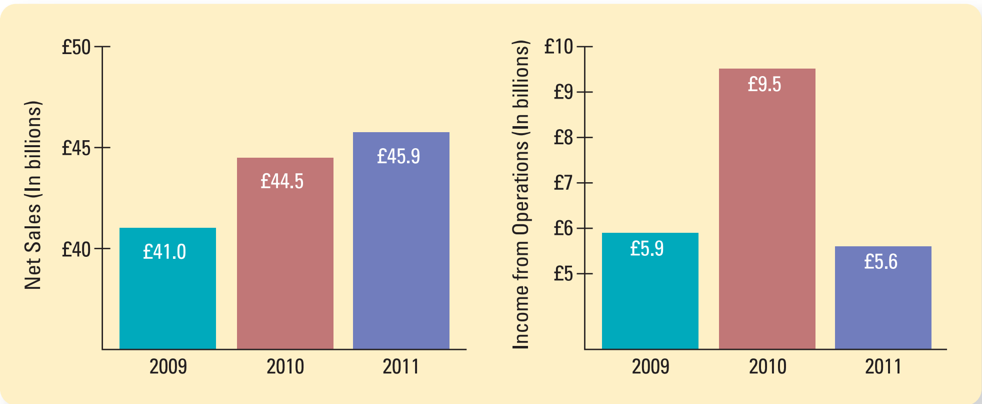
5 **Measure** the economic value added by operations

# How Does an Investor Evaluate a Company?

Investors and creditors cannot evaluate a company by examining only one year's data. This is why (in Chapter 4), we noted that *IAS 1—Presentation of Financial Statements* requires all financial statements to have comparative figures of at least two periods. Vodafone's consolidated income statement, shown at the beginning of this chapter, for example, offers 2011 financial results, together with 2010 and 2009 comparatives. In fact, most financial analysis covers trends of three to five years. Since one of the goals of financial analysis is to predict the future performance of an entity, it makes sense to start by mapping the trends of the past. You saw an example of this with Philips' cash flow trends earlier (in Chapter 11). This is particularly true of income statement data such as net sales and net income.

The graphs in Exhibit 12-1 show Vodafone's three-year trend of sales revenue and operating profit.

**EXHIBIT 12-1 | Sales and Operating Profit of Vodafone**




Vodafone's sales revenue increased from £41 billion in 2009 to £46 billion in 2011. Sales growth seems to have slowed somewhat, and operating profit dropped significantly from 2010. In fact, its operating profit of £5.6 billion was at its lowest in three years. How would you predict Vodafone's sales revenue and income from operations for 2012 and beyond? The global financial crisis would probably cause a further decline in Vodafone's sales and profitability. Let's examine some financial analysis tools. We begin with two basic analysis techniques: horizontal analysis and vertical analysis.

# Horizontal Analysis

**OBJECTIVE**

**1** **Perform** a horizontal analysis of financial statements

Many decisions hinge on the trend of revenues, expenses, income from operations, and so on. Have revenues increased from last year? By how much? Suppose net sales have increased by $50,000. Considered alone, this fact is not very helpful, but knowing the long-term percentage change in net sales helps a lot. It's better to know that net sales have increased by 20% than to know that the increase is $50,000. It's even better to know that *percentage increases* in net sales for the past several years have been rising year on year.

The study of percentage changes from year to year is called **horizontal analysis**. Computing a percentage change takes two steps:

1. Compute the dollar amount of the change from one period (the base period) to the next.
2. Divide the dollar amount of change by the base-period amount.

## Illustration: Vodafone

Horizontal analysis is illustrated for Vodafone, as follows (using the 2010 and 2011 figures, in millions of British pounds):

| | | | Increase (Decrease) | |
|---|---|---|---|---|
| | 2011 | 2010 | Amount | Percentage |
| Sales revenue ............................... | 45,884 | 44,472 | 1,412 | 3.18% |

Vodafone's net sales decreased by 0.68% during 2008, computed as follows:

**Step 1** Compute the amount of change from 2010 to 2011:

| 2011 | | 2010 | | Decrease |
|---|---|---|---|---|
| £45,884 | – | £44,472 | = | £1,412 |

**Step 2** Divide the amount of change by the base-period amount. This computes the percentage change for the period:

$$\text{Percentage change} = \frac{\text{Amount of change}}{\text{Base-year amount}}$$

$$= \frac{(£1,412)}{£44,472} = (3.18\%)$$

Exhibits 12-2 and 12-3 are detailed horizontal analyses for Vodafone's income statement and balance sheet, respectively. You may notice later that some percentage changes are denoted by "n.m." (not meaningful). We normally do this to indicate percentage change involving swings from a positive number to a negative number or vice versa. In such cases, whilst you can mathematically calculate the percentage difference, they are not meaningful and not shown.

In Exhibit 12-2, the comparative consolidated profit and loss accounts show that sales revenue increased 3.2% in 2011. It seems that Vodafone was able to maintain its sales in a very competitive mobile communication market, with strong competition from other telecommunication operators. Cost of sales increased more than the increase in sales, resulting in a much smaller increase in gross profit (0.2% versus 3.2% increase in sales revenue).

**EXHIBIT 12-2 | Horizontal Analysis: Income Statement**

**Vodafone Group plc**
**Consolidated Income Statement (Adapted)**
For year ended March 31

| | (In millions £, Pound Sterling) | 2011 | 2010 | Increase/(Decrease) Amount | Increase/(Decrease) Percentage |
|---|---|---|---|---|---|
| 1 | Revenue | 45,884 | 44,472 | 1,412 | 3.2% |
| 2 | Cost of sales | (30,814) | (29,439) | 1,375 | 4.7% |
| 3 | Gross profit | 15,070 | 15,033 | 37 | 0.2% |
| 4 | Selling and distribution expenses | (3,067) | (2,981) | 86 | 2.9% |
| 5 | Administrative expenses | (5,300) | (5,328) | (28) | (0.5%) |
| 6 | Share of results in associates | 5,059 | 4,742 | 317 | 6.7% |
| 7 | Impairment losses | (6,150) | (2,100) | 4,050 | 192.9% |
| 8 | Other income and expense | (16) | 114 | (130) | n.m. |
| 9 | Operating profit | 5,596 | 9,480 | (3,884) | (41.0%) |
| 10 | Non-operating income and expense | 3,022 | (10) | 3,032 | n.m. |
| 11 | Investment income | 1,309 | 716 | 593 | 82.8% |
| 12 | Financing costs | (429) | (1,512) | (1,083) | (71.6%) |
| 13 | Profit before taxation | 9,498 | 8,674 | 824 | 9.5% |
| 14 | Income tax expense | (1,628) | (56) | 1,572 | 2,807.1% |
| 15 | Profit for the financial year | 7,870 | 8,618 | (748) | (8.7%) |



However, Vodafone's net profit (its "bottom line") decreased £748 million or 8.7%. Why the difference? If gross margins are roughly the same, the explanation must be in other operating expenses. Looking through Exhibit 12-2, it is clear that line 7 (impairment losses) and line 14 (income tax expense) were the prime reasons that net profit went down even when sales increased. Other non-operating income (line 10) of £3 billion and a significant reduction in financing cost (line 12, a decrease of over 71% compared to 2010) were not enough to offset the impact of impairment losses and tax expense.

Horizontal analysis does not provide you with answers as to why other incomes increase (and other expenses increase). You will need to carefully study the notes to the financial statements and make an assessment if these 2011 amounts are likely to repeat in 2012 and beyond. You would want to check if there are likely to be more impairment charges in the future and also the reasons why the tax expenses vary so much from 2009 to 2010 to 2011. As an investor, you would want to assess if these items are likely to have a further impact in future operations!

Studying changes in balance sheet accounts can also enhance our total understanding of the current and long-term financial position of the entity. Let's look at a few balance sheet changes that transpired in 2011 for Vodafone as shown in Exhibit 12-3.

**EXHIBIT 12-3 | Horizontal Analysis: Balance Sheet**

**Vodafone Group plc**
**Consolidated Balance Sheet (Adapted)**
As at March 31

| | (In millions £, Pound Sterling) | 2011 | 2010 | Increase/(Decrease) Amount | Increase/(Decrease) Percentage |
|---|---|---|---|---|---|
| **Assets** | | | | | |
| 1 | Cash and cash equivalents | 6,252 | 4,423 | 1,829 | 41.4% |
| 2 | Trade and other receivables | 9,259 | 8,784 | 475 | 5.4% |
| 3 | Inventory | 537 | 433 | 104 | 24.0% |
| 4 | Other current assets | 955 | 579 | 376 | 64.9% |
| 5 | Total current assets | 17,003 | 14,219 | 2,784 | 19.6% |
| 6 | Trade and other receivables | 3,877 | 2,831 | 1,046 | 36.9% |
| 7 | Property, Plant and Equipment | 20,181 | 20,642 | (461) | (2.2%) |
| 8 | Investments in associates | 38,105 | 36,377 | 1,728 | 4.8% |
| 9 | Other investments | 1,381 | 7,591 | (6,210) | (81.8%) |
| 10 | Goodwill and intangible assets | 68,558 | 74,258 | (5,700) | (7.7%) |
| 11 | Other non-current assets | 2,115 | 1,067 | 1,048 | 98.2% |
| 12 | Total non-current assets | 134,217 | 142,766 | (8,549) | (6.0%) |
| 13 | Total assets | 151,220 | 156,985 | (5,765) | (3.7%) |
| **Liabilities** | | | | | |
| 14 | Trade and other payables | 14,698 | 14,082 | 616 | 4.4% |
| 15 | Provisions | 559 | 497 | 62 | 12.5% |
| 16 | Short-term borrowings | 9,906 | 11,163 | (1,257) | (11.3%) |
| 17 | Taxation-related liabilities | 1,912 | 2,874 | (962) | (33.5%) |
| 18 | Total current liabilities | 27,075 | 28,616 | (1,541) | (5.4%) |
| 19 | Trade and other payables | 804 | 816 | (12) | (1.5%) |
| 20 | Provisions | 482 | 497 | (15) | (3.0%) |
| 21 | Long-term borrowings | 28,375 | 28,632 | (257) | (0.9%) |
| 22 | Taxation-related liabilities | 6,836 | 7,377 | (541) | (7.3%) |
| 23 | Post-employment benefits | 87 | 237 | (150) | (63.3%) |
| 24 | Total non-current liabilities | 36,584 | 37,559 | (975) | (2.6%) |
| 25 | Total liabilities | 63,659 | 66,175 | (2,516) | (3.8%) |
| **Equity** | | | | | |
| 26 | Share capital | 4,082 | 4,153 | (71) | (1.7%) |
| 27 | Additional paid-in capital | 153,760 | 153,509 | 251 | 0.2% |
| 28 | Treasury shares | (8,171) | (7,810) | (361) | 4.6% |
| 29 | Accumulated losses | (77,661) | (79,655) | 1,994 | (2.5%) |
| 30 | Accumulated other comprehensive income | 15,545 | 20,184 | (4,639) | (23.0%) |
| 31 | Non-controlling interests | 6 | 429 | (423) | (98.6%) |
| 32 | Total equity | 87,561 | 90,810 | (3,249) | (3.6%) |
| 33 | Total liabilities and equity | 151,220 | 156,985 | (5,765) | (3.7%) |



From a total assets perspective, Vodafone has actually become a little smaller in 2011, from £156,985 to £151,200 million (down 3.7%). Total current assets (line 5) have actually increased by almost 20%, but this was negated by the large drop in other investments (line 9) of 82% and goodwill and intangible assets (line 10) of 7.7%. Note that whilst the 7.7% drop in goodwill and intangible assets is small when viewed from a percentage viewpoint, it is the second largest quantum change in Exhibit 12-3.

On the liabilities side, Vodafone has reduced its short-term borrowings by 11.3% and the share of non-controlling interests in the consolidated subsidiaries has decreased significantly from £429 million to £6 million.

Overall, looking at horizontal changes between 2010 and 2011, it appears that 2011 was a challenging year for Vodafone. Revenue has increased slightly, but other expenses, especially impairment losses and tax expense, have increased substantially. Total assets have declined, primarily due to reductions in other investments, goodwill, and other intangible assets. It looks like 2012 and beyond is probably going to be just as challenging, with the economic downturn persisting in many markets.

## STOP & THINK . . .

Have another look at Exhibits 12-2 and 12-3. Are the biggest percentage items always the most important items that cause changes in income statement or balance sheet from one year to another? Can you always ignore small changes, such as anything that is less than 5%?

***Answer:***

The largest percentage change in Vodafone's income statement was "other expenses" at 2,807%, and "non-controlling interests" at 98.6% for Vodafone's balance sheet. Whilst these are good starting points to examine horizontal changes, they are not always the most important things in horizontal analysis. Percentage change depends on the base, so large fluctuations may result simply because of a small base. These fluctuations would not cause alarm because the dollar amount of the category is relatively small to begin with, causing year-on-year percentage changes to look very large. A smaller percentage change on a larger base may be more important than a larger percentage change on a small base. For example, a 7.7% change in goodwill and other intangible assets may seem small, but it involves the second highest quantum change on the balance sheet due to its large base number. Smaller percentage changes do not always mean they can be ignored. Similarly, a percentage change may be very substantial just because there was a small base.

### Trend Percentages

**Trend percentages** are a form of horizontal analysis. Trends indicate the direction a business is taking. How have revenues changed over a five-year period? What trend does net income show? These questions can be answered by trend percentages over a representative period, such as the most recent five years.

Trend percentages are computed by selecting a base year whose amounts are set equal to 100%. The amount for each following year is stated as a percentage of the base amount. To compute a trend percentage, divide an item for a later year by the base-year amount.

$$\text{Trend \%} = \frac{\text{Any year's amount}}{\text{Base year's amount}}$$

Remember that income from operations (or operating profit) is often viewed as the primary measure of a company's earnings quality. This is because operating income represents a company's best predictor of the future net inflows from its core business units. Net income from operations is often used in estimating the current value of the business.

Vodafone's operating profits for 2008–11 are as follows:

| (In millions, £) | 2011 | 2010 | 2009 | 2008 |
|---|---|---|---|---|
| Operating profit .......................... | £5,596 | £9,480 | £5,857 | £10,047 |

We want to calculate a trend for the four-year period 2008 through 2011. The first year in the series (2008) is set as the base year. Trend percentages are computed by dividing each year's amount by the 2008 amount. The resulting trend percentages follow (2008 = 100%):

| | 2011 | 2010 | 2009 | 2008 |
|---|---|---|---|---|
| Operating profit .......................... | 56 | 98 | 59 | 100 |

Vodafone's operating income seems to fluctuate from year to year, starting from £10 billion in 2008, down to £5.9 billion, back up to £9.5 billion and dropping to £5.6 billion in 2011.

You can perform a trend analysis on any item you consider important. Trend analysis using income statement data is widely used for predicting the future. Horizontal and trend analyses highlight changes over time. It is a basic technique that will get you started in financial statement analysis.

## Vertical Analysis

**OBJECTIVE**

**2 Perform** a vertical analysis of financial statements

**Vertical analysis** (or component analysis) shows the relationship of financial-statement items relative to a total, which is the 100% figure. All items on the particular financial statement are reported as a percentage of the base. For the income statement, total revenue (sales) is usually the base. Suppose under normal conditions a company's net income is 8% of revenue. A drop to 6% may cause the company's share price to fall.

### Illustration: Vodafone

Exhibit 12-4 shows the vertical analysis of Vodafone's income statement as a percentage of revenue. In this case,

$$\text{Vertical analysis \%} = \frac{\text{Each income statement item}}{\text{Total revenue}}$$

**EXHIBIT 12-4 | Vertical Analysis: Income Statement**

**Vodafone Group plc**
**Consolidated Income Statement (Adapted)**
For year ended March 31

| | (In millions £, Pound Sterling) | 2011 | % of sales | 2010 | % of sales |
|---|---|---|---|---|---|
| 1 | Revenue | 45,884 | 100.0% | 44,472 | 100.0% |
| 2 | Cost of sales | (30,814) | (67.2%) | (29,439) | (66.2%) |
| 3 | Gross profit | 15,070 | 32.8% | 15,033 | 33.8% |
| 4 | Selling and distribution expenses | (3,067) | (6.7%) | (2,981) | (6.7%) |
| 5 | Administrative expenses | (5,300) | (11.6%) | (5,328) | (12.0%) |
| 6 | Share of results in associates | 5,059 | 11.0% | 4,742 | 10.7% |
| 7 | Impairment losses | (6,150) | (13.4%) | (2,100) | (4.7%) |
| 8 | Other income and expense | (16) | (0.0%) | 114 | 0.3% |
| 9 | Operating profit | 5,596 | 12.2% | 9,480 | 21.3% |
| 10 | Non-operating income and expense | 3,022 | 6.6% | (10) | (0.0%) |
| 11 | Investment income | 1,309 | 2.9% | 716 | 1.6% |
| 12 | Financing costs | (429) | (0.9%) | (1,512) | (3.4%) |
| 13 | Profit before taxation | 9,498 | 20.7% | 8,674 | 19.5% |
| 14 | Income tax expense | (1,628) | (3.5%) | (56) | (0.1%) |
| 15 | Profit for the financial year | 7,870 | 17.2% | 8,618 | 19.4% |



For Vodafone, in 2011, the vertical analysis percentage shows us:

- Cost of sales (line 2) was 67.2% of revenue, compared to 66.2% in 2010. This means Vodafone incurred a higher cost of sales in 2011, resulting in a lower gross profit (line 3) of 32.8% compared to 33.8% in 2010.
- Most 2011 operating expenses were of similar percentages of revenue in 2010, with the exception of impairment losses (line 7, 13.4% versus 4.7% of revenue), financing costs (line 12, 0.9% versus 3.4% of revenue) and income tax expense (line 14, 3.5% versus an unusually low 0.1% of revenue).
- Non-operating income (line 10) of £3,022 million added 6.6% of revenue to the bottom line. On further examination of the annual report, we note that this is partially due to gains from selling of its investments (this was also why there was a decrease in other investments in Exhibit 12-3, line 9).
- In 2011, for every British pound of sales, Vodafone booked a net profit of 17.2 pence (line 15), less than what it achieved in 2010 (13.2 pence).

## STOP & THINK . . .

Perform a vertical analysis for the common-size percentages for the following income statement:

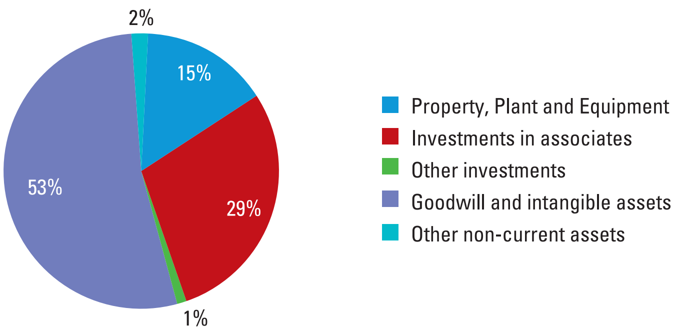
| | |
|---|---|
| Net sales | $150,000 |
| Cost of goods sold | 60,000 |
| Gross profit | 90,000 |
| Operating expense | 40,000 |
| Operating income | 50,000 |
| Income tax expense | 15,000 |
| Net income | $ 35,000 |

*Answer:*

| | | |
|---|---|---|
| Net sales | 100% | (= $150,000 ÷ $150,000) |
| Cost of goods sold | 40 | (= $ 60,000 ÷ $150,000) |
| Gross profit | 60 | (= $ 90,000 ÷ $150,000) |
| Operating expense | 27 | (= $ 40,000 ÷ $150,000) |
| Operating income | 33 | (= $ 50,000 ÷ $150,000) |
| Income tax expense | 10 | (= $ 15,000 ÷ $150,000) |
| Net income | 23% | (= $ 35,000 ÷ $150,000) |

We could do a similar vertical analysis on the balance sheet. If you want to see composition of total assets, then let total assets be 100% and express all assets as a percentage of total assets. However, if you are zooming in on the composition of current assets, then let current assets be 100% and examine only components of current assets. Exhibit 12-5 shows an example of component analysis of Vodafone's current assets using a pie chart.

**EXHIBIT 12-5 | Vertical Analysis using Pie Chart**




## Benchmarking

**Benchmarking** simply means comparing one entity to another. Usually benchmarks are selected because they are direct competitors in the same industry or market, peers in the broader market, or just any other "aspiration" entities. You may be running a small retail shop, but if you aspire to do just as well as **Amazon** or department stores like **Marks and Spencer**, then go ahead, you can always benchmark your own company's performance against specific companies. The most important aspect of benchmarking, however, is that it gives you context in which you could interpret your data.

## A CLOSER LOOK

You could also research industry averages on various websites. For example, http://www.bizstats.com/industry-financials.php offers some basic financial ratio information from 251 industries and sub-sectors. Similarly, Yahoo Finance (http://biz.yahoo.com/p/industries.html) offers some limited financial ratio averages for many industries and sectors. In addition, your university library may have subscriptions to Dun & Bradstreet's *Industry Norms and Key Business Ratios*, Standard & Poor's *Capital IQ*, or Risk Management Association's *Annual Statement Studies*. There are also many others, but they typically require you to subscribe or purchase the information. In this chapter, relevant industry benchmarks are obtained from S&P's *Capital IQ* as at the time of writing.

Suppose you are a financial analyst for **Citigroup**, a large investment bank. You are considering investing in one of two different companies in the same industry, say Vodafone or China Mobile. A direct numerical comparison of these companies' financial statements is not meaningful, in part because of differing currency and size difference. One company may be so much larger than the other. One of the techniques you could use, called common-size financial statements, is basically an extension of vertical analysis. You convert the companies' income statements to a common size and compare the percentages. This comparison is meaningful, as we shall see.

## How Do We Compare One Company to Another?

**OBJECTIVE**

**3** **Prepare** common-size financial statements

Exhibits 12-4 and 12-5 can be modified to report only percentages (no currency amounts) for two or more companies. When compared side-by-side, such financial statements are called **common-size statements**. A common-size financial statement aids the comparison of different companies because all amounts are stated in percentages, thus expressing the financial results of each comparative company in terms of a common denominator. Currency and size differences are eliminated when you do a common-size comparison.

Exhibit 12-6 presents the common-size income statements of Vodafone, Telenor, China Mobile, and Bharti Airtel. To make common-size comparison meaningful, you often have to synchronize the items in the two (or more) financial statements and simplify. For example, Vodafone separates selling and distribution expenses from administrative expenses, but Bharti Airtel combines them as selling, general, and administrative expenses. We would then have to combine Vodafone's two expense items into one, to make it more comparable to Bharti Airtel. Another difference could be where a company provides analysis of its expenses by function (such as Vodafone) and another by nature (such as Telenor)[1]. Exhibit 12-6 offers the broad expense categories for our comparisons of the four telecommunication companies.

[1] We discussed function versus nature presentation options for income statements in Chapter 4.

**EXHIBIT 12-6 | Common-Size Income Statements: Vodafone, Telenor, China Mobile and Bharti Airtel**

| | Vodafone | Telenor | China Mobile | Bharti Airtel |
|---|---|---|---|---|
| Revenue | 100.0% | 100.0% | 100.0% | 100.0% |
| Total operating expenses | (87.8%) | (89.5%) | (71.3%) | (83.6%) |
| Operating profit | 12.2% | 10.5% | 28.7% | 16.4% |
| Interest expense | (0.9%) | (2.2%) | (0.1%) | (4.3%) |
| Total other non-operating income and expenses | 9.4% | 4.5% | 3.0% | 0.8% |
| Profit before tax | 20.7% | 12.8% | 31.5% | 12.9% |
| Income tax expense | (3.5%) | (5.4%) | (7.7%) | (3.0%) |
| Net profit | 17.2% | 7.3% | 23.9% | 9.9% |

Note that Vodafone reports in British pounds (GBP), Telenor in Norwegian Kroner (NOK), China Mobile in Renminbi (RMB, also known as Chinese Yuan CNY), and Bharti Airtel in Indian Rupees (INR). And yet, we are able to arrive at some comparative numbers using common-size analysis by using percentages.

As you can see, the above comparison tells us that China Mobile enjoys a higher operating profit as a percentage of sale (we call this operating profit margin—more on financial ratios later in this chapter) than the other three telecommunication companies. Bharti Airtel has the highest interest expense as a percentage of revenue and China Mobile has the highest income tax expense as a percentage of revenue. Our common-size analysis seems to indicate that China Mobile has better profitability at 23.9% than the other companies, but Vodafone is also doing very well at 17.2%.

# MID-CHAPTER SUMMARY PROBLEM

Perform a horizontal analysis and a vertical analysis of the comparative income statement of Hard Rock Products, Inc., which makes metal detectors. State whether 20X7 was a good year or a bad year, and give your reasons.

**Hard Rock Products, Inc.**
**Comparative Income Statements**
Years Ended December 31, 20X7 and 20X6

| | 20X7 | 20X6 |
|---|---|---|
| Total revenues | $275,000 | $225,000 |
| Expenses: | | |
| Cost of goods sold | 194,000 | 165,000 |
| Engineering, selling, and administrative expenses | 54,000 | 48,000 |
| Interest expense | 5,000 | 5,000 |
| Income tax expense | 9,000 | 3,000 |
| Other expense (income) | 1,000 | (1,000) |
| Total expenses | 263,000 | 220,000 |
| Net income | $ 12,000 | $ 5,000 |

## Answer

The horizontal analysis shows that total revenues increased 22.2%. This was greater than the 19.5% increase in total expenses, resulting in a 140% increase in net income.

**Hard Rock Products, Inc.**
**Horizontal Analysis of Comparative Income Statements**
Years Ended December 31, 20X7 and 20X6

| | 20X7 | 20X6 | Increase (Decrease) Amount | Increase (Decrease) Percent |
|---|---|---|---|---|
| Total revenues | $275,000 | $225,000 | $50,000 | 22.2% |
| Expenses: | | | | |
| Cost of goods sold | 194,000 | 165,000 | 29,000 | 17.6 |
| Engineering, selling, and administrative expenses | 54,000 | 48,000 | 6,000 | 12.5 |
| Interest expense | 5,000 | 5,000 | — | — |
| Income tax expense | 9,000 | 3,000 | 6,000 | 200.0 |
| Other expense (income) | 1,000 | (1,000) | 2,000 | n.m.* |
| Total expenses | 263,000 | 220,000 | 43,000 | 19.5 |
| Net income | $ 12,000 | $ 5,000 | $ 7,000 | 140.0% |

*n.m., not meaningful. Percentage changes are typically not computed for shifts from a negative to a positive amount and vice versa.

The vertical analysis shows decreases in the percentages of net sales consumed by the cost of goods sold (from 73.3% to 70.5%) and by the engineering, selling, and administrative expenses (from 21.3% to 19.6%). Because these two items are Hard Rock's largest dollar expenses, their percentage decreases are quite important. The relative reduction in expenses raised 20X7 net income to 4.4% of sales, compared with 2.2% the preceding year. The overall analysis indicates that 20X7 was significantly better than 20X6.

**Hard Rock Products, Inc.**
**Vertical Analysis of Comparative Income Statements**
Years Ended December 31, 20X7 and 20X6

| | 20X7 Amount | 20X7 Percent | 20X6 Amount | 20X6 Percent |
|---|---|---|---|---|
| Total revenues | $275,000 | 100.0% | $225,000 | 100.0% |
| Expenses: | | | | |
| Cost of goods sold | 194,000 | 70.5 | 165,000 | 73.3 |
| Engineering, selling, and administrative expenses | 54,000 | 19.6 | 48,000 | 21.3 |
| Interest expense | 5,000 | 1.8 | 5,000 | 2.2 |
| Income tax expense | 9,000 | 3.3 | 3,000 | 1.4** |
| Other expense (income) | 1,000 | 0.4 | (1,000) | (0.4) |
| Total expenses | 263,000 | 95.6 | 220,000 | 97.8 |
| Net income | $ 12,000 | 4.4% | $ 5,000 | 2.2% |

**Number rounded up.

# Using Ratios to Make Business Decisions

**OBJECTIVE**

**4** **Compute** the standard financial ratios

Financial ratios are a major tool of financial analysis. We have discussed the use of many ratios in financial analysis in various chapters throughout the book. A ratio expresses the relationship of one number to another. Suppose your balance sheet shows current assets of $100,000 and current liabilities of $50,000. The ratio of current assets to current liabilities is $100,000 to $50,000. We can express this ratio as 2 to 1, or 2:1, or some may even say current ratio is at 200%. In any case, what we really mean is that the current ratio is 2.

Many companies include selected financial ratios in a special section of their annual reports or post them online on their "investor relation" websites. One example is that of **Dell** computers (http://content.dell.com/us/en/corp/investor-financial-reporting.aspx). Click on "Selected Financial Data and Ratio" and you will see a rather comprehensive list of financial ratios calculated by Dell for its shareholders. Alternatively, you may visit various information websites, such as **Moody's**, **Standard & Poor's**, **Risk Management Association**, **Reuters**, and others, for their coverage of companies' news and financial information, including financial ratios. You are more likely to find more coverage on larger multinational companies than on smaller ones. For example, you can check out Forbes' coverage of Vodafone at http://finapps.forbes.com/finapps/jsp/finance/compinfo/Ratios.jsp?tkr=VOD, or Reuters' at http://www.reuters.com/finance/stocks/financialHighlights?symbol=VOD.L for a sample of Reuters' ratios for Vodafone, along with comparable ratios for the telecommunication services industry (and wireless communication sub-sector).

## Financial Ratios

The ratios we discuss in this chapter are classified as follows:

1. Cash conversion cycle
2. Short-term liquidity measures
3. Long-term liquidity measures
4. Profitability measures
5. Investment measures

Sometimes you may find different ratio classifications and even slightly different formulas for the ratios we are about to discuss. For example, Reuters classify ratios into efficiency, effectiveness, financial strength, profitability, and valuation ratios. Don't be alarmed by any differences; as long as you calculate the ratios consistently, there is always value to financial statement analysis. A ruler that is imperfect can still tell you who is the tallest amongst a group of people!

Exhibit 12-7 gives the income statement and balance sheet data of Palisades Furniture, an independent furniture and homewares retailer. We will work with this exhibit as our running example on how to perform financial statement analysis and compare the financial ratios to an industry average. At the end of each section, we will also show you the financial ratios of the four telecommunication companies (Vodafone, China Mobile, Telenor, and Bharti Airtel) for discussion.

**EXHIBIT 12-7 | Comparative Financial Statements**

**Palisades Furniture, Inc.**
**Comparative Income Statements**
Years Ended December 31, 20X7 and 20X6

| | 20X7 | 20X6 |
|---|---|---|
| Net sales | $858,000 | $803,000 |
| Cost of goods sold | 513,000 | 509,000 |
| Gross profit | 345,000 | 294,000 |
| Operating expenses: | | |
| Selling expenses | 126,000 | 114,000 |
| General expenses | 118,000 | 123,000 |
| Total operating expenses | 244,000 | 237,000 |
| Income from operations | 101,000 | 57,000 |
| Interest revenue | 4,000 | 0 |
| Interest (expense) | (24,000) | (14,000) |
| Income before income taxes | 81,000 | 43,000 |
| Income tax expense | 33,000 | 17,000 |
| Net income | $ 48,000 | $ 26,000 |

**Palisades Furniture, Inc.**
**Comparative Balance Sheets**
December 31, 20X7 and 20X6

| | 20X7 | 20X6 |
|---|---|---|
| **Assets** | | |
| Current Assets: | | |
| Cash | $ 29,000 | $ 32,000 |
| Accounts receivable, net | 114,000 | 85,000 |
| Inventories | 113,000 | 111,000 |
| Prepaid expenses | 6,000 | 8,000 |
| Total current assets | 262,000 | 236,000 |
| Long-term investments | 18,000 | 9,000 |
| Property, plant and equipment, net | 507,000 | 399,000 |
| Total assets | $787,000 | $644,000 |
| **Liabilities** | | |
| Current Liabilities: | | |
| Notes payable | $ 42,000 | $ 27,000 |
| Accounts payable | 73,000 | 68,000 |
| Accrued liabilities | 27,000 | 31,000 |
| Total current liabilities | 142,000 | 126,000 |
| Long-term debt | 289,000 | 198,000 |
| Total liabilities | 431,000 | 324,000 |
| **Shareholders' Equity** | | |
| Share capital, no par | 186,000 | 186,000 |
| Retained earnings | 170,000 | 134,000 |
| Total shareholders' equity | 356,000 | 320,000 |
| Total liabilities and shareholders' equity | $787,000 | $644,000 |

## Cash Conversion Cycle

The ability to sell inventory and collect receivables is critical. In this section, we discuss a number of ratios that measure an entity's ability to collect cash. We have previously introduced some of the ratios here in earlier chapters (receivable turnover, inventory turnover and payable turnover in Chapters 5, 6 and 9). Let's start with the components of a cash conversion cycle.

**Inventory Turnover.** Companies generally strive to sell their inventory as quickly as possible. The faster inventory sells, the sooner cash comes in. **Inventory turnover** (discussed in Chapter 6) measures the number of times a company sells its average level of inventory during a year. A fast turnover indicates ease in selling inventory; a low turnover indicates difficulty. A value of 6 means that the company's average level of inventory has been sold six times during the year, and that's usually better than a turnover of 3. But too high a value can mean that the business is not keeping enough inventory on hand, which can lead to lost sales if the company can't fill orders. Therefore, a business strives for the most profitable rate of turnover, not necessarily the *highest* rate.

To compute inventory turnover, divide the cost of goods sold by the average inventory for the period. We use the cost of goods sold—not sales—in the computation because both cost of goods sold and inventory are stated at cost. Palisades Furniture's inventory turnover for 20X7 is:

| Formula | *Palisades' Inventory Turnover* | Industry Average |
|---|---|---|
| $\text{Inventory turnover} = \dfrac{\text{Cost of goods sold}}{\text{Average inventory}}$ | $\dfrac{\$513{,}000}{\$112{,}000} = 4.6$ | 4.2 |

Cost of goods sold comes from the income statement (Exhibit 12-7). Average inventory is the average of beginning ($111,000) and ending inventory ($113,000) (see the balance sheet, Exhibit 12-7). Inventory turnover varies widely with the nature of the business. For example, a fast-food chain restaurant, such as **Pizza Hut**, **Taco Bell**, **KFC**, or **Long John Silver's**, is likely to have a high turnover ratio because it turns around its inventory into sales in a short time. This may be a necessity because food spoils quickly. On the other hand, a furniture retailer turns its inventory over only a few times a year, as most of the inventory is kept for a while on shop floors and warehouses, waiting for customers to purchase. In this case, Palisades' inventory turnover is slightly above the industry average. To evaluate inventory turnover, compare the ratio over time. A sharp decline suggests the need for corrective action.

Inventory turnover can also be expressed in number of days. If you divide 365 days by Palisades' inventory turnover ratio of 4.6, this is equal to about 79 days, compared to the industry average of 87 days. This ratio is called the **inventory resident period** (or days supply on hand, days inventory on hand, or something to that effect).

**Accounts Receivable Turnover.** Receivable turnover measures the ability to collect cash from customers. In general, the higher the ratio, the better. A low receivable turnover indicates ineffectiveness in collecting dues from customers. However, a receivable turnover that is too high may indicate that credit is too tight, and that may cause you to lose sales to good customers.

To compute accounts receivable turnover, divide net sales by average net accounts receivable. The ratio tells how many times during the year average receivables were turned into cash. Note that we would normally exclude non-trading revenue and receivables. For example, we would only include revenue from trading activities and not interest revenue or dividend income. Similarly, we would only include trade receivables and not other receivables such as loans to employees. Palisades Furniture's accounts receivable turnover ratio for 20X7 is:

| Formula | *Palisades' Accounts Receivable Turnover* | Industry Average |
|---|---|---|
| $\text{Accounts receivable turnover} = \dfrac{\text{Sales Revenue}}{\text{Average accounts receivable}}$ | $\dfrac{\$858{,}000}{\$99{,}500} = 8.6$ | 6.2 |

Average net accounts receivable can be derived by adding beginning ($85,000) and ending receivables ($114,000), then dividing by 2. Palisades' receivable turnover of 8.6 times per year is a little faster than the industry average. Why the faster collection? Palisades may be a hometown store that sells to local people and businesses who typically settle their bills on time.

Similarly, we can also convert receivable turnover into days and refer to it as **receivable collection period**, also known as days sales outstanding, or days sales in receivables, or something similar. For Palisades, on average, it takes 42 days to collect cash from its receivables. This is better than the home furnishing industry's average of 59 days.

**Accounts Payable Turnover.** Businesses buy their supplies and raw materials on credit, and take time to pay their accounts payable. A high account payable turnover ratio means a business pays its suppliers very quickly, and a low payable turnover means a longer time period for payments to suppliers. Generally, a lower payable turnover is better than a higher one, as the business is making full use of the credit terms extended by its creditors. However, a business can't stretch the payable period too far because no one would supply the business if it continued to be delinquent on its payments.

To compute **payable turnover**, divide cost of goods sold by the average accounts payable for the period. Again, we would only include trade-related payable and exclude items such as interest payable, short-term loan, tax payable and so forth. Average accounts payable for the period is $73,000 + $60,000 divided by 2. Palisades Furniture's payable turnover for 20X7 is:

| Formula | *Palisades' Accounts Payable Turnover* | Industry Average |
|---|---|---|
| $\text{Accounts payable turnover} = \dfrac{\text{COGS}}{\text{Average net accounts payable}}$ | $\dfrac{\$513{,}000}{\$70{,}500} = 7.3$ | 3.7 |

It seems that Palisades pays its creditors faster than the industry average. Perhaps as a small store, it was not given as liberal a credit term as other major players in the home furnishing industry. If we express this ratio in days, the **payable outstanding period** (or days payable outstanding) is 50 days (365/7.3), whereas the industry average is about 99 days (365/3.7).

**Cash Conversion Cycle.** If we put the inventory resident period, receivable collection period and payable collection period together, we can get a rough idea of how long it takes for a business to sell its inventory, collect payments, and make its payments to suppliers. This is what we call the **cash conversion cycle**.

Palisades' cash conversion cycle is thus inventory resident period + receivable collection period − payable outstanding period, or 79 + 42 − 50 = 71 days. The home furnishings' cash conversion cycle is much faster at 87 + 59 − 99 = 47 days, primarily due to the long payable outstanding period. In general, a shorter cycle is better than a longer cycle: in fact it can even be a negative number! Here's an example of Dell Computers' disclosure on its cash conversion cycle. Note that Dell uses slightly different terminology from that we use in this chapter.

### EXCERPTS FROM DELL INC.'S 2012 ANNUAL REPORT

#### Key Performance Metrics

Our cash conversion cycle for the fiscal quarter ended February 3, 2012, improved from the fiscal quarter ended January 28, 2011, and was essentially unchanged from the fiscal quarter ended January 29, 2010. Our business model allows us to maintain an efficient cash conversion cycle, which compares favorably with that of others in our industry. The following table presents the components of our cash conversion cycle for the fourth quarter of each of the past three fiscal years:

| | Fiscal Quarter Ended | | |
|---|---|---|---|
| | February 3, 2012 | January 28, 2011 | January 29, 2010 |
| Days of sales outstanding | 42 | 40 | 38 |
| Days of supply in inventory | 11 | 9 | 8 |
| Days in accounts payable | (89) | (82) | (82) |
| Cash conversion cycle | (36) | (33) | (36) |

*Source*: Dell Inc.

## STOP & THINK . . .

Vodafone's cash conversion cycle components for the last two financial years, along with the telecommunication industry averages, are shown below. What is your assessment of Vodafone's cash conversion cycle?

| Vodafone Group plc | 2011 | 2010 | Industry average |
|---|---|---|---|
| Inventory resident period | 5.7 | 5.2 | 16.8 |
| Receivable collection period | 33.2 | 32.3 | 50.9 |
| Payable outstanding period | 45.6 | 39.8 | 48.3 |
| Cash conversion cycle | (6.7) | (2.2) | 19.4 |

*Answers:*

Vodafone has improved its cash conversion cycle from (2.2) days to (6.7) days, primarily due to a longer payable outstanding period. Overall, its cash conversion cycle is significantly better than the telecommunication industry. Whilst the payable outstanding period has increased in 2011, it is still below the industry average. If Vodafone could achieve the same payable outstanding period, its cash conversion cycle will be further improved to (9.4) days.

## Measuring Ability to Pay Current Liabilities

In any financial year, a business has current assets at its disposal and has current liabilities to settle. **Working capital** is the term we use to describe what a business has to work with during the year, i.e. current assets less current liabilities. Generally, the higher the working capital, the better. Too much of it, however, means the business is not utilizing its current assets effectively, as cash, inventory and receivables do not earn much income. Some businesses may operate on very little working capital, especially if they have a very strong cash conversion cycle. Consider two companies with equal working capital:

| | *Company* | |
|---|---|---|
| | **Jones** | **Smith** |
| Current assets | $100,000 | $200,000 |
| Current liabilities | 50,000 | 150,000 |
| Working capital | $ 50,000 | $ 50,000 |

Both companies have working capital of $50,000, but Jones' working capital is as large as its current liabilities. Smith's working capital is only one-third as large as current liabilities. Jones is in a better position because its working capital is a higher percentage of current liabilities. Two decision making tools based on current assets and current liabilities data are the *current ratio* and the *acid-test ratio*.

**Current Ratio.** The most common ratio evaluating current assets and current liabilities is the **current ratio**, which is simply current assets divided by current liabilities. The current ratio measures the ability to pay current liabilities with current assets (as discussed in Chapter 5).

The current ratios of Palisades Furniture, Inc., at December 31, 20X7 and 20X6, follow, along with the average for the home furnishing industry:

| | *Palisades' Current Ratio* | | |
|---|---|---|---|
| **Formula** | **20X7** | **20X6** | **Industry Average** |
| Current ratio $= \frac{\text{Current assets}}{\text{Current liabilities}}$ | $\frac{\$262{,}000}{\$142{,}000} = 1.85$ | $\frac{\$236{,}000}{\$126{,}000} = 1.87$ | 1.6 |

Palisades' current ratio decreased slightly during 20X7. In general, a higher current ratio indicates a stronger financial position. The business has sufficient current assets to maintain its operations. What is an acceptable current ratio? The answer depends on the industry. The norm for companies in most industries is around 1.5, as reported by the Risk Management Association. Palisades Furniture's current ratio of 1.85 is better than the home furnishing industry average of 1.6.

**Acid-Test Ratio.** A more refined version of current ratio is known as the **acid-test ratio** (also known as the **quick ratio**). It tells us whether a business could pass the "acid test" of paying all its current liabilities if they came due immediately. The acid-test ratio uses a narrower base to measure liquidity than the current ratio does.

To compute the acid-test ratio, we add cash, short-term investments, and net current receivables (accounts and notes receivable, net of allowances) and divide by current liabilities. Inventory is excluded because they are less liquid, as businesses may be unable to convert inventory to cash immediately. This is why sometimes you see this short-cut in measuring quick ratio: (Current Assets − Inventory) ÷ Current Liabilities.

Palisades Furniture's acid-test ratios for 20X7 and 20X6 follow:

| Formula | *Palisades' Acid-Test Ratio* 20X7 | 20X6 | Industry Average |
|---|---|---|---|
| Acid-test ratio $= \frac{\text{Cash + Short-term investments + Net current receivables}}{\text{Current liabilities}}$ | $\frac{\$29{,}000 + \$0 + \$114{,}000}{\$142{,}000} = 1.01$ | $\frac{\$32{,}000 + \$0 + \$85{,}000}{\$126{,}000} = 0.93$ | 1.3 |

The company's acid-test ratio improved during 20X7 and is lower than the industry average. It seems like Palisades is holding more inventory than other companies in the industry!

## STOP & THINK . . .

Vodafone's current and quick ratio for the last two financial years, along with the telecommunication industry averages, are shown below. What is your assessment of Vodafone's ability to pay short-term liabilities?

| Vodafone Group plc | 2011 | 2010 | Industry average |
|---|---|---|---|
| Working capital (in million £s) | (10,072) | (14,397) | not applicable |
| Current ratio | 0.63 | 0.50 | 1.4 |
| Quick ratio | 0.61 | 0.48 | 0.9 |

***Answers:***

Vodafone has a negative working capital, as its current liabilities are greater than its current assets. Whilst we don't have a direct industry average, we can compare Vodafone's working capital to the other telecommunication companies. Both Telenor and Bharti Airtel also have negative working capital; only China Mobile has a positive working capital.

Vodafone's current and quick ratio both show improvements in 2011 but are still very much below the telecommunication industry averages. Does this mean that it will not able to pay its current liabilities? Not necessarily: remember Vodafone enjoys a negative cash conversion cycle. It collects money from customers faster than it pays its suppliers!

## Measuring Ability to Pay Debts

The ratios discussed so far relate to current assets and current liabilities. They measure the ability to sell inventory, collect receivables, and pay current obligations. Two indicators of the ability to pay total liabilities are the *debt ratio* and the *times-interest-earned ratio*.

**Debt Ratio.** Suppose you are a bank loan officer and you have received $500,000 loan applications from two similar companies. The first company already owes $600,000, and the second owes only $250,000. Which company gets the loan? All else being equal, you will probably approve the loan application from Company 2, because it owes less.

This relationship between total liabilities and total assets is called the **debt ratio**, which gives an indication of the degree of **leverage** or **gearing** of a company. The debt ratio tells us the proportion of assets financed with debt (see Chapter 9). A debt ratio of 1 reveals that debt has financed all the assets. A debt ratio of 0.50 means that debt finances half the assets. The higher the debt ratio, the greater the pressure to pay interest and principal. The lower the ratio, the lower the risk. You can also express debt ratio as a percentage.

The debt ratios for Palisades Furniture in 20X7 and 20X6 follow:

| | *Palisades' Debt Ratio* | | Industry |
|---|---|---|---|
| **Formula** | **20X7** | **20X6** | **Average** |
| $\text{Debt ratio} = \dfrac{\text{Total liabilities}}{\text{Total assets}}$ | $\dfrac{\$431{,}000}{\$787{,}000} = 0.55$ | $\dfrac{\$324{,}000}{\$644{,}000} = 0.50$ | 0.62 |

Capital IQ reports that the average debt ratio for home furnishing companies is about 0.62 (or 62%), with relatively little variation from company to company. Palisades' 55% debt ratio indicates a fairly low-risk debt position compared with the industry average of 62%.

An alternative way to describe the level of an entity's leverage is the **debt-to-equity** ratio. Recall that the accounting equation is Assets = Liabilities + Equity. If you know the debt ratio (i.e. liabilities over assets), you can easily work out an entity's debt-to-equity ratio. If total assets are $787,000 and total liabilities are $431,000, equity must be $356,000. The debt-to-equity ratio is thus $431,000 over $356,000, or 1.21 times. A debt-ratio of 0.55 is equivalent to a debt-to-equity ratio of 1.21.

**Times-Interest-Earned Ratio.** Analysts use a second ratio—the **times-interest-earned ratio** (or interest coverage ratio)—to relate income to interest expense. To compute the times-interest-earned ratio, divide income from operations (operating income) by interest expense. This ratio measures the number of times operating income can cover interest expense and is also called the **interest-coverage ratio**. A high ratio indicates ease in paying interest; a low value suggests difficulty.

Palisades' times-interest-earned ratios are:

| | *Palisades' Times-Interest-Earned Ratio* | | Industry |
|---|---|---|---|
| **Formula** | **20X7** | **20X6** | **Average** |
| $\text{Times-interest-earned ratio} = \dfrac{\text{Income from operations}}{\text{Interest expense}}$ | $\dfrac{\$101{,}000}{\$24{,}000} = 4.21$ | $\dfrac{\$57{,}000}{\$14{,}000} = 4.07$ | 5.8 |

The company's times-interest-earned ratio increased in 20X7. This is a favorable sign but it is lower than the industry's average interest coverage ratio. This means there are some risks that any shortfall in profitability may negatively affect Palisades' ability to pay interests to its creditors.

## A CLOSER LOOK

There are many other versions of these ratios, depending on which textbook, website, rating agency or financial institution, you read or follow. For example, some would consider "debt" in debt ratio to be more specific than total liabilities. They would prefer to interpret debt as "interest-bearing liabilities," and exclude other items such as accounts payable, accrued liabilities, unearned revenue and so forth because these liabilities do not bear interest. When you think of your own "debt," you would naturally think of your tuition loan or motor vehicle loan, and not your outstanding telephone bill, or that your friend paid for your lunch last week!

Similarly, there are numerous additional refinements one could employ. For example, when interest payments are capitalized (under *IAS 23—Borrowing Costs*, briefly discussed in Chapter 7), these payments will not be shown as an expense. These analysts, in calculating times-interest-earned, prefer to add any capitalized interest to the interest expense shown on the income statement on the ratio's denominator. To them, the ability to pay interest does not depend on whether the interest is expensed or capitalized.

## STOP & THINK . . .

Vodafone's debt ratio and times-interest-earned for 2010 and 2011, along with the telecommunication industry averages, are shown below. What are your assessments of Vodafone's ability to pay its liabilities and make interest payments?

| Vodafone Group plc | 2011 | 2010 | Industry average |
|---|---|---|---|
| Debt ratio (assets/liabilities) | 0.42 | 0.42 | 0.53 |
| Debt-to-equity (liabilities/equity) | 0.73 | 0.73 | 1.11 |
| Times-interest-earned | 13.4 | 6.27 | 5.8 |

***Answers:***

As expected, long-term measures such as debt ratio and debt to equity ratio do not fluctuate greatly from year to year unless there is a major change in the company's capital structure. Vodafone's debt ratio (and debt-to-equity ratio) remained constant for 2010 and 2011. They are well below the telecommunication industry's averages.

Vodafone has significantly improved its ability to pay interest, as measured by the times-interest-earned ratio, despite a large decrease in operating profit (from £9,480 to £5,596 million, see Exhibit 12-2, line 9). This is because there is an even greater decrease in interest expense (line 12). Vodafone's times-interest-earned ratios are well above the industry average.

## Measuring Profitability

The fundamental goal of a business is to earn a profit, and so the ratios that measure profitability are reported widely. Profitability ratios may be expressed in decimals or percentages. For example, 0.10 is equal to 10%, 0.25 equals 25%, etc. As investors are accustomed to seeing returns in percentages, we will use % for profitability ratios.

You will also see that we use the term "return" for many of the profitability ratios. In this context, returns simply mean any measure of profit, usually net profit.

**Gross Profit, Operating Profit and Net Profit Margin.** These ratios show the percentage of each sales dollar earned as gross, operating, and net profit. If the company does not explicitly have a line on its income statement as operating profit (or profit from operations), you can use earnings before interest and tax (EBIT) as a surrogate for operating profit. In fact, when you did the common-size analysis in Exhibit 12-6, you were already calculating operating profit margins and net profit margins!

The margin-related ratios for Palisades Furniture are:

| | *Palisades' margin-related ratios* | | |
|---|---|---|---|
| **Formula** | **20X7** | **20X6** | **Industry Average** |
| Gross Profit Margin $= \dfrac{\text{Gross profit}}{\text{Sales}}$ | $\dfrac{\$345{,}000}{\$858{,}000} = 40.2\%$ | $\dfrac{\$294{,}000}{\$803{,}000} = 36.6\%$ | 31.6% |
| Operating Profit Margin $= \dfrac{\text{Operating profit}}{\text{Sales}}$ | $\dfrac{\$101{,}000}{\$858{,}000} = 11.8\%$ | $\dfrac{\$57{,}000}{\$803{,}000} = 7.1\%$ | 7.9% |
| Net Profit Margin $= \dfrac{\text{Net profit}}{\text{Sales}}$ | $\dfrac{\$48{,}000}{\$858{,}000} = 5.6\%$ | $\dfrac{\$26{,}000}{\$803{,}000} = 3.2\%$ | 5.6% |

Companies strive for a high rate of net income (sometimes referred to as **return on sales**). The higher the percentage, the more profit is being generated by sales dollars. Palisades Furniture's gross, operating and net profit margins have improved in 20X7. Palisades was able to generate gross profit and operating profit margins above the industry averages, and its net profit margin matches the home furnishing industry's average.

**Return on Total Assets.** The **return on total assets** (ROA) (introduced in Chapter 7), measures a company's success in using assets to earn a profit. There are some variations in the numerator for this ratio. Some textbooks advocate the use of net profit, others use net profit but with interest expenses added back, or operating profit, or earnings before interest and tax. We will use net profit in this text. Average total assets is the denominator, which is the total of beginning and ending balances ($787,000 and $644,000) divided by 2. On occasions when we don't have access to beginning balances (e.g. we don't have Palisades' beginning balances for 20X6), we can use the ending balance instead of the average. We will show Palisades' ROA after discussing ROE in the next section.

**Return on Equity.** A popular measure of profitability is the **return on ordinary shareholders' equity**, often shortened to *return on equity* (ROE). This ratio shows the relationship between net income and ordinary shareholders' investment in the company—how much income is earned for every $1 invested by the ordinary equity shareholders (see Chapter 10). Naturally, if a company does not have preference shares (like Palisades Furniture), we do not have to worry about excluding preference dividends and preference equity. We would simply take the total return figure and divide it by the average total equity in our calculations.

## A CLOSER LOOK

You may be wondering why we specifically single out ordinary equity for this ratio. Recall that preference shares have a predetermined, fixed return in the form of preference dividends to the preference shareholders. Thus, after paying for the preference dividends, profits are available to ordinary shareholders.

For companies with preference shares, you will need to exclude preference dividends from the numerator and preference capital (both paid-in preference capital and any capital in excess of par for the preference capital). The formula to use when you are analyzing ROE for a company with preference shares will thus be:

$$\frac{\text{Net income} - \text{Preference dividend}}{\text{Average of total equity} - \text{Preference equity}}$$

Let's see Palisades Furnitures' ROA and ROE for 20X7 and 20X6. For 20X6, we will use ending balances only as we do not have information about Palisades' 20X6 beginning balances (i.e. the ending 20X5 numbers) to calculate averages. Palisades Furniture has no preference shares and thus has no preference dividends. All of its equity is therefore ordinary. Average equity for 20X7 uses the beginning and ending balances [($320,000 + $356,000)/2 = $338,000].

| | *Palisades' ROA and ROE* | | |
|---|---|---|---|
| **Formula** | **20X7** | **20X6** | **Industry Average** |
| Return on asset = $\frac{\text{Net profit}}{\text{Average total assets}}$ | $\frac{\$48{,}000}{\$715{,}500} = 6.7\%$ | $\frac{\$26{,}000}{\$644{,}000} = 4.0\%$ | 4.0% |
| Return on equity = $\frac{\text{Net profit}}{\text{Average equity}}$ | $\frac{\$48{,}000}{\$338{,}000} = 11.8\%$ | $\frac{\$26{,}000}{\$320{,}000} = 8.1\%$ | 8.6% |

*Using 20X6 ending figures only

Palisades improved its ROA and ROE significantly in 20X7, generating 6.7% return on assets and 11.8% return on equity. The home furnishings' industry averages are only 4% and 8.6%, respectively. Observe that Palisades' return on equity (11.8%) is higher than its return on assets (6.7%). All businesses that have liabilities will have higher ROE than ROA. In fact, the higher the debt ratio, the higher the leverage. Companies that finance operations with significant debt are said to be highly leveraged. All is well when profits are greater than are necessary to meet interest payments. However, as the global financial crisis has taught us, highly leveraged companies are the first ones to fall when there is a drop in profitability. If revenues drop, debts must still be paid. Therefore, leverage is a double-edged sword. It increases profits during good times but compounds losses during bad times.

## STOP & THINK . . .

Vodafone's margins and returns ratios, along with the telecommunication industry averages, are shown below. What is your assessment of Vodafone's profitability?

| **Vodafone Group plc** | **2011** | **2010** | **Industry average** |
|---|---|---|---|
| Gross profit margin | 32.8% | 33.8% | 30.9% |
| Operating profit margin | 12.2% | 21.3% | 16.6% |
| Net profit margin | 17.2% | 19.4% | 8.9% |
| Return on assets | 5.1% | 5.6% | 5.1% |
| Return on equity | 8.8% | 9.8% | 10.2% |

***Answers:***

Vodafone profitability has declined in 2011, as evidenced by decreases in all the profitability measures above. Compared to the industry average, Vodafone is still able to generate a higher net profit from its sales. Shareholders, however, would be disappointed that return on equity has dropped and is now below the telecommunication industry's average.

## Analyzing Share Investments

Investors buy shares to earn a return on their investment. They pay close attention to how much each share they own is generating profit, cash, and dividends, and the market price for each share. Let's look at some common ratios that can help you decide if your investment is performing well.

**Earnings per Ordinary Share.** Earnings per ordinary share, or simply earnings per share (EPS), is the amount of net income earned for each outstanding ordinary share (see Chapter 10). EPS is probably the most widely quoted of all financial statistics. It's also the only ratio that appears at the bottom of the income statement (required by *IAS 1—Presentation of Financial Statements*) and the only financial ratio that has an accounting standard (*IAS 33—Earnings per share*).

Earnings per share is computed by dividing net income available to ordinary shareholders by the weighted-average number of ordinary shares outstanding during the year. Preference dividends are subtracted from net income because the preference shareholders have a prior claim to their dividends. Palisades has 10,000 ordinary shares outstanding and no preference shares (and thus has no preference dividends). The firm's EPS ratios for 20X7 and 20X6 can be calculated as:

| | *Palisades' Earnings per Ordinary Share* | |
|---|---|---|
| **Formula** | **20X7** | **20X6** |
| Earnings per share of share capital $= \dfrac{\text{Net income} - \text{Preference dividends}}{\text{Weighted-average number of ordinary shares outstanding}}$ | $\dfrac{\$48{,}000 - \$0}{10{,}000} = \$4.80$ | $\dfrac{\$26{,}000 - \$0}{10{,}000} = \$2.60$ |

Palisades Furniture's EPS increased 85% during 20X7, and that's good news. The Palisades shareholders should not expect such a significant boost every year. Most companies can only expect to increase their EPS by 10% to 15% annually.

## A CLOSER LOOK

If you pay closer attention to the denominator in the EPS formula, you will notice that it is labeled "weighted-average number of ordinary shares outstanding." This means we are not using a simple arithmetic average but need to take into account how long a certain number of shares have been outstanding. For example, if you started the year on January 1, 20X6 with 10,000 shares and on November 1, 20X6 issued an additional 6,000 shares (total 16,000), the weighted average would be 11,000 (i.e. 10,000 × 10/12 months) + (16,000 × 2/12 months) shares for the period. For listed companies, there may be other equity transactions such as stock dividends, stock splits, and purchase of treasury shares that change the weighted-average of ordinary stock outstanding.

In addition, *IAS 1* and *IAS 33* require two versions of EPS: basic and diluted earnings per share. The latter takes into account potentially dilutive financial instruments such as convertible bonds, convertible preference shares and stock options. This is beyond the scope of this text.

**Price/Earnings Ratio.** The **price/earnings ratio** shows how much an investor is willing to pay for each unit of earnings. This ratio, abbreviated P/E, appears in every financial section of newspapers and online financial databases. The P/E ratio makes use of the **earnings per share (EPS)** ratio we calculated earlier.

Calculations for the P/E ratios of Palisades Furniture, Inc., follow. Suppose the market price of Palisades' ordinary share was $60 at the end of 20X7 and $35 at the end of 20X6. Share prices can be obtained from a company's website, a financial publication or website, or a stockbroker.

| | *Palisades' Price/Earnings Ratio* | |
|---|---|---|
| **Formula** | **20X7** | **20X6** |
| P/E ratio = $\dfrac{\text{Market price per ordinary share}}{\text{Earnings per share}}$ | $\dfrac{\$60.00}{\$4.80} = 12.5$ | $\dfrac{\$35.00}{\$2.60} = 13.5$ |

Given Palisades Furniture's 20X7 P/E ratio of 12.5, we would say that the company's share is selling at 12.5 times earnings. Each $1 of Palisades' earnings is worth $12.50 to the stock market. The P/E ratio reflects the market's overall expectation of a company's performance. The more optimistic the market is, the higher the P/E ratio. The home furnishing average PE ratio is about 14.3 times earnings.

**Dividend Yield.** **Dividend yield** is the ratio of dividends per share of stock to the share's market price. This ratio measures the percentage of a share's market value returned annually to the shareholders as dividends. For investors looking for a steady stream of dividend payouts, dividend yield is a very important ratio to consider in their investment decisions.

Palisades Furniture paid annual cash dividends of $1.20 per share in 20X7 and $1.00 in 20X6. The market prices of the company's ordinary share were $60 in 20X7 and $35 in 20X6. The firm's dividend yields on ordinary share are:

| Formula | | | Dividend Yield on Palisades' Share Capital 20X7 | 20X6 |
|---|---|---|---|---|
| Dividend yield on ordinary share* | = | $\dfrac{\text{Dividend per ordinary share}}{\text{Market price per ordinary share}}$ | $\dfrac{\$1.20}{\$60.00} = 2.0$ | $\dfrac{\$1.00}{\$35.00} = 2.9$ |

*Dividend yields may also be calculated for preference shares.

Preference shareholders pay special attention to this ratio because they invest primarily to receive dividends. The same formula can be adjusted to calculate dividend yield only for preference shareholders: dividend per preference share divided by market price per preference share.

An investor who buys Palisades Furniture ordinary shares for $60 can expect to receive around 2% of the investment annually in the form of cash dividends. Dividend yields vary widely, from 5% to 8% for mature, established firms (such as **Procter & Gamble** and **Unilever**) down to the range of 0% to 3% for younger, growth-oriented companies.

**Book Value per Ordinary Share.** **Book value per ordinary share** is simply ordinary shareholders' equity divided by the number of ordinary shares outstanding. Ordinary equity equals total equity less preference equity.

Palisades Furniture has no preference shares outstanding. Calculations of its book value per ordinary share follow. Recall that 10,000 ordinary shares were outstanding.

| Formula | | | Book Value per Share of Palisades' Share Capital 20X7 | 20X6 |
|---|---|---|---|---|
| Book value per ordinary share | = | $\dfrac{\text{Total shareholders' equity} - \text{Preference equity}}{\text{Number of ordinary shares outstanding}}$ | $\dfrac{\$356{,}000 - \$0}{10{,}000} = \$35.60$ | $\dfrac{\$320{,}000 - \$0}{10{,}000} = \$32.00$ |

Book value indicates the recorded accounting amount for each ordinary share outstanding. Many experts believe book value is not useful for investment analysis because it bears no relationship to market value and provides little information beyond what's reported on the balance sheet. But some investors do base their investment decisions on book value. Specifically, they would rank shares by the ratio of market price to book value. The lower the ratio, the more attractive the share. These investors are called "value" investors, as contrasted with "growth" investors, who focus more on trends in net income. The home furnishing industry's price to book value is about 1.4 times.

Investors often extend this ratio by comparing it to the current price for each share. For example, if the book value per share is $2 and the current market price is $6, we can say the "price to book" is 3 times.

### Putting it All Together

What does the outlook for the future look like for Palisades Furniture? If the company can stay on the same path it has followed for the past two years, it looks bright. It appears that its earnings per share are solid, and its margins, ROA, and ROE ratios are all above average for its industry. From the standpoint of liquidity and leverage, it also appears to be in good shape, with higher liquidity, excellent debt and interest coverage, and lower debt ratios than its industry. The company's P/E ratio of 12:1 is below industry average, and it pays a 2% dividend. All of these factors make Palisades Furniture shares look like a good investment.

### Using the Statement of Cash Flows

CASH FLOW

You may have noticed that the ratios we described earlier are all based on income statement and balance sheet. What about cash flows? We covered Free Cash Flow and Cash Realization Ratio earlier (in Chapter 11), but in general, cash flow ratios have received less attention and coverage than they deserve. Fortunately, they are not a whole new set of ratios! Cash flow ratios are usually alternative versions of the ratios we discussed earlier, with the emphasis changed to cash from operations (CFO). Here are some of the cash flow ratios you could use:

| Standard ratios discussed earlier | Cash flow version | Variation from standard ratios |
|---|---|---|
| Current ratio | CFO coverage ratio | CFO ÷ current liabilities |
| Debt ratio | CFO solvency ratio | CFO ÷ total liabilities |
| Net Profit Margin | CFO margin ratio | CFO ÷ sales revenue |
| Times-interest-earned | CFO interest ratio | (CFO + interest paid) ÷ interest paid |

## Other Issues in Financial Statement Analysis

### Limitations of Ratio Analysis

Business decisions are made in a world of uncertainty. As useful as financial ratios are, they aren't a cure-all. Consider a physician's use of a thermometer. A reading of 40° Celsius (or 104.0° Fahrenheit) tells a doctor something is wrong with the patient, but that doesn't indicate what the problem is or how to cure it.

In financial analysis, a sudden drop in any ratio may signal that something is wrong, but that doesn't identify the problem. A manager must analyze the figures to learn what caused the ratio to fall. The manager must evaluate all the ratios in the light of factors such as increased competition or a slowdown in the economy. Business models and strategies would also help explain the financial ratios you calculate. For example, you would expect a company selling luxury goods to have higher profit margins than another selling household goods. Sales turnover for the latter, however, would be significantly higher than the former.

Legislation, international affairs, scandals, and other factors can turn profits into losses. To be useful, ratios should be analyzed over a period of years to consider all relevant factors. Any one year, or even any two years, may not represent the company's performance over the long term.

You must also remember that the numbers on the financial statement are a result of the company's applications of accounting standards that require significant judgment and often rely on estimates and assumptions. There may also be differences in accounting standards in one region versus other. For example, China Mobile's financial statements are prepared under Chinese Accounting Standards (CAS) and Barthi Airtel's under Indian GAAP. For introductory accounting courses, we may assume that the differences are minimal. Analyzing the numbers without consideration of the accounting policies that resulted in those numbers is like the old adage, "garbage in, garbage out."

## Economic Value Added (EVA®)

**OBJECTIVE**

**5** **Measure** the economic value added by operations

The top managers of **Coca-Cola**, **Quaker Oats**, and other leading companies use **economic value added (EVA®)** to evaluate operating performance. EVA® combines accounting and finance to measure whether operations have increased shareholder wealth. EVA® can be computed as follows:

$$\text{EVA}^{®} = \text{Net income} + \text{Interest expense} - \text{Capital charge}$$

$$\text{Capital charge} = \overbrace{\left(\text{Notes payable} + \text{Current maturities of long-term debt} + \text{Long-term debt} + \text{Shareholders' equity}\right)}^{\text{(Beginning balances)}} \times \text{Cost of capital}$$

All amounts for the EVA® computation, except the **cost of capital**, come from the financial statements. The EVA model uses net income, but adjusted for certain expenses (such as non-cash expenses and even marketing expenses!). The cost of capital is a weighted average of the returns demanded by the company's shareholders and lenders. Cost of capital varies with the company's level of risk. For example, shareholders would demand a higher return from a start-up company than from Vodafone because the new company is untested and therefore more risky. Lenders would also charge the new company a higher interest rate because of its greater risk. Thus, the new company has a higher cost of capital than Vodafone.

The cost of capital is a major topic in finance classes. In the following discussions we assume a value for the cost of capital (such as 10%, 12%, or 15%) to illustrate the computation of EVA®.

The idea behind EVA® is that the returns to the company's shareholders (net income) and to its creditors (interest expense) should exceed the company's **capital charge**. The capital charge is the amount that shareholders and lenders charge a company for the use of their money. A positive EVA® amount suggests an increase in shareholder wealth, and so the company's shares should remain attractive to investors. If EVA® is negative, shareholders will probably be unhappy with the company and sell its shares, resulting in a decrease in the share price. Different companies tailor the EVA® computation to meet their own needs.

Let's apply EVA® to Vodafone. For the income measure, we shall use net profit but add back impairment losses and depreciation, i.e. £7,870 + £6,150 + £4,372 = £18,392.

The company's EVA® for 2011 can be computed as follows, assuming a 10% cost of capital (in millions of £):

$$
\begin{aligned}
\text{Vodafone's EVA}^{\circledR} &= \begin{matrix}\text{Adjusted}\\ \text{Net}\\ \text{income}\end{matrix} + \begin{matrix}\text{Interest}\\ \text{expense}\end{matrix} - \left( \overset{\text{(Beginning balances)}}{\begin{matrix}\text{Short-term}\\ \text{borrowings}\end{matrix} + \begin{matrix}\text{Long-term}\\ \text{debt}\end{matrix} + \begin{matrix}\text{Shareholders'}\\ \text{equity}\end{matrix}} \right) \times \begin{matrix}\text{Cost of}\\ \text{capital}\end{matrix} \\
&= \underbrace{£18{,}392 + £429} - [(£11{,}163 + £28{,}632 + £90{,}810) \times 0.10] \\
&= £18{,}821 - \underbrace{£130{,}605 \times 0.10} \\
&= \underbrace{£18{,}821 - £13{,}061} \\
&= £5{,}760
\end{aligned}
$$

By this measure, Vodafone's operations added £5,760 million of value to its shareholders' wealth after meeting the company's capital charge. This performance is considered very strong, especially given the tough economic conditions around the world.

## Red Flags in Financial Statement Analysis

Recent accounting scandals have highlighted the importance of *red flags* in financial statement analysis. The following conditions may mean a company is very risky:

- *Earnings Problems.* Have income from continuing operations and net income decreased for several years in a row? Has income turned into a loss? This may be okay for a company in a cyclical industry, such as an airline or a home builder, but companies usually cannot survive losses in consecutive years.
- *Decreased Cash Flow.* Cash flow validates earnings. Is cash flow from operations consistently lower than net income? Are the sales of PPE a major source of cash? If so, the company may be facing a cash shortage.
- *Too Much Debt.* How does the company's debt ratio compare to that of major competitors and to the industry average? If the debt ratio is much higher than average, the company may be unable to pay debts during tough times.
- *Inability to Collect Receivables.* Are receivables resident periods growing faster than for other companies in the industry? A cash shortage may be looming.
- *Buildup of Inventories.* Is inventory turnover slowing down? If so, the company may be unable to move products, or it may be overstating inventory as reported on the balance sheet. Recall from the cost-of-goods-sold model that one of the easiest ways to overstate net income is to overstate ending inventory.
- *Trends of Sales, Inventory, and Receivables.* Sales, receivables, and inventory generally move together. Increased sales lead to higher receivables and require more inventory in order to meet demand. Strange movements among these items may spell trouble.

The Decision Guidelines feature below summarizes the most widely used ratios.

# DECISION GUIDELINES

## USING RATIOS IN FINANCIAL STATEMENT ANALYSIS

Lane and Kay Collins operate a financial services firm. They manage other people's money and do most of their own financial statement analysis. How do they measure companies' ability to pay bills, sell inventory, collect receivables, and so on? They use the standard ratios we have covered throughout this book.

| Ratio | Computation | Information Provided |
|---|---|---|
| ***Measuring ability to sell inventory and collect cash:*** | | |
| 1. Inventory turnover | $\frac{\text{Cost of goods sold}}{\text{Average inventory}}$ | Indicates the saleability of inventory—the number of times a company sells its average level of inventory during a year. Can be expressed in days as inventory resident period. |
| 2. Accounts receivable turnover | $\frac{\text{Sales revenue credit sales}}{\text{Average net accounts receivable}}$ | Measures the ability to collect cash from customers. Can be expressed in days as receivables collection period. |
| 3. Payable turnover | $\frac{\text{Cost of goods sold}}{\text{Average accounts payable}}$ | Measures the frequency of payments to trade creditors. Can be expressed in days as payable payment period. |
| 4. Cash conversion cycle | Receivable collection period + Inventory resident period – Payable outstanding period | Indicates the speed at which an entity is able to convert cash from its inventory and receivables, less the time it takes to settle accounts payable. |
| ***Measuring ability to pay current liabilities:*** | | |
| 5. Current ratio | $\frac{\text{Current assets}}{\text{Current liabilities}}$ | Measures the ability to pay current liabilities with current assets. |
| 6. Acid-test (quick) ratio | $\frac{\text{Cash} + \text{Short-term investments} + \text{Net current receivables}}{\text{Current liabilities}}$ | Shows the ability to pay all current liabilities if they come due immediately. Sometimes calculated as (current assets—inventory) divided by current liabilities. |
| ***Measuring ability to pay long-term debt:*** | | |
| 7. Debt ratio | $\frac{\text{Total liabilities}}{\text{Total assets}}$ | Indicates percentage of assets financed with liabilities or debt. |
| 8. Times-interest-earned ratio | $\frac{\text{Income from operations}}{\text{Interest expense}}$ | Measures the number of times operating income can cover interest expense. Also called interest coverage ratio. |
| ***Measuring profitability:*** | | |
| 9. Gross/Operating/ Net profit margin | $\frac{\text{Gross or Operating or Net profit}}{\text{Net sales}}$ | Shows the percentage of each sales dollar earned as income. Variants include gross profit, operating profit, and net profit. |
| 10. Return on total assets (ROA) | $\frac{\text{Net income}}{\text{Average total assets}}$ | Measures how profitably a company uses its assets. For the numerator, alternative formulas exist (net income plus interest expense, operating profit or earnings before interest and tax). |
| 11. Return on ordinary shareholders' equity (ROE) | $\frac{\text{Net income} - \text{Preference dividends}}{\text{Average ordinary shareholders' equity}}$ | Gauges how much income is earned for on ordinary shareholder equity. |
| ***Analyzing shares as an investment:*** | | |
| 12. Earnings per ordinary share (EPS) | $\frac{\text{Net income} - \text{Preference dividends}}{\text{Weighted-average number of ordinary shares outstanding}}$ | The amount of net income on a per-ordinary-share basis. |
| 13. Price/earnings (P/E) ratio | $\frac{\text{Market price per ordinary share}}{\text{Earnings per share}}$ | Indicates the market price for one currency unit of earnings. |
| 14. Dividend yield | $\frac{\text{Dividend per ordinary share (or preference)}}{\text{Market price per ordinary share (or preference)}}$ | Shows the percentage of a share's market value returned as dividends to shareholders in each period. |
| 15. Book value per ordinary share | $\frac{\text{Total shareholders' equity} - \text{Preference equity}}{\text{Number of ordinary shares outstanding}}$ | Indicates the recorded accounting amount for each ordinary share outstanding. |

# END-OF-CHAPTER SUMMARY PROBLEM

The following financial data are adapted from the annual reports of Artisan Corporation:

**Artisan Corporation**
**Four-Year Selected Financial Data**
Years Ended January 31, 20X6, 20X5, 20X4, and 20X3

| Operating Results* | 20X6 | 20X5 | 20X4 | 20X3 |
|---|---|---|---|---|
| **Net Sales** | $13,848 | $13,673 | $11,635 | $9,054 |
| Cost of goods sold and occupancy expenses excluding depreciation and amortization | 9,704 | 8,599 | 6,775 | 5,318 |
| Interest expense | 109 | 75 | 45 | 46 |
| Income from operations | 338 | 1,445 | 1,817 | 1,333 |
| Net earnings (net loss) | (8) | 877 | 1,127 | 824 |
| Cash dividends | 76 | 75 | 76 | 77 |
| **Financial Position** | | | | |
| Merchandise inventory | 1,677 | 1,904 | 1,462 | 1,056 |
| Total assets | 7,591 | 7,012 | 5,189 | 3,963 |
| Current ratio | 1.48:1 | 0.95:1 | 1.25:1 | 1.20:1 |
| Shareholders' equity | 3,010 | 2,928 | 2,630 | 1,574 |
| Average number of ordinary shares outstanding (in thousands) | 860 | 879 | 895 | 576 |

*Dollar amounts are in thousands.

## *Requirement*

1. Compute the following ratios for 20X4 through 20X6, and evaluate Artisan's operating results. Are operating results strong or weak? Did they improve or deteriorate during the three-year period? Your analysis will reveal a clear trend.
   **a.** Gross profit margin
   **b.** Net profit margin
   **c.** Earnings per share
   **d.** Inventory turnover
   **e.** Times-interest-earned ratio
   **f.** Return on shareholders' equity

## Answer

| | 20X6 | 20X5 | 20X4 |
|---|---|---|---|
| **1.** Gross profit margin | $\frac{\$13{,}848 - \$9{,}704}{\$13{,}848} = 29.9\%$ | $\frac{\$13{,}673 - \$8{,}599}{\$13{,}673} = 37.1\%$ | $\frac{\$11{,}635 - \$6{,}775}{\$11{,}635} = 41.8\%$ |
| **2.** Net profit margin | $\frac{\$(8)}{\$13{,}848} = (0.06)\%$ | $\frac{\$877}{\$13{,}673} = 6.4\%$ | $\frac{\$1{,}127}{\$11{,}635} = 9.7\%$ |
| **3.** Earnings per share | $\frac{\$(8)}{860} = \$(0.01)$ | $\frac{\$877}{879} = \$1.00$ | $\frac{\$1{,}127}{895} = \$1.26$ |
| **4.** Inventory turnover | $\frac{\$9{,}704}{(\$1{,}677 + \$1{,}904)/2} = 5.4$ times | $\frac{\$8{,}599}{(\$1{,}904 + \$1{,}462)/2} = 5.1$ times | $\frac{\$6{,}775}{(\$1{,}462 + \$1{,}056)/2} = 5.4$ times |
| **5.** Times-interest-earned ratio | $\frac{\$338}{\$109} = 3.1$ times | $\frac{\$1{,}445}{\$75} = 19.3$ times | $\frac{\$1{,}817}{\$45} = 40.4$ times |
| **6.** Return on equity | $\frac{\$(8)}{(\$3{,}010 + \$2{,}928)/2} = (0.3\%)$ | $\frac{\$877}{(\$2{,}928 + \$2{,}630)/2} = 31.6\%$ | $\frac{\$1{,}127}{(\$2{,}630 + \$1{,}574)/2} = 53.6\%$ |

*Evaluation:* During this period, Artisan's operating results deteriorated on all these measures except inventory turnover. The gross profit percentage is down sharply, as are the times-interest-earned ratio and all the return measures. From these data it is clear that Artisan could sell its merchandise, but not at the mark-ups the company enjoyed in the past. The final result, in 20X6, was a net loss for the year.

# REVIEW FINANCIAL STATEMENT ANALYSIS

## Quick Check (Answers are given at the end of the chapter.)

Analyze the Oullette Company's financial statements by answering the questions that follow. Oullette owns a chain of restaurants.

**Oullette Company**
**Consolidated Statements of Income (Adapted)**
Years Ended December 31, 20X7 and 20X6

| (In thousands, except per share data) | 20X7 | 20X6 |
|---|---|---|
| Revenues: | | |
| Sales by Company-operated restaurants | $13,200 | $11,100 |
| Revenues from franchised and affiliated restaurants | 4,500 | 3,700 |
| Total revenues | 17,700 | 14,800 |
| Expenses: | | |
| Cost of goods sold | 3,300 | 3,108 |
| Payroll and employee benefits | 3,200 | 3,000 |
| Occupancy and other operating expenses | 2,900 | 2,800 |
| Franchised restaurants—occupancy expenses | 949 | 850 |
| Selling, general, and administrative expenses | 1,820 | 1,730 |
| Other operating expense, net | 510 | 855 |
| Total operating expenses | 12,679 | 12,343 |
| Operating income | 5,021 | 2,457 |
| Interest expense | 370 | 345 |
| Other non-operating expense, net | 140 | 168 |
| Income before income taxes | 4,511 | 1,944 |
| Income tax expense | 1,820 | 820 |
| Net income | $ 2,691 | $ 1,124 |
| Per-ordinary-share basics: | | |
| Net income | $ 2.69 | $ 1.15 |
| Dividends per ordinary share | $ 0.50 | $ 0.24 |

**Oullette Company**
**Consolidated Balance Sheets**
December 31, 20X7 and 20X6

| (In thousands, except per share data) | 20X7 | 20X6 |
|---|---|---|
| **Assets** | | |
| **Current Assets** | | |
| Cash and equivalents | $ 690 | $ 455 |
| Accounts and notes receivable | 780 | 840 |
| Inventories | 140 | 120 |
| Prepaid expense and other current assets | 580 | 440 |
| Total current assets | 2,190 | 1,855 |
| **Other Assets** | | |
| Investments in affiliates | 1,150 | 1,055 |
| Goodwill, net | 1,780 | 1,590 |
| Miscellaneous | 990 | 1,100 |
| Total other assets | 3,920 | 3,745 |
| **Property and Equipment** | | |
| Property and equipment, at cost | 28,800 | 26,500 |
| Accumulated depreciation and amortization | (8,850) | (7,900) |
| Net property and equipment | 19,950 | 18,600 |
| Total assets | $26,060 | $24,200 |
| **Liabilities and Shareholders' Equity** | | |
| **Current liabilities** | | |
| Accounts payable | $ 520 | $ 675 |
| Income taxes | 70 | 14 |
| Other taxes | 230 | 180 |
| Accrued interest | 189 | 196 |
| Accrued restructuring and restaurant closing costs | 110 | 385 |
| Accrued payroll and other liabilities | 890 | 795 |
| Current maturities of long-term debt | 365 | 305 |
| Total current liabilities | 2,374 | 2,550 |
| Long-term debt | 8,700 | 9,500 |
| Other long-term liabilities and minority interests | 690 | 520 |
| Deferred income taxes | 1,005 | 1,015 |
| **Shareholders' Equity** | | |
| Preference shares, no par value; authorized—140.0 million shares; issued—none | — | — |
| Ordinary shares, $0.01 par value; authorized—2.0 billion shares; issued—1,400 million shares | 14 | 14 |
| Additional paid-in capital | 1,786 | 1,662 |
| Unearned ESOP compensation | (85) | (101) |
| Retained earnings | 21,741 | 19,550 |
| Accumulated other comprehensive income (loss) | (815) | (1,570) |
| Ordinary shares in treasury, at cost; 400 and 420 million shares | (9,350) | (8,940) |
| Total shareholders' equity | 13,291 | 10,615 |
| Total liabilities and shareholders' equity | $26,060 | $24,200 |

1. Horizontal analysis of Oullette's income statement for 20X7 would show which of the following for Selling, General, and Administrative expenses?
   a. 0.95  c. 0.68
   b. 1.05  d. None of the above
2. Vertical analysis of Oullette's income statement for 20X7 would show which of the following for Selling, General, and Administrative expenses?
   a. 0.103  c. 0.138
   b. 0.144  d. None of the above
3. Which item on Oullette's income statement has the most favorable trend during 20X6–20X7?
   a. Food and paper costs  c. Payroll and employee benefits
   b. Total revenues  d. Net income
4. On Oullette's common-size balance sheet, Goodwill would appear as
   a. $1,780 million.  c. 0.068.
   b. up by 11.9%.  d. 10.06% of total revenues.
5. A good benchmark for Oullette Company would be
   a. Volvo.  c. Whataburger.
   b. Microsoft.  d. All of the above.
6. Oullette's inventory turnover for 20X7 was
   a. 17 times.  c. 25 times.
   b. 61 times.  d. 72 times.
7. Oullette's acid-test ratio at the end of 20X7 was
   a. 0.62.  c. 0.92.
   b. 2.83.  d. 0.06.
8. Oullette's average collection period for accounts and notes receivables is
   a. 32 days.  c. 17 days.
   b. 2 days.  d. 1 day.
9. The average debt ratio for most companies is 0.64. Oullette's total debt position looks
   a. risky.  c. safe.
   b. middle-ground.  d. cannot tell from the financials.
10. Oullette's return on total revenues for 20X7 was
    a. $2.69.  c. 10.33%.
    b. $1.16.  d. 15.2%.
11. Oullette's return on shareholders' equity for 20X7 was
    a. 15.2%.  c. 10.33%.
    b. 22.5%.  d. $2,691 million.
12. On May 31, 20X7, Oullette's ordinary shares sold for $30 per share. At that price, how much did investors say $1 of the company's net income was worth?
    a. $1.00  c. $11.15
    b. $30.00  d. $10.99
13. On May 31, 20X7, Oullette's ordinary shares sold for $30 per share and dividends per share were $0.50. Compute Oullette's dividend yield during 20X7.
    a. 2.9%  c. 1.7%
    b. 4.1%  d. 5.0%
14. How much EVA® did Oullette generate for investors during 20X7? Assume the cost of capital was 5% and use unadjusted net income.
    a. $2.040 million  c. $3.061 million
    b. $1.943 million  d. $2.691 million

## Accounting Vocabulary

**acid-test ratio** (p. 763) Ratio of the sum of cash plus short-term investments plus net current receivables to total current liabilities. Tells whether the entity can pay all its current liabilities if they come due immediately. Also called the *quick ratio*.

**benchmarking** (p. 754) The comparison of an entity to another entity (competitor or peer) or against industry averages, with the objective of providing context to the evaluation of the entity.

**book value per ordinary share** (p. 771) Ordinary shareholders' equity divided by the number of ordinary shares outstanding. The recorded amount for each ordinary share outstanding.

**capital charge** (p. 773) The amount that shareholders and lenders charge a company for the use of their money. Calculated as beginning balances of (Notes payable + Loans payable + Long-term debt + Shareholders' equity) × Cost of capital.

**cash conversion cycle** (p. 762) The length of time it takes a company to convert cash from its inventory purchases and receivables. Calculated as inventory resident period plus receivable collection period less payable outstanding period.

**common-size statement** (p. 755) A financial statement that reports only percentages (no dollar amounts).

**cost of capital** (p. 773) A weighted average of the returns demanded by the company's shareholders and lenders.

**current ratio** (p. 763) Current assets divided by current liabilities. Measures a company's ability to pay current liabilities with current assets.

**debt ratio** (p. 765) Ratio of total liabilities to total assets. States the proportion of a company's assets that is financed with debt.

**debt-to-equity** (p. 765) A measure of indebtedness; the amount of liabilities (or interest-bearing liabilities) as a proportion of total equity.

**dividend yield** (p. 770) Ratio of dividends per share to the share's market price. Tells the percentage of a share's market value that the company returns to shareholders as dividends.

**earnings per share (EPS)** (p. 770) Amount of a company's net income earned for each ordinary share outstanding.

**economic value added (EVA®)** (p. 773) Used to evaluate a company's operating performance. EVA combines the concepts of accounting income and corporate finance to measure whether the company's operations have increased shareholder wealth. EVA = Net income + Interest expense − Capital charge.

**gearing** (p. 765) A measure of indebtedness of an entity, also known as leverage, typically measured by the proportion of assets financed by liabilities (or alternatively only interest-bearing liabilities).

**gross profit margin** (p. 767) The amount of gross profit earned from each currency unit of sales.

**horizontal analysis** (p. 748) Study of percentage changes in comparative financial statements.

**interest-coverage ratio** (p. 765) Another name for *times-interest-earned*.

**inventory resident period** (p. 760) The average length of time (in days) to sell inventory, based on *inventory turnover*. Part of *cash conversion cycle*.

**inventory turnover** (p. 760) Ratio of cost of goods sold to average inventory. Indicates how rapidly inventory is sold. Can also be expressed in days *(inventory resident period)*.

**leverage** (p. 765) The degree of external financing of an entity. Earning more income on borrowed money than the related interest expense, thereby increasing the earnings for the owners of the business.

**net profit margin** (p. 767) The amount of net profit earned from each currency unit of sales. Also called *return on sales*.

**operating profit margin** (p. 767) The amount of operating profit earned from each currency unit of sales.

**payable outstanding period** (p. 761) The average length of time (in days) to pay account payables, based on *payable turnover*. Part of *cash conversion cycle*.

**payable turnover** (p. 761) Ratio of cost of goods sold to average payables. Indicates how quickly trade creditors are paid. Can also be expressed in days (payables outstanding period).

**price/earnings ratio** (p. 770) Ratio of the market price of an ordinary share to the company's earnings per share. Measures the value that the share market places on one currency unit of a company's earnings.

**quick ratio** (p. 763) Another name for the *acid-test ratio*.

**receivable collection period** (p. 761) The average length of time (in days) to collect receivables, based on *receivable turnover*. Part of *cash conversion cycle*.

**return on ordinary shareholders' equity** (p. 767) Net income minus preference dividends, divided by average ordinary shareholders' equity. A measure of profitability. Also called *return on equity (ROE)*.

**return on sales** (p. 767) Another name for *net profit margin*.

**return on total assets** (p. 767) Net income divided by average total assets. This ratio measures a company's success in using its assets to earn income for the persons who finance the business. Also called *return on assets (ROA)*.

**times-interest-earned ratio** (p. 765) Ratio of income from operations (or earnings before interest and tax) to interest expense. Measures the number of times that operating income can cover interest expense. Also called the *interest-coverage ratio*.

**trend percentages** (p. 751) A form of horizontal analysis that indicates the direction a business is taking.

**vertical analysis** (p. 752) Analysis of a financial statement that reveals the relationship of each statement item to a specified base, which is the 100% figure.

**working capital** (p. 763) Current assets minus current liabilities; measures a business's ability to meet its short-term obligations with its current assets.

# ASSESS YOUR PROGRESS

## Short Exercises

**S12-1** ***(Learning Objective 1: Performing horizontal analysis of revenues and net income)*** Fitzgerald Corporation reported the following amounts on its 20X6 comparative income statement:

| (In thousands) | 20X6 | 20X5 | 20X4 |
|---|---|---|---|
| Revenues | $10,473 | $9,998 | $9,111 |
| Total expenses | 5,822 | 5,422 | 5,110 |

Perform a horizontal analysis of revenues and net income—both in dollar amounts and in percentages—for 20X6 and 20X5.

**S12-2** ***(Learning Objective 1: Performing trend analysis of sales and net income)*** Fenton, Inc., reported the following sales and net income amounts:

| (In thousands) | 20X6 | 20X5 | 20X4 | 20X3 |
|---|---|---|---|---|
| Sales | $10,020 | $8,960 | $8,740 | $8,490 |
| Net income | 620 | 530 | 420 | 330 |

Show Fenton's trend percentages for sales and net income. Use 20X3 as the base year.

**S12-3** ***(Learning Objective 2: Performing vertical analysis to correct a cash shortage)*** Craft Software reported the following amounts on its balance sheets at December 31, 20X6, 20X5, and 20X4:

| | 20X6 | 20X5 | 20X4 |
|---|---|---|---|
| Cash | $ 7,500 | $ 2,195 | $ 1,990 |
| Receivables, net | 35,000 | 21,950 | 23,880 |
| Inventory | 260,000 | 193,160 | 147,260 |
| Prepaid expenses | 10,000 | 17,560 | 11,940 |
| Property, plant and equipment, net | 187,500 | 204,135 | 212,930 |
| Total assets | $500,000 | $439,000 | $398,000 |

Sales and profits are high. Nevertheless, Craft is experiencing a cash shortage. Perform a vertical analysis of Craft Software's assets at the end of years 20X6, 20X5, and 20X4. Use the analysis to explain the reason for the cash shortage.

**S12-4** ***(Learning Objective 3: Comparing common-size income statements of two companies)*** Hartigan, Inc., and Pintal Corporation are competitors. Compare the two companies by converting their condensed income statements to common size.

| (In millions) | Hartigan | Pintal |
|---|---|---|
| Net sales | $10,800 | $8,752 |
| Cost of goods sold | 6,469 | 6,065 |
| Selling and administrative expenses | 3,110 | 1,698 |
| Interest expense | 54 | 35 |
| Other expenses | 32 | 44 |
| Income tax expense | 432 | 210 |
| Net income | $ 703 | $ 700 |

Which company earned more net income? Which company's net income was a higher percentage of its net sales? Explain your answer.

**S12-5** ***(Learning Objective 4: Evaluating the trend in a company's current ratio)*** Examine the financial data of Jacob Corporation.

| Year Ended December 31 | 20X6 | 20X5 | 20X4 |
|---|---|---|---|
| **Operating Results** | | | |
| Net income | $ 220 | $ 120 | $ 119 |
| Per ordinary share | $1.23 | $0.93 | $0.63 |
| Percent of sales | 15.6% | 17.6% | 19.6% |
| Return on average shareholders' equity | 14.0 | 17.0 | 20.0 |
| **Financial Position** | | | |
| Current assets | $ 550 | $ 445 | $ 435 |
| Current liabilities | $ 360 | $ 333 | $ 356 |
| Working capital | $ 190 | $ 112 | $ 79 |
| Current ratio | 1.53 | 1.34 | 1.22 |

Show how to compute Jacob's current ratio for each year 20X4 through 20X6. Is the company's ability to pay its current liabilities improving or deteriorating?

**S12-6** ***(Learning Objective 4: Evaluating a company's acid-test ratio)*** Use the Gagnon, Inc., balance sheet data below.

### *Requirements*

1. Compute Gagnon, Inc.'s acid-test ratios at December 31, 20X6 and 20X5.
2. Use the comparative information from the table on the bottom of the following page for Horner, Inc., Isaacson Company, and Jona Companies Limited. Are Gagnon, Inc.'s acid-test ratios for 20X6 and 20X5 strong, average, or weak in comparison?

**Gagnon, Inc.**
**Balance Sheets (Adapted)**
December 31, 20X6 and 20X5

| (Dollar amounts in millions) | 2010 | 2009 | Increase (Decrease) Amount | Increase (Decrease) Percentage |
|---|---|---|---|---|
| **Assets** | | | | |
| **Current Assets** | | | | |
| Cash and cash equivalents | $1,203 | $ 903 | $ 300 | 33.2% |
| Short-term investments | 7 | 84 | (77) | (91.7) |
| Receivables, net | 246 | 256 | (10) | (3.9) |
| Inventories | 91 | 81 | 10 | 12.3 |
| Prepaid expenses and other assets | 203 | 343 | (140) | (40.8) |
| Total current assets | 1,750 | 1,667 | 83 | 5.0 |
| Property, plant and equipment, net | 3,619 | 3,396 | 223 | 6.6 |
| Intangible assets | 1,089 | 841 | 248 | 29.5 |
| Other assets | 824 | 718 | 106 | 14.8 |
| Total assets | $7,282 | $6,622 | $ 660 | 10.0% |
| **Liabilities and Shareholders' Equity** | | | | |
| **Current Liabilities** | | | | |
| Accounts payable | $ 977 | $ 884 | $ 93 | 10.5% |
| Income tax payable | 39 | 69 | (30) | (43.5) |
| Short-term debt | 121 | 115 | 6 | 5.2 |
| Other | 70 | 73 | (3) | (4.1) |
| Total current liabilities | 1,207 | 1,141 | 66 | 5.8 |
| Long-term debt | 3,544 | 2,982 | 562 | 18.8 |
| Other liabilities | 1,177 | 1,046 | 131 | 12.5 |
| Total liabilities | 5,928 | 5,169 | 759 | 14.7 |
| **Shareholders' Equity** | | | | |
| Share capital | — | — | — | — |
| Retained earnings | 1,513 | 1,629 | (116) | (7.1) |
| Accumulated other comprehensive (loss) | (159) | (176) | 17 | 9.7 |
| Total shareholders' equity | 1,354 | 1,453 | (99) | (6.8) |
| Total liabilities and shareholders' equity | $7,282 | $6,622 | $ 660 | 10.0% |

| Company | Acid-Test Ratio |
|---|---|
| Horner, Inc. (Utility) | 0.73 |
| Isaacson Company (Department store) | 0.68 |
| Jona Companies Limited (Grocery store) | 0.72 |

**S12-7** ***(Learning Objectives 4: Computing and evaluating cash collection cycle)*** Use the Gagnon 20X6 income statement below and balance sheet from Short Exercise 12-6 to compute its cash conversion cycle for the year 20X6. Identify all components of cash conversion cycle clearly.

**Gagnon, Inc.**
**Statements of Income (Adapted)**
Year Ended December 31, 20X6 and 20X5

| (Dollar amounts in millions) | 20X6 | 20X5 |
|---|---|---|
| Revenues | $9,500 | $9,068 |
| Expenses: | | |
| Cost of goods sold | 2,200 | 2,236 |
| Payroll and employee benefits | 2,138 | 2,001 |
| Occupancy and other operating expenses | 2,778 | 2,745 |
| General and administrative expenses | 1,171 | 1,135 |
| Interest expense | 150 | 133 |
| Other expense (income), net | 11 | (29) |
| Income before income taxes | 1,052 | 847 |
| Income tax expense | 273 | 251 |
| Net income | $ 779 | $ 596 |

Do these measures look strong or weak? Give reasons for your answer.

**S12-8** ***(Learning Objective 4: Measuring ability to pay long-term debt)*** Use the financial statements of Gagnon, Inc., in Short Exercises 12-6 and 12-7.

### *Requirements*

1. Compute the company's debt ratio at December 31, 20X6.
2. Compute the company's times-interest-earned ratio for 20X6. For operating income, use income before both interest expense and income taxes. You can simply add interest expense back to income before taxes.
3. Is Gagnon's ability to pay liabilities and interest expense strong or weak? Comment on the value of each ratio computed for questions 1 and 2.

**S12-9** ***(Learning Objective 4: Measuring profitability)*** Use the financial statements of Gagnon, Inc., in Short Exercises 12-6 and 12-7 to compute these profitability measures for 20X6. Show each computation.

**a.** Gross, operating and net profit margins.
**b.** Return on total assets.
**c.** Return on ordinary shareholders' equity.

**S12-10** ***(Learning Objective 4: Computing EPS and the price/earnings ratio)*** The annual report of Tri-State Cars, Inc., for the year ended December 31, 20X6, included the following items (in millions):

| | |
|---|---|
| Preference share outstanding, 6% | $400 |
| Net income | $500 |
| Number of ordinary shares outstanding | 100 |

### *Requirements*

1. Compute earnings per share (EPS) and the price/earnings ratio for Tri-State Cars' shares. Round to the nearest cent. The price of a share of Tri-State Car shares is $57.12.
2. How much does the stock market say $1 of Tri-State Cars' net income is worth?

**S12-11** ***(Learning Objective 4: Using ratio data to reconstruct an income statement)*** A skeleton of Athol Country Florist's income statement appears as follows (amounts in thousands):

**Income Statement**

| | |
|---|---|
| Net sales | $7,500 |
| Cost of goods sold | (a) |
| Selling expenses | 1,511 |
| Administrative expenses | 328 |
| Interest expense | (b) |
| Other expenses | 154 |
| Income before taxes | 1,046 |
| Income tax expense | (c) |
| Net income | $ (d) |

Use the following ratio data to complete Athol Country Florist's income statement:

**a.** Inventory turnover was 4 (beginning inventory was $784; ending inventory was $762).
**b.** Net profit margin is 10%.

**S12-12** ***(Learning Objective 4: Using ratio data to reconstruct a balance sheet)*** A skeleton of Athol Country Florist's balance sheet appears as follows (amounts in thousands):

**Balance Sheet**

| | | | |
|---|---|---|---|
| Cash | $ 85 | Total current liabilities | $1,900 |
| Receivables | (a) | Long-term debt | (e) |
| Inventories | 762 | Other long-term liabilities | 720 |
| Prepaid expenses | (b) | | |
| Total current assets | (c) | | |
| PPE | (d) | Share capital | 185 |
| Other assets | 2,100 | Retained earnings | 3,465 |
| Total assets | $7,300 | Total liabilities and equity | $ (f) |

Use the following ratio data to complete Athol Country Florist's balance sheet:

**a.** Debt ratio is 0.50.
**b.** Current ratio is 1.30.
**c.** Acid-test ratio is 0.40.

**S12-13** ***(Learning Objective 4: Analyzing a company based on its ratios)*** Take the role of an investment analyst at Deutsche Bank. It is your job to recommend investments for your client. The only information you have is the following ratio values for two companies in the graphics software industry.

■ **writing assignment**

| Ratio | Graphit.net | Data Doctors |
|---|---|---|
| Days' sales in receivables | 44 | 50 |
| Inventory turnover | 6 | 10 |
| Gross profit percentage | 69% | 60% |
| Net income as a percent of sales | 13% | 14% |
| Times interest earned | 17 | 11 |
| Return on equity | 36% | 28% |
| Return on assets | 15% | 20% |

Write a report to the Deutsche Bank's investment committee. Recommend one company's shares over the other. State the reasons for your recommendation.

**S12-14** ***(Learning Objective 5: Measuring economic value added)*** Compute economic value added (EVA®) for Beverly Software. The company's cost of capital is 5%. Net income was \$770,000, interest expense \$409,000, beginning long-term debt \$700,000, and beginning shareholders' equity was \$3,060,000. Use unadjusted net income in your calculations. Round all amounts to the nearest thousand dollars.

Should the company's shareholders be happy with the EVA®?

## Exercises

MyAccountingLab

All of the A and B exercises can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these exercises using MyAccountingLab.

### (Group A)

**E12-15A** ***(Learning Objective 1: Computing year-to-year changes in working capital)*** What were the dollar amount of change and the percentage of each change in Wilderness Lodge's working capital during 20X6 and 20X5? Is this trend favorable or unfavorable?

| | 20X6 | 20X5 | 20X4 |
|---|---|---|---|
| Total current assets | \$270,000 | \$320,000 | \$340,000 |
| Total current liabilities | 125,000 | 160,000 | 170,000 |

■ spreadsheet

**E12-16A** ***(Learning Objective 1: Performing horizontal analysis of an income statement)*** Prepare a horizontal analysis of the comparative income statements of Sensible Music Co. Round percentage changes to the nearest one-tenth percent (three decimal places).

**Sensible Music Co.**
**Comparative Income Statements**
Years Ended December 31, 20X6 and 20X5

| | 20X6 | 20X5 |
|---|---|---|
| Total revenue | \$852,000 | \$912,000 |
| Expenses: | | |
| Cost of goods sold | \$402,000 | \$408,000 |
| Selling and general expenses | 232,000 | 261,000 |
| Interest expense | 9,200 | 10,500 |
| Income tax expense | 83,000 | 84,000 |
| Total expenses | 726,200 | 763,500 |
| Net income | \$125,800 | \$148,500 |

**E12-17A** ***(Learning Objective 1: Computing trend percentages)*** Compute trend percentages for Palm Valley Sales & Service's total revenue, and net income for the following five-year period, using year 0 as the base year. Round to the nearest full percent.

| (In thousands) | Year 4 | Year 3 | Year 2 | Year 1 | Year 0 |
|---|---|---|---|---|---|
| Total revenue | \$1,414 | \$1,203 | \$1,101 | \$999 | \$1,020 |
| Net income | 104 | 99 | 86 | 74 | 88 |

Which grew faster during the period, total revenue or net income?

**E12-18A** ***(Learning Objective 2: Performing vertical analysis of a balance sheet)*** Fore Golf Company has requested that you perform a vertical analysis of its balance sheet to determine the component percentages of its assets, liabilities, and shareholders' equity.

| Fore Golf Company<br>Balance Sheet<br>December 31, 20X6 | |
|---|---|
| **Assets** | |
| Total current assets | $ 43,000 |
| Property, plant and equipment, net | 117,000 |
| Other assets | 38,000 |
| Total assets | $198,000 |
| **Liabilities** | |
| Total current liabilities | $ 49,000 |
| Long-term debt | 109,000 |
| Total liabilities | 158,000 |
| **Shareholders' Equity** | |
| Total shareholders' equity | 40,000 |
| Total liabilities and shareholders' equity | $198,000 |

**E12-19A** ***(Learning Objective 3: Preparing a common-size income statement)*** Prepare a comparative common-size income statement for Sensible Music Co., using the 20X6 and 20X5 data of Exercise 12-16A and rounding to four decimal places.

**spreadsheet**

**E12-20A** ***(Learning Objective 3: Preparing a common-size income statement)*** Compare the 20X6 common-size income statement you performed earlier in E12-19A. How does this compare to Vodafone's vertical analysis in Exhibit 12-4? You may need to combine a few line items to make the common-size statements comparable.

**writing assignment**

**E12-21A** ***(Learning Objective 4: Computing five ratios)*** The financial statements of Smith News, Inc., include the following items:

**spreadsheet**

| | Current Year | Preceding Year |
|---|---|---|
| **Balance sheet:** | | |
| Cash | $ 26,000 | $ 32,000 |
| Short-term investments | 14,000 | 20,000 |
| Net receivables | 50,000 | 73,000 |
| Inventory | 94,000 | 76,000 |
| Prepaid expenses | 9,000 | 8,000 |
| Total current assets | 193,000 | 209,000 |
| Total current liabilities | 129,000 | 96,000 |
| **Income statement:** | | |
| Sales revenue | $490,000 | |
| Cost of goods sold | 274,000 | |

### *Requirement*

1. Compute the following ratios for the current year:
   - **a.** Current ratio
   - **b.** Acid-test ratio
   - **c.** Receivable collection period
   - **d.** Inventory resident period
   - **e.** Payable outstanding period
   - **f.** Cash conversion cycle

■ writing assignment

■ spreadsheet

**E12-22A** ***(Learning Objective 4: Analyzing the ability to pay current liabilities)*** Dorman Furniture Company has requested that you determine whether the company's ability to pay its current liabilities and long-term debts improved or deteriorated during 20X6. To answer this question, compute the following ratios for 20X6 and 20X5:

**a.** Current ratio
**b.** Acid-test ratio
**c.** Debt ratio
**d.** Times-interest-earned ratio

Summarize the results of your analysis in a written report.

| | 20X6 | 20X5 |
|---|---|---|
| Cash | $ 21,000 | $ 53,000 |
| Short-term investments | 32,000 | 15,000 |
| Net receivables | 117,000 | 127,000 |
| Inventory | 243,000 | 272,000 |
| Prepaid expenses | 18,000 | 4,000 |
| Total assets | 500,000 | 531,000 |
| Total current liabilities | 247,000 | 312,000 |
| Long-term debt | 27,000 | 134,000 |
| Income from operations | 191,000 | 160,000 |
| Interest expense | 39,000 | 45,000 |

**E12-23A** ***(Learning Objectives 4: Analyzing profitability)*** Compute four ratios that measure the ability to earn profits for Harmon Decor, Inc., whose comparative income statements follow:

**Harmon Decor, Inc.**
**Comparative Income Statements**
Years Ended December 31, 20X6 and 20X5

| | 20X6 | 20X5 |
|---|---|---|
| Net sales | $100,000 | $90,000 |
| Cost of goods sold | 53,000 | 46,000 |
| Gross profit | 47,000 | 44,000 |
| Selling and general expenses | 20,000 | 18,000 |
| Income from operations | 27,000 | 26,000 |
| Interest expense | 3,000 | 2,000 |
| Income before income tax | 24,000 | 24,000 |
| Income tax expense | 8,000 | 7,000 |
| Net income | $ 16,000 | $17,000 |

Additional data:

| | 20X6 | 20X5 | 20X4 |
|---|---|---|---|
| Total assets | $104,000 | $100,000 | $83,000 |
| Ordinary shareholders' equity | $ 72,000 | $ 70,000 | $69,000 |
| Preference dividends | $ 3,000 | $ 2,000 | $ 1,000 |
| Ordinary shares outstanding during the year | 10,000 | 9,000 | 4,000 |

Did the company's operating performance improve or deteriorate during 20X6?

**E12-24A** ***(Learning Objectives 4: Evaluating a share as an investment)*** Evaluate the ordinary share of Regal Distributing Company as an investment. Specifically, use the three ordinary share ratios to determine whether the ordinary share increased or decreased in attractiveness during the past year.

■ **writing assignment**

| | 20X6 | 20X5 |
|---|---|---|
| Net income | $ 83,000 | $ 60,000 |
| Dividends to ordinary shares | 22,000 | 23,000 |
| Total shareholders' equity at year-end (includes 90,000 ord. shares) | 300,000 | 510,000 |
| Preference shares, 5% | 80,000 | 80,000 |
| Market price per ordinary share at year-end | $ 24.50 | $ 17.50 |

**E12-25A** ***(Learning Objective 5: Using economic value added to measure corporate performance)*** Two companies with different economic-value-added (EVA®) profiles are Barton Oil Pipeline Incorporated and Crompton Bank Limited. Adapted versions of the two companies' financial statements are presented here (in millions):

| | Barton Oil Pipeline Inc. | Crompton Bank Limited |
|---|---|---|
| **Balance sheet data:** | | |
| Total assets | $ 4,338 | $14,000 |
| Interest-bearing debt | $ 1,257 | $ 13 |
| All other liabilities | 2,675 | 2,605 |
| Shareholders' equity | 406 | 11,382 |
| Total liabilities and equity | $ 4,338 | $14,000 |
| **Income statement data:** | | |
| Total revenue | $11,007 | $ 3,819 |
| Interest expense | 76 | 7 |
| Net income | $ 180 | $ 1,219 |

## *Requirements*

1. Before performing any calculations, which company do you think represents the better investment? Give your reason.
2. Compute the EVA® for each company and then decide which company's shares you would rather hold as an investment. Assume both companies' cost of capital is 8.5% and use unadjusted net income in your calculations.

## (Group B)

**E12-26B** ***(Learning Objective 1: Computing year-to-year changes in working capital)*** What were the Euro amount of change and the percentage of each change in Ricardo Lodge's working capital during 20X6 and 20X5? Is this trend favorable or unfavorable?

| | 20X6 | 20X5 | 20X4 |
|---|---|---|---|
| **Total current assets** | €400,000 | €300,000 | €240,000 |
| **Total current liabilities** | 190,000 | 150,000 | 120,000 |

■ spreadsheet

**E12-27B** ***(Learning Objective 1: Performing horizontal analysis of an income statement)*** Prepare a horizontal analysis of the comparative income statements of Fashion Music Co. Round percentage changes to the nearest one-tenth percent (three decimal places).

**Fashion Music Co.**
**Comparative Income Statements**
Years Ended December 31, 20X6 and 20X5

| | **20X6** | **20X5** |
|---|---|---|
| Total revenue | €1,080,000 | €919,000 |
| Expenses: | | |
| Cost of goods sold | € 479,000 | €400,450 |
| Selling and general expenses | 289,000 | 269,000 |
| Interest expense | 24,500 | 14,500 |
| Income tax expense | 106,500 | 86,850 |
| Total expenses | 899,000 | 770,800 |
| Net income | €181,000 | €148,200 |

**E12-28B** ***(Learning Objective 1: Computing trend percentages)*** Compute trend percentages for Andover Valley Sales & Service's total revenue, and net income for the following five-year period, using year 0 as the base year. Round to the nearest full percent.

| (In thousands) | Year 4 | Year 3 | Year 2 | Year 1 | Year 0 |
|---|---|---|---|---|---|
| **Total revenue** | €1,433 | €1,251 | €1,067 | €1,008 | €1,022 |
| **Net income** | 120 | 112 | 81 | 69 | 83 |

Which grew faster during the period, total revenue or net income?

**E12-29B** ***(Learning Objective 2: Performing vertical analysis of a balance sheet)*** Epsilon Golf Company has requested that you perform a vertical analysis of its balance sheet to determine the component percentages of its assets, liabilities, and shareholders' equity.

**Epsilon Golf Company**
**Balance Sheet**
December 31, 20X6

| | |
|---|---|
| **Assets** | |
| Total current assets | € 45,000 |
| Property, plant and equipment, net | 210,000 |
| Other assets | 42,000 |
| Total assets | €297,000 |
| **Liabilities** | |
| Total current liabilities | € 53,000 |
| Long-term debt | 111,000 |
| Total liabilities | 164,000 |
| **Shareholders' Equity** | |
| Total shareholders' equity | 133,000 |
| Total liabilities and shareholders' equity | €297,000 |

■ spreadsheet

**E12-30B** ***(Learning Objective 3: Preparing a common-size income statement)*** Prepare a comparative common-size income statement for Fashion Music Co. using the 20X6 and 20X5 data of Exercise 12-27B and rounding to four decimal places.

■ writing assignment

**E12-31B** ***(Learning Objective 3: Preparing a common-size income statement)*** Compare the year 20X6 common-size income statement you performed earlier in E12-21B. How does this compare to Vodafone's vertical analysis in Exhibit 12-4? You may need to combine a few line items to make the common-size statements comparable.

■ spreadsheet

**E12-32B** ***(Learning Objective 4: Computing five ratios)*** The financial statements of Advent News, Inc., include the following items:

| | Current Year | Preceding Year |
|---|---|---|
| **Balance sheet:** | | |
| Cash | € 65,000 | € 91,000 |
| Short-term investments | 13,000 | 25,000 |
| Net receivables | 79,000 | 82,000 |
| Inventory | 93,000 | 75,000 |
| Prepaid expenses | 6,000 | 12,000 |
| Total current assets | 256,000 | 285,000 |
| Total current liabilities | 133,000 | 97,000 |
| **Income statement:** | | |
| Sales revenue | €494,000 | |
| Cost of goods sold | 277,000 | |

### *Requirement*

1. Compute the following ratios for the current year:
   - **a.** Current ratio
   - **b.** Acid-test ratio
   - **c.** Receivable collection period
   - **d.** Inventory resident period
   - **e.** Payable outstanding period
   - **f.** Cash conversion cycle

■ writing assignment

■ spreadsheet

**E12-33B** ***(Learning Objectives 4: Analyzing the ability to pay current liabilities)*** Jalbert Furniture Company has requested that you determine whether the company's ability to pay its current liabilities and long-term debts improved or deteriorated during 20X6. To answer this question, compute the following ratios for 20X6 and 20X5. (Round your answers to two decimal places.)

- **a.** Current ratio
- **b.** Acid-test ratio
- **c.** Debt ratio
- **d.** Times-interest-earned ratio

Summarize the results of your analysis in a written report.

| | 20X6 | 20X5 |
|---|---|---|
| Cash | € 27,000 | € 47,000 |
| Short-term investments | 33,000 | 4,000 |
| Net receivables | 120,000 | 135,000 |
| Inventory | 238,000 | 271,000 |
| Prepaid expenses | 22,000 | 8,000 |
| Total assets | 590,000 | 510,000 |
| Total current liabilities | 187,000 | 332,000 |
| Long-term debt | 147,000 | 84,000 |
| Income from operations | 191,000 | 169,000 |
| Interest expense | 41,000 | 43,000 |

**E12-34B** ***(Learning Objectives 4: Analyzing profitability)*** Compute four ratios that measure the ability to earn profits for Jarvis Decor, Inc., whose comparative income statements follow:

**Jarvis Decor, Inc.**
**Comparative Income Statements**
Years Ended December 31, 20X6 and 20X5

| | 20X6 | 20X5 |
|---|---|---|
| Net sales | €254,000 | €217,000 |
| Cost of goods sold | 125,000 | 111,000 |
| Gross profit | 129,000 | 106,000 |
| Selling and general expenses | 50,000 | 46,000 |
| Income from operations | 79,000 | 60,000 |
| Interest expense | 7,000 | 6,000 |
| Income before income tax | 72,000 | 54,000 |
| Income tax expense | 25,000 | 19,000 |
| Net income | € 47,000 | € 35,000 |

Additional data:

| | 20X6 | 20X5 | 20X4 |
|---|---|---|---|
| Total assets | €249,000 | €239,000 | €227,000 |
| Ordinary shareholders' equity | €106,000 | €104,000 | €102,000 |
| Preference dividends | € 17,000 | € 15,000 | € 13,000 |
| Ordinary shares outstanding during the year | 19,000 | 17,000 | 11,000 |

Did the company's operating performance improve or deteriorate during 20X6?

■ writing assignment

**E12-35B** ***(Learning Objectives 4: Evaluating a share as an investment)*** Evaluate the ordinary share of Basic Distributing Company as an investment. Specifically, use the three ordinary share ratios to determine whether the ordinary share increased or decreased in attractiveness during the past year.

| | 20X6 | 20X5 |
|---|---|---|
| Net income | € 91,000 | € 99,000 |
| Dividends to ordinary shares | 28,000 | 13,000 |
| Total shareholders' equity at year-end (includes 80,000 ordinary shares) | 565,000 | 515,000 |
| Preference shares, 6% | 90,000 | 90,000 |
| Market price per ordinary share at year-end | € 24.00 | € 25.16 |

**E12-36B** ***(Learning Objective 5: Using economic value added to measure corporate performance)*** Two companies with different economic-value-added (EVA®) profiles are Houle Oil Pipeline, Inc., and Johnson Bank Limited. Adapted versions of the two companies' financial statements are presented here (in millions):

| | Houle Oil Pipeline, Inc. | Johnson Bank Limited |
|---|---|---|
| **Balance sheet data:** | | |
| Total assets | € 4,338 | €14,451 |
| Interest-bearing debt | € 1,250 | € 5 |
| All other liabilities | 2,900 | 2,585 |
| Shareholders' equity | 188 | 11,861 |
| Total liabilities and equity | € 4,338 | €14,451 |
| **Income statement data:** | | |
| Total revenue | €10,991 | € 3,697 |
| Interest expense | 80 | 7 |
| Net income | € 200 | € 1,197 |

## *Requirements*

1. Before performing any calculations, which company do you think represents the better investment? Give your reason.
2. Compute the EVA® for each company and then decide which company's shares you would rather hold as an investment. Assume both companies' cost of capital is 11.0% and use unadjusted net income in your calculations.

# Challenge Exercises

**E12-37** ***(Learning Objectives 2, 3, 4: Using ratio data to reconstruct a company's balance sheet)*** The following data (dollar amounts in millions) are taken from the financial statements of Floor 1 Industries, Inc.:

| | |
|---|---|
| Total liabilities | $12,600 |
| Pref. share | $ 0 |
| Total current assets | $11,900 |
| Accumulated depreciation | $ 1,700 |
| Debt ratio | 60% |
| Current ratio | 1.70 |

## *Requirement*

1. Complete the following condensed balance sheet. Report amounts to the nearest million dollars.

| | | (In millions) |
|---|---|---|
| Current assets | | |
| Property, plant and equipment | | |
| Less: Accumulated depreciation | | |
| Total assets | | |
| Current liabilities | | |
| Long-term liabilities | | |
| Shareholders' equity | | |
| Total liabilities and shareholders' equity | | |

**E12-38** ***(Learning Objectives 2, 3, 4: Using ratio data to reconstruct a company's income statement)*** The following data (dollar amounts in millions) are from the financial statements of County Corporation:

| | |
|---|---|
| Average shareholders' equity | $3,400 |
| Interest expense | $ 800 |
| Preference shares | $ 0 |
| Operating income as a percent of sales | 20% |
| Rate of return on shareholders' equity | 10% |
| Income tax rate | 30% |

### *Requirement*

1. Complete the following condensed income statement. Report amounts to the nearest million dollars.

| | |
|---|---|
| Sales | |
| Operating expense | |
| Operating income | |
| Interest expense | |
| Pretax income | |
| Income tax expense | |
| Net income | |

## Quiz

Use the Fatima Fatima Bell Corporation financial statements that follow to answer questions 12–39 through 12–50.

**Fatima Bell Corporation**
**Consolidated Statements of Income**
(In millions, except per share amounts)

| | Year ended December 31 | | |
|---|---|---|---|
| | **20X6** | **20X5** | **20X4** |
| Net revenue | $42,788 | $35,299 | $30,968 |
| Cost of goods sold | 34,000 | 29,111 | 26,061 |
| Gross profit | 8,788 | 6,188 | 4,907 |
| Operating expenses: | | | |
| Selling, general, and administrative | 3,341 | 3,000 | 2,581 |
| Research, development, and engineering | 574 | 556 | 542 |
| Special charges | — | — | 502 |
| Total operating expenses | 3,915 | 3,556 | 3,625 |
| Operating income | 4,873 | 2,632 | 1,282 |
| Investment and other income (loss), net | 170 | 212 | (78) |
| Income before income taxes | 5,043 | 2,844 | 1,204 |
| Income tax expense | 1,100 | 912 | 472 |
| Net income | $ 3,943 | $ 1,932 | $ 732 |
| Earnings per ordinary share: | | | |
| Basic | $ 1.33 | $ 0.94 | $ 0.42 |

**Fatima Bell Corporation**
**Consolidated Statements of Financial Position**

| (In millions) | December 31 20X6 | 20X5 |
|---|---|---|
| **Assets** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 4,301 | $ 4,138 |
| Short-term investments | 830 | 512 |
| Accounts receivable, net | 3,402 | 2,401 |
| Inventories | 427 | 410 |
| Other | 1,638 | 1,213 |
| Total current assets | 10,598 | 8,674 |
| Property, plant and equipment, net | 1,517 | 932 |
| Investments | 6,613 | 5,323 |
| Other non-current assets | 301 | 144 |
| Total assets | $19,029 | $15,073 |
| **Liabilities and Shareholders' Equity** | | |
| Current liabilities: | | |
| Accounts payable | $ 7,702 | $ 6,002 |
| Accrued and other | 3,676 | 3,044 |
| Total current liabilities | 11,378 | 9,046 |
| Long-term debt | 301 | 302 |
| Other non-current liabilities | 1,701 | 1,167 |
| Commitments and contingent liabilities (Note 7) | — | — |
| Total liabilities | 13,380 | 10,515 |
| Shareholders' equity: | | |
| Preference share and capital in excess of $0.02 par value; shares issued and outstanding: none | — | — |
| Ordinary share and capital in excess of $0.05 par value; shares authorized: 6,000; shares issued: 3,240 and 2,989, respectively | 7,801 | 7,004 |
| Treasury share, at cost; 175 and 124 shares, respectively | (6,333) | (4,404) |
| Retained earnings | 4,321 | 2,054 |
| Other comprehensive loss | (104) | (50) |
| Other | (36) | (46) |
| Total shareholders' equity | 5,649 | 4,558 |
| Total liabilities and shareholders' equity | $19,029 | $15,073 |

**Q12-39** During 20X6, Fatima Bell's total assets

**a.** increased by $9,390 million.
**b.** increased by 26.2%.
**c.** both a and b.
**d.** increased by 20.8%.

**Q12-40** Fatima Bell's current ratio at year-end 20X6 is closest to

**a.** 1.2.
**b.** 9,390.
**c.** 20.8.
**d.** 0.9.

**Q12-41** Fatima Bell's acid-test ratio at year-end 20X6 is closest to

**a.** 0.68.
**b.** 0.75.
**c.** $8,533 million.
**d.** 0.45.

**Q12-42** What is the largest single item included in Fatima Bell's debt ratio at December 31, 20X6?

**a.** Cash and cash equivalents
**b.** Investments
**c.** Accounts payable
**d.** Share capital

**Q12-43** Using the earliest year available as the base year, the trend percentage for Fatima Bell's net revenue during 20X6 was

**a.** 121%.
**b.** up by 21.2%.
**c.** up by $11,820 million.
**d.** 138%.

**Q12-44** Fatima Bell's common-size income statement for 20X6 would report cost of goods sold as

**a.** 79.5%.
**b.** Up by 16.8%.
**c.** 130.5%.
**d.** $34,000 million.

**Q12-45** Fatima Bell's cash conversion cycle during 20X6 was

**a.** 102.80 days
**b.** –44.31 days
**c.** 91.03 days
**d.** 100.95 days

**Q12-46** Fatima Bell's receivable collection period during 20X6 was

**a.** 29 days.
**b.** 117 days.
**c.** 21 days.
**d.** 25 days.

**Q12-47** Fatima Bell's long-term debt bears interest at 11%. During the year ended December 31, 20X6, Bell's times-interest-earned ratio was

**a.** 137 times.
**b.** 144 times.
**c.** 147 times.
**d.** 150 times.

**Q12-48** Fatima Bell's trend of net profit margin is

**a.** worrisome.
**b.** declining.
**c.** improving.
**d.** stuck at 20.8%.

**Q12-49** How many shares of ordinary share did Fatima Bell have outstanding, on average, during 20X6? Hint: Compute earnings per share.

**a.** 2,947 million
**b.** 5,258 million
**c.** 5,244 million
**d.** 2,965 million

**Q12-50** The book value per share of Fatima Bell's ordinary share outstanding at December 31, 20X6, was

**a.** $5,649.
**b.** $1.84.
**c.** $1.96.
**d.** $2.08.

## Problems

MyAccountingLab

All of the A and B problems can be found within MyAccountingLab, an online homework and practice environment. Your instructor may ask you to complete these problems using MyAccountingLab.

### (Group A)

■ spreadsheet

**P12-51A** ***(Learning Objectives 1, 4: Computing trend percentages, return on sales, and comparison with the industry)*** Net sales, net income, and total assets for Cairo Shipping Company for a five-year period follow:

| (In thousands) | 20X6 | 20X5 | 20X4 | 20X3 | 20X2 |
|---|---|---|---|---|---|
| Net sales | $616 | $503 | $358 | $309 | $300 |
| Net income | 33 | 30 | 45 | 34 | 27 |
| Total assets | 300 | 268 | 255 | 231 | 204 |

## Requirements

1. Compute trend percentages for each item for 20X3 through 20X6. Use 20X2 as the base year and round to the nearest percent.
2. Compute the net profit margin for 20X3 through 20X6.
3. How does Cairo Shipping's net profit margin compare with that of the industry? In the shipping industry, rates above 5% are considered good, and rates above 7% are outstanding.

**P12-52A** ***(Learning Objectives 3, 4: Preparing common-size statements; analyzing profitability; making comparisons with the industry)*** Top managers of McDonough Products, Inc., have asked for your help in comparing the company's profit performance and financial position with the average for the industry. The accountant has given you the company's income statement and balance sheet and also the following data for the industry:

■ **writing assignment**

■ **spreadsheet**

**McDonough Products, Inc.**
**Income Statement Compared with Industry Average**
Year Ended December 31, 20X6

| | McDonough | Industry Average |
|---|---|---|
| Net sales | $700,000 | 100.0% |
| Cost of goods sold | 490,000 | 57.3 |
| Gross profit | 210,000 | 42.7 |
| Operating expenses | 175,000 | 29.4 |
| Operating income | 35,000 | 13.3 |
| Other expenses | 7,000 | 2.5 |
| Net income | $ 28,000 | 10.8% |

**McDonough Products, Inc.**
**Balance Sheet Compared with Industry Average**
December 31, 20X6

| | McDonough | Industry Average |
|---|---|---|
| Current assets | $471,200 | 72.1% |
| PPE, net | 114,700 | 19.0 |
| Intangible assets, net | 21,080 | 4.8 |
| Other assets | 13,020 | 4.1 |
| Total | $620,000 | 100.0% |
| | | |
| Current liabilities | $240,560 | 47.2% |
| Long-term liabilities | 135,160 | 21.0 |
| Shareholders' equity | 244,280 | 31.8 |
| Total | $620,000 | 100.0% |

## Requirements

1. Prepare a common-size income statement and balance sheet for McDonough Products. The first column of each statement should present McDonough Products' common-size statement, and the second column should show the industry averages.

2. For the profitability analysis, compute McDonough Products' (a) gross profit margin (b) operating profit margin, and (c) net profit margin. Compare these figures with the industry averages. Is McDonough Products' profit performance better or worse than the average for the industry?
3. For the analysis of financial position, compute McDonough Products' (a) current ratio, (b) quick ratio, and (c) debt ratio. Compare these ratios with the industry averages. Is McDonough Products' financial position better or worse than the average for the industry?

■ **writing assignment**

**P12-53A** ***(Learning Objective 4: Calculating cash conversion cycle)***. You are analyzing the effectiveness of the trading operations of AVN Limited. Extracts of its financial statements are provided below.

**AVN Limited**
Selected information from financial statements

| | 20X7 | 20X6 |
|---|---|---|
| Sales | $175,000 | $140,000 |
| Cost of sales | 82,000 | 63,000 |
| Receivables, net | 24,000 | 18,000 |
| Inventory | 16,000 | 12,000 |
| Payables | 20,000 | 16,000 |

### *Requirement*

1. Calculate AVN's cash conversion cycle for 20X7. What is your assessment of AVN's cash conversion cycle?

**P12-54A** ***(Learning Objectives 4: Computing effects of business transactions on selected ratios)*** Financial statement data of Greatland Engineering include the following items:

| | | | |
|---|---|---|---|
| Cash | $ 25,000 | Accounts payable | $101,000 |
| Short-term investments | 38,000 | Accrued liabilities | 37,000 |
| Accounts receivable, net | 82,000 | Long-term notes payable | 160,000 |
| Inventories | 149,000 | Other long-term liabilities | 37,000 |
| Prepaid expenses | 6,000 | Net income | 96,000 |
| Total assets | 674,000 | Number of ordinary shares outstanding | 52,000 |
| Short-term notes payable | 41,000 | | |

### *Requirements*

1. Compute Greatland's current ratio, debt ratio, and earnings per share. (Round all ratios to two decimal places.)
2. Compute the three ratios after evaluating the effect of each transaction that follows. Consider each transaction *independently*.
   **a.** Borrowed $135,000 on a long-term note payable.
   **b.** Issued 40,000 ordinary shares, receiving cash of $360,000.
   **c.** Paid short-term notes payable, $28,000.
   **d.** Purchased merchandise of $44,000 on account, debiting Inventory.
   **e.** Received cash on account, $16,000.

**P12-55A** ***(Learning Objectives 4: Using ratios to evaluate a share investment)*** Comparative financial statement data of Bloomfield Optical Mart follow:

**Bloomfield Optical Mart**
**Comparative Income Statements**
Years Ended December 31, 20X6 and 20X5

| | 20X6 | 20X5 |
|---|---|---|
| Net sales | $690,000 | $590,000 |
| Cost of goods sold | 375,000 | 283,000 |
| Gross profit | 315,000 | 307,000 |
| Operating expenses | 126,000 | 141,000 |
| Income from operations | 189,000 | 166,000 |
| Interest expense | 36,000 | 50,000 |
| Income before income tax | 153,000 | 116,000 |
| Income tax expense | 40,000 | 53,000 |
| Net income | $113,000 | $ 63,000 |

**Bloomfield Optical Mart**
**Comparative Balance Sheets**
December 31, 20X6 and 20X5

| | 20X6 | 20X5 | 20X4 |
|---|---|---|---|
| Current assets: | | | |
| Cash | $ 38,000 | $ 40,000 | |
| Current receivables, net | 217,000 | 149,000 | $140,000 |
| Inventories | 298,000 | 285,000 | 181,000 |
| Prepaid expenses | 9,000 | 25,000 | |
| Total current assets | 562,000 | 499,000 | |
| Property, plant and equipment, net | 284,000 | 276,000 | |
| Total assets | $846,000 | $775,000 | 710,000 |
| Total current liabilities | $281,000 | $267,000 | |
| Long-term liabilities | 241,000 | 236,000 | |
| Total liabilities | 522,000 | 503,000 | |
| Preference shareholders' equity, 5%, $10 par | 70,000 | 70,000 | |
| Ordinary shareholders' equity, no par | 254,000 | 202,000 | 195,000 |
| Total liabilities and shareholders' equity | $846,000 | $775,000 | |

Other information:

1. Market price of Bloomfield ordinary share: $82.20 at December 31, 20X6, and $52.96 at December 31, 20X5.
2. Ordinary shares outstanding: 20,000 during 20X6 and 18,000 during 20X5.

### *Requirements*

1. Compute the following ratios for 20X6 and 20X5:
   - **a.** Current ratio
   - **b.** Inventory turnover
   - **c.** Times-interest-earned ratio
   - **d.** Return on assets
   - **e.** Return on common shareholders' equity
   - **f.** Earnings per share
   - **g.** Price/earnings ratio
2. Decide whether (a) Bloomfield's financial position improved or deteriorated during 20X6 and (b) the investment attractiveness of Bloomfield's ordinary shares appears to have increased or decreased.
3. How will what you learned in this problem help you evaluate an investment?

■ **writing assignment**

**P12-56A** ***(Learning Objectives 4, 5: Using ratios to decide between two share investments; measuring economic value added)*** Assume that you are considering purchasing shares as an investment. You have narrowed the choice to DVR.com and Express Shops and have assembled the following data.

Selected income statement data for the current year:

| | DVR | Express |
|---|---|---|
| Net sales | $602,000 | $517,000 |
| Cost of goods sold | 449,000 | 382,000 |
| Income from opeations | 88,000 | 73,000 |
| Interest expense | – | 16,000 |
| Net income | 61,000 | 39,000 |

Selected balance sheet and market price data at *end* of current year:

| | DVR | Express |
|---|---|---|
| Current assets: | | |
| Cash | $ 22,000 | $ 38,000 |
| Short-term investments | 10,000 | 14,000 |
| Current receivables, net | 182,000 | 167,000 |
| Inventories | 210,000 | 181,000 |
| Prepaid expenses | 21,000 | 8,000 |
| Total current assets | 445,000 | 408,000 |
| Total assets | 981,000 | 935,000 |
| Total current liabilities | 362,000 | 333,000 |
| Total liabilities | 673,000 | 700,000 |
| Preference shares, 5%, $150 par | | 30,000 |
| Ordinary shares, $1 par (100,000 shares) | 100,000 | |
| $5 par (15,000 shares) | | 75,000 |
| Total shareholders' equity | 308,000 | 235,000 |
| Market price per ordinary | $ 6.10 | $ 55.00 |

Selected balance sheet data at *beginning* of current year:

| | DVR | Express |
|---|---|---|
| **Balance sheet:** | | |
| Current receivables, net | $144,000 | $195,000 |
| Inventories | 205,000 | 199,000 |
| Total assets | 853,000 | 908,000 |
| Long-term debt | – | 299,000 |
| Preference share, 5%, $150 par | | 30,000 |
| Ordinary share, $1 par (100,000 shares) | 100,000 | |
| $5 par (15,000 shares) | | 75,000 |
| Total shareholders' equity | 260,000 | 221,000 |

Your strategy is to invest in companies that have low price/earnings ratios but appear to be in good shape financially. Assume that you have analyzed all other factors and that your decision depends on the results of ratio analysis.

### *Requirements*

1. Compute the following ratios for both companies for the current year and decide which company's shares better fit your investment strategy.
   - **a.** Acid-test ratio
   - **b.** Inventory turnover
   - **c.** Receivables resident period
   - **d.** Debt ratio
   - **e.** Times-interest-earned ratio
   - **f.** Return on ordinary shareholders' equity
   - **g.** Earnings per ordinary share
   - **h.** Price/earnings ratio
2. Compute each company's economic-value-added (EVA®) measure and determine whether the companies' EVA®s confirm or alter your investment decision. Each company's cost of capital is 10%. Use unadjusted net income in your calculations.

## (Group B)

**P12-57B** ***(Learning Objectives 1, 4: Computing trend percentages, return on sales equity, and comparison with the industry)*** Net sales, net income, and total assets for Sorrento Shipping Limited for a five-year period follow:

| (In thousands) | 20X6 | 20X5 | 20X4 | 20X3 | 20X2 |
|---|---|---|---|---|---|
| Net sales | €616 | €503 | €358 | €309 | €300 |
| Net income | 33 | 30 | 45 | 34 | 27 |
| Total assets | 300 | 268 | 255 | 231 | 204 |

### *Requirements*

1. Compute trend percentages for each item for 20X3 through 20X6. Use 20X2 as the base year and round to the nearest percent.
2. Compute the net profit margin for 20X4 through 20X6, rounding to three decimal places.
3. How does Sorrento Shipping's net profit margin compare with that of the industry? In the shipping industry, rates above 5% are considered good, and rates above 7% are outstanding.

**P12-58B** ***(Learning Objectives 3, 4: Preparing common-size statements; analyzing profitability; making comparisons with the industry)*** Top managers of Walsh Products, Inc., have asked for your help in comparing the company's profit performance and financial position with the average for the industry. The accountant has given you the company's income statement and balance sheet and also the following data for the industry:

■ writing assignment

■ spreadsheet

**Walsh Products, Inc.**
**Income Statement Compared with Industry Average**
Year Ended December 31, 20X6

| | Walsh | Industry Average |
|---|---|---|
| Net sales | €900,000 | 100.0% |
| Cost of goods sold | 648,000 | 57.3 |
| Gross profit | 252,000 | 42.7 |
| Operating expenses | 216,000 | 29.4 |
| Operating income | 36,000 | 13.3 |
| Other expenses | 13,500 | 2.5 |
| Net income | € 22,500 | 10.8% |

**Walsh Products, Inc.**
**Balance Sheet Compared with Industry Average**
December 31, 20X6

| | Walsh | Industry Average |
|---|---|---|
| Current assets | €408,100 | 72.1% |
| PPE, net | 99,640 | 19.0 |
| Intangible assets, net | 20,140 | 4.8 |
| Other assets | 2,120 | 4.1 |
| Total | €530,000 | 100.0% |
| Current liabilities | €205,640 | 47.2% |
| Long-term liabilities | 112,360 | 21.0 |
| Shareholders' equity | 212,000 | 31.8 |
| Total | €530,000 | 100.0% |

## *Requirements*

1. Prepare a common-size income statement and balance sheet for Walsh Products. The first column of each statement should present Walsh Products' common-size statement, and the second column should show the industry averages.
2. For the profitability analysis, compute Walsh Products' (a) gross profit margin, (b) operating profit margin, and (c) net profit margin. Compare these figures with the industry averages. Is Walsh Products' profit performance better or worse than the average for the industry?
3. For the analysis of financial position, compute Walsh Products' (a) current ratio, (b) quick ratio, and (c) debt ratio. Compare these ratios with the industry averages. Is Walsh Products' financial position better or worse than the average for the industry?

**P12-59B** ***(Learning Objective 4: Calculating cash conversion cycle)*** You are analyzing the effectiveness of the trading operations of CMI Limited. Extracts of its financial statements are provided below.

**CMI Limited**
Selected information from financial statements

| | 20X8 | 20X7 |
|---|---|---|
| Sales | €1,542,000 | €1,356,000 |
| Cost of sales | 850,000 | 720,000 |
| Receivables, net | 104,000 | 107,000 |
| Inventory | 89,000 | 75,000 |
| Payables | 93,000 | 69,000 |

## *Requirement*

1. Calculate CMI's cash conversion cycle for 20X8. What is your assessment of CMI's cash conversion cycle?

**P12-60B** ***(Learning Objectives 4: Computing effects of business transactions on selected ratios)*** Financial statement data of Trinton Engineering include the following items:

| | | | |
|---|---|---|---|
| Cash | € 26,000 | Accounts payable | €106,000 |
| Short-term investments | 34,000 | Accrued liabilities | 34,000 |
| Accounts receivable, net | 87,000 | Long-term notes payable | 165,000 |
| Inventories | 145,000 | Other long-term liabilities | 32,000 |
| Prepaid expenses | 8,000 | Net income | 98,000 |
| Total assets | 677,000 | Number of ordinary shares outstanding | 47,000 |
| Short-term notes payable | 48,000 | | |

## *Requirements*

1. Compute Trinton's current ratio, debt ratio, and earnings per share.
2. Compute the three ratios after evaluating the effect of each transaction that follows. Consider each transaction *independently*.
   a. Borrowed €115,000 on a long-term note payable.
   b. Issued 20,000 shares of ordinary shares, receiving cash of €365,000.
   c. Paid short-term notes payable, €26,000.
   d. Purchased merchandise of €45,000 on account, debiting Inventory.
   e. Received cash on account, €19,000.

**P12-61B** ***(Learning Objectives 4: Using ratios to evaluate a share investment)*** Comparative financial statement data of Schmid Optical Mart follow:

**writing assignment**

**Schmid Optical Mart**
**Comparative Income Statements**
Years Ended December 31, 20X6 and 20X5

| | 20X6 | 20X5 |
|---|---|---|
| Net sales | €688,000 | €593,000 |
| Cost of goods sold | 376,000 | 283,000 |
| Gross profit | 312,000 | 310,000 |
| Operating expenses | 131,000 | 144,000 |
| Income from operations | 181,000 | 166,000 |
| Interest expense | 31,000 | 50,000 |
| Income before income tax | 150,000 | 116,000 |
| Income tax expense | 42,000 | 47,000 |
| Net income | €108,000 | € 69,000 |

**Schmid Optical Mart**
**Comparative Balance Sheets**
December 31, 20X6 and 20X5

| | 20X6 | 20X5 | 20X4 |
|---|---|---|---|
| Current assets: | | | |
| Cash | € 32,000 | € 36,000 | |
| Current receivables, net | 211,000 | 154,000 | €134,000 |
| Inventories | 291,000 | 288,000 | 188,000 |
| Prepaid expenses | 6,000 | 30,000 | |
| Total current assets | 540,000 | 508,000 | |
| Property, plant and equipment, net | 288,000 | 278,000 | |
| Total assets | €828,000 | €786,000 | 704,000 |
| Total current liabilities | €280,000 | €293,000 | |
| Long-term liabilities | 240,000 | 231,000 | |
| Total liabilities | 520,000 | 524,000 | |
| Preference shareholders' equity, 3%, $5 par | 65,000 | 65,000 | |
| Ordinary shareholders' equity, no par | 243,000 | 197,000 | 198,000 |
| Total liabilities and shareholders' equity | €828,000 | €786,000 | |

Other information:

1. Market price of Schmid ordinary share: €78.12 at December 31, 20X6, and €59.10 at December 31, 20X5.
2. Ordinary shares outstanding: 19,000 during 20X6 and 17,000 during 20X5.

### *Requirements*

1. Compute the following ratios for 20X6 and 20X5:
   - **a.** Current ratio
   - **b.** Inventory turnover
   - **c.** Times-interest-earned ratio
   - **d.** Return on ordinary shareholders' equity
   - **e.** Earnings per ordinary share
   - **f.** Price/earnings ratio
2. Decide whether (a) Schmid's financial position improved or deteriorated during 20X6 and (b) the investment attractiveness of Schmid's ordinary shares appears to have increased or decreased.
3. How will what you learned in this problem help you evaluate an investment?

■ **writing assignment**

**P12-62B** ***(Learning Objectives 4, 5: Using ratios to decide between two share investments; measuring economic value added)*** Assume that you are considering purchasing shares as an investment. You have narrowed the choice to CDROM and E-shop Stores and have assembled the following data.

Selected income statement data for current year:

| | CDROM | E-Shop |
|---|---|---|
| Net sales (all on credit) | €597,000 | €516,000 |
| Cost of goods sold | 455,000 | 388,000 |
| Income from operations | 89,000 | 70,000 |
| Interest expense | — | 13,000 |
| Net income | 68,000 | 39,000 |

Selected balance sheet and market price data at the *end* of the current year:

| | CDROM | E-Shop |
|---|---|---|
| Current assets: | | |
| Cash | € 24,000 | € 41,000 |
| Short-term investments | 5,000 | 15,000 |
| Current receivables, net | 185,000 | 165,000 |
| Inventories | 219,000 | 187,000 |
| Prepaid expenses | 21,000 | 11,000 |
| Total current assets | 454,000 | 419,000 |
| Total assets | 978,000 | 928,000 |
| Total current liabilities | 363,000 | 332,000 |
| Total liabilities | 663,000 | 693,000 |
| Preference shares, 6%, $150 par | | 30,000 |
| Ordinary shares, $1 par (100,000 shares) | 100,000 | |
| $5 par (10,000 shares) | | 50,000 |
| Total shareholders' equity | 315,000 | 235,000 |
| Market price per ordinary share | € 8.84 | € 70.68 |

Selected balance sheet data at the *beginning* of the current year:

| | CDROM | E-Shop |
|---|---|---|
| **Balance sheet:** | | |
| Current receivables, net | €143,000 | €190,000 |
| Inventories | 202,000 | 195,000 |
| Total assets | 843,000 | 914,000 |
| Long-term debt | – | 300,000 |
| Preference share, 6%, €150 par | | 30,000 |
| Ordinary share, €1 par (100,000 shares) | 100,000 | |
| €5 par (10,000 shares) | | 50,000 |
| Total shareholders' equity | 259,000 | 220,000 |

Your strategy is to invest in companies that have low price/earnings ratios but which appear to be in good shape financially. Assume that you have analyzed all other factors and that your decision depends on the results of ratio analysis.

### *Requirements*

1. Compute the following ratios for both companies for the current year and decide which company's shares better fit your investment strategy.
   - **a.** Acid-test ratio
   - **b.** Inventory turnover
   - **c.** Receivables resident period
   - **d.** Debt ratio
   - **e.** Times-interest-earned ratio
   - **f.** Return on ordinary shareholders' equity
   - **g.** Earnings per share
   - **h.** Price/earnings ratio
2. Compute each company's economic-value-added (EVA®) measure and determine whether the companies' EVA®s confirm or alter your investment decision. Each company's cost of capital is 12%. Use unadjusted net income in your calculations.

# APPLY YOUR KNOWLEDGE

## Decision Cases

**Case 1.** ***(Learning Objective 5: Assessing the effects of transactions on a company)*** Suppose **Vodafone** is having a bad year in 20X4, as the company has incurred a $4.9 billion net loss. The loss has pushed most of the return measures into the negative column and the current ratio dropped below 1.0. The company's debt ratio is still only 0.27. Assume top management of the company is pondering ways to improve the company's ratios. In particular, management is considering the following transactions:

1. Sell off the cable television segment of the business for $30 million (receiving half in cash and half in the form of a long-term note receivable). The book value of the cable television business is $27 million.
2. Borrow $100 million on long-term debt.
3. Purchase treasury share for $500 million cash.
4. Write off one-fourth of goodwill carried on the books at $128 million.
5. Sell advertising at the normal gross profit of 60%. The advertisements run immediately.
6. Purchase trademarks from other companies, paying $20 million cash and signing a one-year note payable for $80 million.

### *Requirements*

1. Top management wants to know the effects of these transactions (increase, decrease, or no effect) on the following ratios of Vodafone:
   a. Current ratio
   b. Debt ratio
   c. Times-interest-earned ratio
   d. Return on equity
   e. Book value per ordinary share

**writing assignment**

2. Some of these transactions have an immediate positive effect on the company's financial condition. Some are definitely negative. Others have an effect that cannot be judged as clearly positive or negative. Evaluate each transaction's effect as positive, negative, or unclear. (Challenge)

**writing assignment**

**Case 2.** ***(Learning Objective 4: Analyzing the effects of an accounting difference on the ratios)*** Assume that you are a financial analyst. You are trying to compare the financial statements of **CNH Global**, an international company that uses international financial reporting standards (IFRS), to those of **Caterpillar, Inc.**, which uses US GAAP. Caterpillar, Inc., uses the last-in, first-out (LIFO) method to account for its inventories. IFRS does not permit CNH Global to use LIFO. Analyze the effect of this difference in accounting method on the two companies' ratio values. For each ratio discussed in this chapter, indicate which company will have the higher (and the lower) ratio value. Also identify those ratios that are unaffected by the FIFO/LIFO difference. Ignore the effects of income taxes, and assume inventory costs are increasing. Then, based on your analysis of the ratios, summarize your conclusions as to which company looks better overall.

**Case 3.** ***(Learning Objectives 2, 4: Identifying action to cut losses and establish profitability)*** Suppose you manage Europe Vacations, a travel agency specializing in European tour destinations that lost money during the past year. To turn the business around, you must analyze the company and industry data for the current year to learn what is wrong. The company's data follow:

**Europe Vacations, Inc.**
**Common-Size Balance Sheet Data**

| | Outward Bound | Industry Average |
|---|---|---|
| Cash and short-term investments | 3.0% | 6.8% |
| Trade receivables, net | 15.2 | 11.0 |
| Inventory | 64.2 | 60.5 |
| Prepaid expenses | 1.0 | 0.0 |
| Total current assets | 83.4% | 78.3% |
| Fixed assets, net | 12.6 | 15.2 |
| Other assets | 4.0 | 6.5 |
| Total assets | 100.0% | 100.0% |
| Notes payable, short-term, 12% | 17.1% | 14.0% |
| Accounts payable | 21.1 | 25.1 |
| Accrued liabilities | 7.8 | 7.9 |
| Total current liabilities | 46.0 | 47.0 |
| Long-term debt, 11% | 19.7 | 16.4 |
| Total liabilities | 65.7 | 63.4 |
| Ord. shareholders' equity | 34.3 | 36.6 |
| Total liabilities and shareholders' equity | 100.0% | 100.0% |

**Europe Vacations, Inc.**
**Common-Size Income Statement Data**

| | Outward Bound | Industry Average |
|---|---|---|
| Net sales | 100.0% | 100.0% |
| Cost of sales | (68.2) | (64.8) |
| Gross profit | 31.8 | 35.2 |
| Operating expense | (37.1) | (32.3) |
| Operating income (loss) | (5.3) | 2.9 |
| Interest expense | (5.8) | (1.3) |
| Other revenue | 1.1 | 0.3 |
| Income (loss) before income tax | (10.0) | 1.9 |
| Income tax (expense) saving | 4.4 | (0.8) |
| Net income (loss) | (5.6)% | 1.1% |

### *Requirement*

1. On the basis of your analysis of these figures, suggest four courses of action Europe Vacations might take to reduce its losses and establish profitable operations. Give your reason for each suggestion. (Challenge)

## Ethical Issue

Turnberry Golf Corporation's long-term debt agreements make certain demands on the business. For example, Turnberry may not purchase treasury share in excess of the balance of retained earnings. Also, long-term debt may not exceed shareholders' equity, and the current ratio may not fall below 1.50. If Turnberry fails to meet any of these requirements, the company's lenders have the authority to take over management of the company.

Changes in consumer demand have made it hard for Turnberry to attract customers. Current liabilities have mounted faster than current assets, causing the current ratio to fall to 1.47. Before releasing financial statements, Turnberry's management is scrambling to improve the current ratio. The controller points out that the company owns an investment that is currently classified as long-term. The investment can be classified as either long-term or short-term, depending on management's intention. By deciding to convert an investment to cash within one year, Turnberry can classify the investment as short-term—a current asset. On the controller's recommendation, Turnberry's board of directors votes to reclassify long-term investments as short-term.

### *Requirements*

1. What is the accounting issue in this case? What ethical decision needs to be made?
2. Who are the stakeholders?
3. Analyze the potential impact on the stakeholders from the following standpoints: (a) economic, (b) legal, and (c) ethical. ■ **writing assignment**
4. Shortly after the financial statements are released, sales improve; so, too, does the current ratio. As a result, Turnberry's management decides not to sell the investments it had reclassified as short term. Accordingly, the company reclassifies the investments as long term. Has management acted unethically? Give the reasoning underlying your answer. ■ **writing assignment**

## Focus on Financials: ■ Vodafone

Refer to **Vodafone's** consolidated financial statements in Appendix A.

### *Requirements*

Use the consolidated financial statements and the data in Vodafone's annual report (Appendix A) to evaluate the company's comparative performance for 2011 versus 2010.

1. Does the company appear to be improving or declining in the following dimensions?
   - **a.** The ability to pay its current liabilities
   - **b.** The ability to sell inventory and collect receivables
   - **c.** The ability to pay long-term debts
   - **d.** Profitability
   - **e.** The ability to generate cash flows
   - **f.** The potential of the company's shares as a long-term investment. You may want to obtain Vodafone's current share price to support your answer. (Challenge)
2. What is your opinion of the company's outlook for the future? Would you buy the company's share as an investment? Why or why not? (Challenge) ■ **writing assignment**

## Group Projects

■ **writing assignment**

**Project 1.** Select an industry you are interested in, and use the leading company in that industry as the benchmark. Then select two other companies in the same industry. For each category of ratios in the Decision Guidelines featured earlier in this chapter, compute at least two ratios for all three companies. Write a two-page report that compares the two companies with the benchmark company.

**Project 2.** Select a company in the retail industry and obtain its financial statements. Convert the income statement and the balance sheet to common size and compare the company you selected to the industry averages. You can assume the home furnishings' industry averages you have seen in this chapter are representative of the retail industry as a whole.

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## Quick Check Answers

1. *b* (\$1,820/\$1,730)
2. *a* (\$1,820/\$17,700)
3. *d* (\$2,691 – \$1,124)/\$1,124 = 139.4%
4. *c* (\$1,780/\$26,060)
5. *c*
6. *c* $\left[\dfrac{\$3{,}300}{(\$140 + \$120)/2}\right] = 25.4 \approx 25$ times
7. *a* [(\$690 + \$780)/\$2,374 = 0.62]
8. *c* $\left[\dfrac{\$780 + \$840/2}{\$17{,}700/365}\right] = 16.9 \approx 17$ days
9. *c* (Debt ratio is (\$26,060 – \$13,291)/\$26,060 = 0.49. This debt ratio is lower than the average for most companies, given in the chapter as 0.64.)
10. *d* (\$2,691/\$17,700 = 0.152)
11. *b* $\left[\dfrac{\$2{,}691}{(\$13{,}291 + \$10{,}615)/2}\right] = 0.225$
12. *c* (\$30/\$2.69)
13. *c* (\$0.50/\$30)
14. *a* [\$2,691 + \$370 – (\$305 + \$9,500 + \$10,615) × 0.05] = \$2,040

# Appendix A

2011

# VODAFONE GROUP PLC

ANNUAL REPORT

EXCERPTS

# Consolidated income statement

for the years ended 31 March

| | Note | 2011 £m | 2010 £m | 2009 £m |
|---|---|---|---|---|
| **Revenue** | 3 | **45,884** | **44,472** | **41,017** |
| Cost of sales | | (30,814) | (29,439) | (25,842) |
| **Gross profit** | | **15,070** | **15,033** | **15,175** |
| Selling and distribution expenses | | (3,067) | (2,981) | (2,738) |
| Administrative expenses | | (5,300) | (5,328) | (4,771) |
| Share of result in associates | 14 | 5,059 | 4,742 | 4,091 |
| Impairment losses | 10 | (6,150) | (2,100) | (5,900) |
| Other income and expense | | (16) | 114 | – |
| **Operating profit** | 4 | **5,596** | **9,480** | **5,857** |
| Non-operating income and expense | 15 | 3,022 | (10) | (44) |
| Investment income | 5 | 1,309 | 716 | 795 |
| Financing costs | 5 | (429) | (1,512) | (2,419) |
| **Profit before taxation** | | **9,498** | **8,674** | **4,189** |
| Income tax expense | 6 | (1,628) | (56) | (1,109) |
| **Profit for the financial year** | | **7,870** | **8,618** | **3,080** |
| | | | | |
| Attributable to: | | | | |
| – Equity shareholders | | 7,968 | 8,645 | 3,078 |
| – Non-controlling interests | | (98) | (27) | 2 |
| | | **7,870** | **8,618** | **3,080** |
| | | | | |
| **Basic earnings per share** | 8 | **15.20p** | **16.44p** | **5.84p** |
| | | | | |
| **Diluted earnings per share** | 8 | **15.11p** | **16.36p** | **5.81p** |

# Consolidated statement of comprehensive income

for the years ended 31 March

| | 2011 £m | 2010 £m | 2009 £m |
|---|---|---|---|
| Gains/(losses) on revaluation of available-for-sale investments, net of tax | 310 | 206 | (2,383) |
| Foreign exchange translation differences, net of tax | (2,132) | (1,021) | 12,375 |
| Net actuarial gains/(losses) on defined benefit pension schemes, net of tax | 136 | (104) | (163) |
| Revaluation gain | – | 860 | 68 |
| Foreign exchange gains transferred to the income statement | (630) | (84) | (3) |
| Fair value (gains)/losses transferred to the income statement | (2,192) | 3 | – |
| Other, net of tax | 19 | 67 | (40) |
| **Other comprehensive (loss)/income** | **(4,489)** | **(73)** | **9,854** |
| Profit for the financial year | 7,870 | 8,618 | 3,080 |
| **Total comprehensive income for the year** | **3,381** | **8,545** | **12,934** |
| | | | |
| Attributable to: | | | |
| – Equity shareholders | 3,567 | 8,312 | 13,037 |
| – Non-controlling interests | (186) | 233 | (103) |
| | **3,381** | **8,545** | **12,934** |

The accompanying notes are an integral part of these consolidated financial statements.

# Consolidated statement of financial position

at 31 March

| | Note | 2011 £m | 2010 £m |
|---|---|---|---|
| **Non-current assets** | | | |
| Goodwill | 9 | 45,236 | 51,838 |
| Other intangible assets | 9 | 23,322 | 22,420 |
| Property, plant and equipment | 11 | 20,181 | 20,642 |
| Investments in associates | 14 | 38,105 | 36,377 |
| Other investments | 15 | 1,381 | 7,591 |
| Deferred tax assets | 6 | 2,018 | 1,033 |
| Post employment benefits | 23 | 97 | 34 |
| Trade and other receivables | 17 | 3,877 | 2,831 |
| | | **134,217** | **142,766** |
| **Current assets** | | | |
| Inventory | 16 | 537 | 433 |
| Taxation recoverable | | 281 | 191 |
| Trade and other receivables | 17 | 9,259 | 8,784 |
| Other investments | 15 | 674 | 388 |
| Cash and cash equivalents | 18 | 6,252 | 4,423 |
| | | **17,003** | **14,219** |
| **Total assets** | | **151,220** | **156,985** |
| **Equity** | | | |
| Called up share capital | 19 | 4,082 | 4,153 |
| Additional paid-in capital | | 153,760 | 153,509 |
| Treasury shares | | (8,171) | (7,810) |
| Retained losses | | (77,661) | (79,655) |
| Accumulated other comprehensive income | | 15,545 | 20,184 |
| **Total equity shareholders' funds** | | **87,555** | **90,381** |
| Non-controlling interests | | 2,880 | 3,379 |
| Put options over non-controlling interests | | (2,874) | (2,950) |
| **Total non-controlling interests** | | **6** | **429** |
| **Total equity** | | **87,561** | **90,810** |
| **Non-current liabilities** | | | |
| Long-term borrowings | 22 | 28,375 | 28,632 |
| Taxation liabilities | | 350 | – |
| Deferred tax liabilities | 6 | 6,486 | 7,377 |
| Post employment benefits | 23 | 87 | 237 |
| Provisions | 24 | 482 | 497 |
| Trade and other payables | 25 | 804 | 816 |
| | | **36,584** | **37,559** |
| **Current liabilities** | | | |
| Short-term borrowings | 22 | 9,906 | 11,163 |
| Taxation liabilities | | 1,912 | 2,874 |
| Provisions | 24 | 559 | 497 |
| Trade and other payables | 25 | 14,698 | 14,082 |
| | | **27,075** | **28,616** |
| **Total equity and liabilities** | | **151,220** | **156,985** |

# Consolidated statement of changes in equity

for the years ended 31 March

| | Share capital £m | Additional paid-in capital[1] £m | Treasury shares £m | Retained losses £m | Other comprehensive income: Currency reserve £m | Pensions reserve £m | Investment reserve £m | Revaluation surplus £m | Other £m | Equity share-holders' funds £m | Non-controlling interests £m | Total £m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 April 2008 | 4,182 | 153,139 | (7,856) | (81,980) | 5,974 | (96) | 4,531 | 112 | 37 | 78,043 | (1,572) | 76,471 |
| Issue or reissue of shares | 3 | 4 | 65 | (44) | – | – | – | – | – | 28 | – | 28 |
| Purchase of own shares | – | – | (1,000) | – | – | – | – | – | – | (1,000) | – | (1,000) |
| Redemption or cancellation of shares | (32) | 47 | 755 | (770) | – | – | – | – | – | – | – | – |
| Share-based payment | – | 158[2] | – | – | – | – | – | – | – | 158 | – | 158 |
| Acquisition of subsidiaries | – | – | – | (87) | – | – | – | – | – | (87) | 436 | 349 |
| Comprehensive income | – | – | – | 3,078 | 12,477 | (163) | (2,383) | 68 | (40) | 13,037 | (103) | 12,934 |
| Profit | – | – | – | 3,078 | – | – | – | – | – | 3,078 | 2 | 3,080 |
| OCI – before tax | – | – | – | – | 12,614 | (220) | (2,383) | 68 | (56) | 10,023 | (105) | 9,918 |
| OCI – taxes | – | – | – | – | (134) | 57 | – | – | 16 | (61) | – | (61) |
| Transfer to the income statement | – | – | – | – | (3) | – | – | – | – | (3) | – | (3) |
| Dividends | – | – | – | (4,017) | – | – | – | – | – | (4,017) | (162) | (4,179) |
| Other | – | – | – | – | – | – | – | – | – | – | 16 | 16 |
| **31 March 2009** | **4,153** | **153,348** | **(8,036)** | **(83,820)** | **18,451** | **(259)** | **2,148** | **180** | **(3)** | **86,162** | **(1,385)** | **84,777** |
| Issue or reissue of shares | – | – | 189 | (119) | – | – | – | – | – | 70 | – | 70 |
| Share-based payment | – | 161[2] | – | – | – | – | – | – | – | 161 | – | 161 |
| Acquisition of subsidiaries | – | – | – | (133) | – | – | – | – | – | (133) | 1,636 | 1,503 |
| Comprehensive income | – | – | – | 8,645 | (1,365) | (104) | 209 | 860 | 67 | 8,312 | 233 | 8,545 |
| Profit/(loss) | – | – | – | 8,645 | – | – | – | – | – | 8,645 | (27) | 8,618 |
| OCI – before tax | – | – | – | – | (1,320) | (149) | 377 | 860 | 79 | (153) | 260 | 107 |
| OCI – taxes | – | – | – | – | 39 | 45 | (171) | – | (12) | (99) | – | (99) |
| Transfer to the income statement | – | – | – | – | (84) | – | 3 | – | – | (81) | – | (81) |
| Dividends | – | – | – | (4,131) | – | – | – | – | – | (4,131) | (56) | (4,187) |
| Other | – | – | 37 | (97) | – | – | – | – | – | (60) | 1 | (59) |
| **31 March 2010** | **4,153** | **153,509** | **(7,810)** | **(79,655)** | **17,086** | **(363)** | **2,357** | **1,040** | **64** | **90,381** | **429** | **90,810** |
| Issue or reissue of shares | – | – | 232 | (125) | – | – | – | – | – | 107 | – | 107 |
| Redemption or cancellation of shares | (71) | 71 | 1,532 | (1,532) | – | – | – | – | – | – | – | – |
| Purchase of own shares | – | – | (2,125) | – | – | – | – | – | – | (2,125) | – | (2,125) |
| Share-based payment | – | 180[2] | – | – | – | – | – | – | – | 180 | – | 180 |
| Acquisition of subsidiaries | – | – | – | (120) | – | – | – | – | – | (120) | 35 | (85) |
| Comprehensive income | – | – | – | 7,968 | (2,669) | 136 | (1,882) | – | 14 | 3,567 | (186) | 3,381 |
| Profit/(loss) | – | – | – | 7,968 | – | – | – | – | – | 7,968 | (98) | 7,870 |
| OCI – before tax | – | – | – | – | (2,053) | 190 | 347 | – | 14 | (1,502) | (88) | (1,590) |
| OCI – taxes | – | – | – | – | 14 | (54) | (37) | – | – | (77) | – | (77) |
| Transfer to the income statement | – | – | – | – | (630) | – | (2,192)[3] | – | – | (2,822) | – | (2,822) |
| Dividends | – | – | – | (4,468) | – | – | – | – | – | (4,468) | (328) | (4,796) |
| Other | – | – | – | 271 | – | – | (238) | – | – | 33 | 56 | 89 |
| **31 March 2011** | **4,082** | **153,760** | **(8,171)** | **(77,661)** | **14,417** | **(227)** | **237** | **1,040** | **78** | **87,555** | **6** | **87,561** |

# Consolidated statement of cash flows

for the years ended 31 March

| | Note | 2011 £m | 2010 £m | 2009 £m |
|---|---|---|---|---|
| **Net cash flow from operating activities** | 26 | **11,995** | **13,064** | **12,213** |
| | | | | |
| **Cash flows from investing activities** | | | | |
| Purchase of interests in subsidiaries and joint ventures, net of cash acquired | | (402) | (1,777) | (1,389) |
| Purchase of intangible assets | | (4,290) | (2,134) | (1,764) |
| Purchase of property, plant and equipment | | (4,350) | (4,841) | (5,204) |
| Purchase of investments | | (318) | (522) | (133) |
| Disposal of interests in subsidiaries, net of cash disposed | | – | – | 4 |
| Disposal of interests in associates | | – | – | 25 |
| Disposal of property, plant and equipment | | 51 | 48 | 317 |
| Disposal of investments | | 4,467 | 17 | 253 |
| Dividends received from associates | | 1,424 | 1,436 | 647 |
| Dividends received from investments | | 85 | 141 | 108 |
| Interest received | | 1,659 | 195 | 302 |
| Taxation on investing activities | | (208) | – | – |
| **Net cash flow from investing activities** | | **(1,882)** | **(7,437)** | **(6,834)** |
| | | | | |
| **Cash flows from financing activities** | | | | |
| Issue of ordinary share capital and reissue of treasury shares | | 107 | 70 | 22 |
| Net movement in short-term borrowings | | (573) | 227 | (25) |
| Proceeds from issue of long-term borrowings | | 4,861 | 4,217 | 6,181 |
| Repayment of borrowings | | (4,064) | (5,184) | (2,729) |
| Purchase of treasury shares | | (2,087) | – | (963) |
| B share capital redemption | | – | – | (15) |
| Equity dividends paid | | (4,468) | (4,139) | (4,013) |
| Dividends paid to non-controlling shareholders in subsidiaries | | (320) | (56) | (162) |
| Contributions from non-controlling shareholders in subsidiaries | | – | 613 | – |
| Other transactions with non-controlling shareholders in subsidiaries | | (137) | – | 618 |
| Interest paid | | (1,578) | (1,601) | (1,470) |
| **Net cash flow from financing activities** | | **(8,259)** | **(5,853)** | **(2,556)** |
| | | | | |
| **Net cash flow** | | **1,854** | **(226)** | **2,823** |
| | | | | |
| Cash and cash equivalents at beginning of the financial year | 18 | 4,363 | 4,846 | 1,652 |
| Exchange (loss)/gain on cash and cash equivalents | | (12) | (257) | 371 |
| **Cash and cash equivalents at end of the financial year** | **18** | **6,205** | **4,363** | **4,846** |

The accompanying notes are an integral part of these consolidated financial statements.

# 6. Taxation

## Income tax expense

| | 2011 £m | 2010 £m | 2009 £m |
|---|---|---|---|
| United Kingdom corporation tax expense/(income): | | | |
| Current year | 141 | 40 | (132) |
| Adjustments in respect of prior years | (5) | (4) | (318) |
| | **136** | **36** | **(450)** |
| Overseas current tax expense/(income): | | | |
| Current year | 2,152 | 2,377 | 2,111 |
| Adjustments in respect of prior years | (477) | (1,718) | (934) |
| | **1,675** | **659** | **1,177** |
| **Total current tax expense** | **1,811** | **695** | **727** |
| Deferred tax on origination and reversal of temporary differences: | | | |
| United Kingdom deferred tax | (275) | (166) | 20 |
| Overseas deferred tax | 92 | (473) | 362 |
| **Total deferred tax (income)/expense** | **(183)** | **(639)** | **382** |
| **Total income tax expense** | **1,628** | **56** | **1,109** |

## Tax (credited)/charged directly to other comprehensive income

| | 2011 £m | 2010 £m | 2009 £m |
|---|---|---|---|
| Current tax (credit)/charge | (14) | (38) | 133 |
| Deferred tax (credit)/charge | (117) | 137 | (72) |
| **Total tax (credited)/charged directly to other comprehensive income** | **(131)** | **99** | **61** |

## Tax (credited)/charged directly to equity

| | 2011 £m | 2010 £m | 2009 £m |
|---|---|---|---|
| Current tax (credit)/charge | (5) | (1) | 1 |
| Deferred tax (credit)/charge | (19) | (10) | 8 |
| **Total tax (credited)/charged directly to equity** | **(24)** | **(11)** | **9** |

# 9. Intangible assets

| | Goodwill £m | Licences and spectrum £m | Computer software £m | Other £m | Total £m |
|---|---|---|---|---|---|
| **Cost:** | | | | | |
| 1 April 2009 | 106,664 | 26,138 | 7,359 | 1,471 | 141,632 |
| Exchange movements | (2,751) | 62 | (72) | 326 | (2,435) |
| Arising on acquisition | 1,185 | 1,454 | 153 | 1,604 | 4,396 |
| Change in consolidation status | (102) | (413) | (281) | (175) | (971) |
| Additions | – | 306 | 1,199 | 19 | 1,524 |
| Disposals | – | – | (114) | – | (114) |
| **31 March 2010** | **104,996** | **27,547** | **8,244** | **3,245** | **144,032** |
| Exchange movements | (1,120) | (545) | (16) | 8 | (1,673) |
| Arising on acquisition | 24 | – | 17 | – | 41 |
| Additions | – | 3,157 | 1,493 | 9 | 4,659 |
| Disposals | – | – | (424) | (1) | (425) |
| Other | – | – | 635 | 8 | 643 |
| **31 March 2011** | **103,900** | **30,159** | **9,949** | **3,269** | **147,277** |
| **Accumulated impairment losses and amortisation:** | | | | | |
| 1 April 2009 | 52,706 | 7,552 | 5,223 | 1,213 | 66,694 |
| Exchange movements | (1,848) | (29) | (104) | 64 | (1,917) |
| Amortisation charge for the year | – | 1,730 | 1,046 | 678 | 3,454 |
| Change in consolidation status | – | (135) | (154) | (181) | (470) |
| Impairment losses | 2,300 | (200) | – | – | 2,100 |
| Disposals | – | – | (87) | – | (87) |
| **31 March 2010** | **53,158** | **8,918** | **5,924** | **1,774** | **69,774** |
| Exchange movements | (644) | (104) | (14) | (6) | (768) |
| Amortisation charge for the year | – | 1,809 | 1,166 | 529 | 3,504 |
| Impairment losses | 6,150 | – | – | – | 6,150 |
| Disposals | – | – | (426) | – | (426) |
| Other | – | – | 485 | – | 485 |
| **31 March 2011** | **58,664** | **10,623** | **7,135** | **2,297** | **78,719** |
| **Net book value:** | | | | | |
| **31 March 2010** | **51,838** | **18,629** | **2,320** | **1,471** | **74,258** |
| **31 March 2011** | **45,236** | **19,536** | **2,814** | **972** | **68,558** |

For licences and spectrum and other intangible assets, amortisation is included within the cost of sales line within the consolidated income statement. Licences and spectrum with a net bock value of £3,845 million (2010: £2,570 million) have been pledged as security against borrowings.

The net book value at 31 March 2011 and expiry dates of the most significant licences are as follows:

| | Expiry date | 2011 £m | 2010 £m |
|---|---|---|---|
| Germany | December 2020/2025 | 5,540 | 4,802 |
| UK | December 2021 | 3,581 | 3,914 |
| India | September 2030 | 1,746 | – |
| Qatar | June 2028 | 1,187 | 1,328 |
| Italy | December 2021 | 1,002 | 1,097 |

During the 2011 financial year the Group completed a number of smaller acquisitions for net cash consideration of £46 million paid during the year. The aggregate fair values of goodwill, identifiable assets and liabilities of the acquired operations were £24 million. £25 million and £3 million, respectively. In addition, the Group completed the acquisition of certain non-controlling interests for net cash consideration of £137 million.

## 10. Impairment

### Impairment losses

The net impairment losses recognised in the consolidated income statement, as a separate line item within operating profit, in respect of goodwill and licences and spectrum fees are as follows:

| Cash generating unit | Reportable segment | 2011[1] £m | 2010 £m | 2009 £m |
|---|---|---|---|---|
| Italy | Italy | 1,050 | – | – |
| Spain | Spain | 2,950 | – | 3,400 |
| Greece | Other Europe[2] | 800 | – | – |
| Ireland | Other Europe[2] | 1,000 | – | – |
| Portugal | Other Europe[2] | 350 | – | – |
| Turkey | Other Europe | – | (200) | 2,250 |
| India | India | – | 2,300 | – |
| Ghana | Other Africa, Middle East and Asia Pacific | – | – | 250 |
| | | **6,150** | **2,100** | **5,900** |

Notes:
(1) Impairment charges for the year ended 31 March 2011 relate solely to goodwill.
(2) Total impairment losses in the Other Europe segment were £2,150 million in the year ended 31 March 2011.

### Year ended 31 March 2011

The impairment losses were based on value in use calculations. The pre-tax adjusted discount rates used in the most recent value in use calculation in the year ended 31 March 2011 are as follows:

| | Pre-tax adjusted discount rate |
|---|---|
| Italy | 11.9% |
| Spain | 11.5% |
| Greece | 14.0% |
| Ireland | 14.5% |
| Portugal | 14.0% |

During the year ended 31 March 2011 the goodwill in relation to the Group's investments in Italy, Spain, Greece, Ireland and Portugal was impaired by £1,050 million, £2,950 million, £800 million, £1,000 million and £350 million, respectively. The impairment charges were primarily driven by increased discount rates as a result of increases in government bond rates. In addition, business valuations were negatively impacted by lower cash flows within business plans, reflecting weaker country-level macro economic environments.

The pre-tax risk adjusted discount rates used in the previous value in use calculations at 31 March 2010 are disclosed below.

### Year ended 31 March 2010

The net impairment losses were based on value in use calculations. The pre-tax adjusted discount rates used in the value in use calculation in the year ended 31 March 2010 were as follows:

| | Pre-tax adjusted discount rate |
|---|---|
| India | 13.8% |
| Turkey | 17.6% |

During the year ended 31 March 2010 the goodwill in relation to the Group's operations in India was impaired by £2,300 million primarily due to intense price competition following the entry of a number of new operators into the market. The pre-tax risk adjusted discount rate used in the previous value in use calculation at 31 March 2009 was 12.3%.

In addition, impairment losses of £200 million, previously recognised in respect of intangible assets in relation to the Group's operations in Turkey, were reversed. The reversal was in relation to licences and spectrum and was as a result of favourable changes in the discount rate. The cash flow projections within the business plans used for impairment testing were substantially unchanged from those used at 31 March 2009. The pre-tax risk adjusted discount rate used in the previous value in use calculation at 31 March 2009 was 19.5%.

## Year ended 31 March 2009

The impairment losses were based on value in use calculations. The pre-tax adjusted discount rates used in the value in use calculation in the year ended 31 March 2009 were as follows:

| | Pre-tax adjusted discount rate |
|---|---|
| Spain | 10.3% |
| Turkey | 19.5% |
| Ghana | 26.9% |

During the year ended 31 March 2009 the goodwill in relation to the Group's operations in Spain was impaired by £3,400 million following a fall in long-term cash flow forecasts resulting from the economic downturn.

In addition, the goodwill and other intangible assets in relation to the Group's operations in Turkey was impaired by £2,250 million. At 30 September 2008 the goodwill was impaired by £1,700 million following adverse movements in the discount rate and adverse performance against previous plans. During the second half of the 2009 financial year, impairment losses of £300 million in relation to goodwill and £250 million in relation to licences and spectrum resulted from adverse changes in both the discount rate and a fall in the long-term GDP growth rate. The cash flow projections within the business plans used for impairment testing were substantially unchanged from those used at 30 September 2008.

The goodwill in relation to the Group's operations in Ghana was also impaired by £250 million following an increase in the discount rate.

## Goodwill

The carrying value of goodwill at 31 March was as follows:

| | 2011 £m | 2010 £m |
|---|---|---|
| Germany | 12,200 | 12,301 |
| Italy | 13,615 | 14,786 |
| Spain | 7,133 | 10,167 |
| | **32,948** | **37,254** |
| Other | 12,288 | 14,584 |
| | **45,236** | **51,838** |

# 11. Property, plant and equipment

| | Land and buildings £m | Equipment, fixtures and fittings £m | Total £m |
|---|---|---|---|
| **Cost:** | | | |
| 1 April 2009 | 1,421 | 43,943 | 45,364 |
| Exchange movements | (6) | 8 | 2 |
| Arising on acquisition | 157 | 1,457 | 1,614 |
| Additions | 115 | 4,878 | 4,993 |
| Disposals | (27) | (1,109) | (1,136) |
| Change in consolidation status | (107) | (2,274) | (2,381) |
| Other | 24 | (58) | (34) |
| **31 March 2010** | **1,577** | **46,845** | **48,422** |
| Exchange movements | (16) | (678) | (694) |
| Additions | 122 | 4,604 | 4,726 |
| Disposals | (21) | (3,001) | (3,022) |
| Other | 69 | (732) | (663) |
| **31 March 2011** | **1,731** | **47,038** | **48,769** |
| **Accumulated depreciation and impairment:** | | | |
| 1 April 2009 | 583 | 25,531 | 26,114 |
| Exchange movements | (12) | (260) | (272) |
| Charge for the year | 102 | 4,354 | 4,456 |
| Disposals | (10) | (995) | (1,005) |
| Change in consolidation status | (28) | (1,461) | (1,489) |
| Other | (2) | (22) | (24) |
| **31 March 2010** | **633** | **27,147** | **27,780** |
| Exchange movements | (4) | (114) | (118) |
| Charge for the year | 99 | 4,273 | 4,372 |
| Disposals | (19) | (2,942) | (2,961) |
| Other | – | (485) | (485) |
| **31 March 2011** | **709** | **27,879** | **28,588** |
| **Net book value:** | | | |
| **31 March 2010** | **944** | **19,698** | **20,642** |
| **31 March 2011** | **1,022** | **19,159** | **20,181** |

The net book value of land and buildings and equipment, fixtures and fittings includes £131 million and £155 million respectively (2010: £91 million and £111 million) in relation to assets held under finance leases. Included in the net book value of land and buildings and equipment, fixtures and fittings are assets in the course of construction, which are not depreciated, with a cost of £38 million and £2,375 million respectively (2010: £45 million and £1,496 million). Property, plant and equipment with a net book value of £972 million (2010: £389 million) has been pledged as security against borrowings.

## 14. Investments in associates

At 31 March 2011 the Company had the following principal associates carrying on businesses which affect the profits and assets of the Group. The Company's principal associates all have share capital consisting solely of ordinary shares, unless otherwise stated, and are all indirectly held. The country of incorporation or registration of all associates is also their principal place of operation.

| Name | Principal activity | Country of incorporation or registration | Percentage[1] shareholdings |
|---|---|---|---|
| Cellco Partnership[2] | Network operator | US | 45.0 |
| Société Française du Radiotéléphone S.A.('SFR')[3] | Network operator | France | 44.0 |
| Safaricom Limited[4][5] | Network operator | Kenya | 40.0 |

Notes:
(1) Rounded to nearest tenth of one percent.
(2) Cellco Partnership trades under the name Verizon Wireless.
(3) On 3 April 2011 the Group announced an agreement to sell its entire 44% interest in SFR. See note 32 for further information.
(4) The Group also holds two non-voting shares.
(5) At 31 March 2011 the fair value of Safaricom Limited was KES 61 billion (£456 million) based on the closing quoted share price on the Nairobi Stock Exchange.

The Group's share of the aggregated financial information of equity accounted associates is set out below. The amounts for the year ended 31 March 2009 include the share of results in Safaricom from 28 May 2008, at which time its consolidation status changed from being a joint venture to an associate.

| | 2011 £m | 2010 £m | 2009 £m |
|---|---|---|---|
| Share of revenue in associates | 24,213 | 23,288 | 19,307 |
| Share of result in associates | 5,059 | 4,742 | 4,091 |
| Share of discontinued operations in associates | 18 | 93 | 57 |

| | 2011 £m | 2010 £m |
|---|---|---|
| Non-current assets | 45,446 | 47,048 |
| Current assets | 5,588 | 4,901 |
| **Share of total assets** | **51,034** | **51,949** |
| | | |
| Non-current liabilities | 5,719 | 8,295 |
| Current liabilities | 6,656 | 6,685 |
| Non-controlling interests | 554 | 592 |
| **Share of total liabilities and non-controlling interests** | **12,929** | **15,572** |
| **Share of equity shareholders' funds in associates** | **38,105** | **36,377** |

## 15. Other investments

Non-current other investments comprise the following, all of which are classified as available-for-sale, with the exception of other debt and bonds, which are classified as loans and receivables, and cash held in restricted deposits:

| | 2011 £m | 2010 £m |
|---|---|---|
| **Included within non-current assets:** | | |
| Listed securities: | | |
| Equity securities | 1 | 4,072 |
| Unlisted securities: | | |
| Equity securities | 967 | 879 |
| Public debt and bonds | 3 | 11 |
| Other debt and bonds | 72 | 2,355 |
| Cash held in restricted deposits | 338 | 274 |
| | **1,381** | **7,591** |
| | | |
| **Included within current assets:** | | |
| Government bonds | 610 | 388 |
| Other | 64 | – |
| | **674** | **388** |

At 31 March 2010 listed equity securities included £4,071 million in relation to the Group's 3.2% interest in China Mobile Limited which was sold in September 2010 for £4,264 million generating a £3,019 million income statement gain, including income statement recognition of foreign exchange rate gains previously recognised in equity.

Unlisted equity securities incluce a 26% interest in Bharti Infotel Private Limited through which the Group has a 4.37% economic interest in Bharti Airtel Limited. Unlisted equity investments are recorded at fair value where appropriate, or at cost if their fair value cannot be reliably measured as there is no active market upon which they are traded.

For public debt and bonds and cash held in restricted deposits, the carrying amount approximates fair value.

The short-term investments primarily consist of index linked gilts with less than six years to maturity, which can be readily converted into cash via the gilt repurchase market and are held on an effective floating rate basis.

## 16. Inventory

| | 2011 £m | 2010 £m |
|---|---|---|
| Goods held for resale | 537 | **433** |

Inventory is reported net of allowances for obsolescence, an analysis of which is as follows:

| | 2011 £m | 2010 £m | 2009 £m |
|---|---|---|---|
| 1 April | 120 | 111 | 118 |
| Exchange movements | (1) | 5 | 13 |
| Amounts (credited)/charged to the income statement | (2) | 4 | (20) |
| **31 March** | **117** | **120** | **111** |

Cost of sales includes amounts related to inventory amounting to £5,878 million (2010: £5,268 million; 2009: £4,853 million).

## 17. Trade and other receivables

| | 2011 £m | 2010 £m |
|---|---|---|
| **Included within non-current assets:** | | |
| Trade receivables | 92 | 59 |
| Other receivables | 1,719 | 678 |
| Prepayments and accrued income | 137 | 148 |
| Derivative financial instruments | 1,929 | 1,946 |
| | **3,877** | **2,831** |
| **Included within current assets:** | | |
| Trade receivables | 4,185 | 4,008 |
| Amounts owed by associates | 53 | 24 |
| Other receivables | 1,606 | 1,122 |
| Prepayments and accrued income | 3,299 | 3,448 |
| Derivative financial instruments | 116 | 182 |
| | **9,259** | **8,784** |

The Group's trade receivables are stated after allowances for bad and doubtful debts based on management's assessment of creditworthiness, an analysis of which is as follows:

| | 2011 £m | 2010 £m | 2009 £m |
|---|---|---|---|
| 1 April | 929 | 874 | 664 |
| Exchange movements | (30) | (27) | 101 |
| Amounts charged to administrative expenses | 460 | 465 | 423 |
| Trade receivables written off | (353) | **(383)** | (314) |
| **31 March** | **1,006** | **929** | **874** |

The carrying amounts of trade and other receivables approximate their fair value. Trade and other receivables are predominantly non-interest bearing.

## 19. Called up share capital

| | 2011 | | 2010 | |
|---|---|---|---|---|
| | Number | £m | Number | £m |
| **Ordinary shares of $11^{3}/_{7}$ US cents each allotted, issued and fully paid:**(1)(2) | | | | |
| 1 April | 57,809,246,732 | 4,153 | 57,806,283,716 | 4,153 |
| Allotted during the year | 1,876,697 | – | 2,963,016 | – |
| Cancelled during the year | (1,000,000,000) | (71) | – | – |
| **31 March** | **56,811,123,429** | **4,082** | **57,809,246,732** | **4,153** |

Notes:

(1) The concept of authorised share capital was abolished under the Companies Act 2006, with effect from 1 October 2009, and consequential amendments to the Company's articles of association removing all references to authorised share capital were approved by shareholders at the 2010 annual general meeting.

(2) At 31 March 2011 the Group held 5,233,597,599 (2010: 5,146,112,159) treasury shares with a nominal value of £376 million (2010: £370 million). The market value of shares held was £9,237 million (2010: £7,822 million). During the year 150,404,079 (2010: 149,298,942) treasury shares were reissued under Group share option schemes.

## 24. Provisions

| | Asset retirement obligations £m | Other provisions £m | Total £m |
|---|---|---|---|
| 1 April 2009 | 361 | 545 | 906 |
| Exchange movements | (7) | (6) | (13) |
| Arising on acquisition | – | 20 | 20 |
| Amounts capitalised in the year | 40 | – | 40 |
| Amounts charged to the income statement | – | 259 | 259 |
| Utilised in the year – payments | (3) | (157) | (160) |
| Amounts released to the income statement | – | (37) | (37) |
| Other | (21) | – | (21) |
| **31 March 2010** | **370** | **624** | **994** |
| Exchange movements | (4) | (12) | (16) |
| Amounts capitalised in the year | 4 | – | 4 |
| Amounts charged to the income statement | – | 300 | 300 |
| Utilised in the year – payments | (8) | (193) | (201) |
| Amounts released to the income statement | – | (59) | (59) |
| Other | (47) | 66 | 19 |
| **31 March 2011** | **315** | **726** | **1,041** |

### Asset retirement obligations

In the course of the Group's activities, a number of sites and other assets are utilised which are expected to have costs associated with exiting and ceasing their use. The associated cash outflows are generally expected to occur at the dates of exit of the assets to which they relate, which are long-term in nature.

### Other provisions

Included within other provisions are provisions for legal and regulatory disputes and amounts provided for property and restructuring costs. The Group is involved in a number of legal and other disputes, including notification of possible claims. The directors of the Company, after taking legal advice, have established provisions after taking into account the facts of each case. The timing of cash outflows associated with legal claims cannot be reasonably determined. For a discussion of certain legal issues potentially affecting the Group, refer to note 28. The associated cash outflows for restructuring costs are substantially short-term in nature. The timing of the cash flows associated with property is dependent upon the remaining term of the associated lease.

## 25. Trade and other payables

| | 2011 £m | 2010 £m |
|---|---|---|
| **Included within non-current liabilities:** | | |
| Other payables | 80 | 76 |
| Accruals and deferred income | 329 | 379 |
| Derivative financial instruments | 395 | 361 |
| | **804** | **816** |
| **Included within current liabilities:** | | |
| Trade payables | 4,453 | 3,254 |
| Amounts owed to associates | 23 | 17 |
| Other taxes and social security payable | 1,140 | 998 |
| Other payables | 520 | 650 |
| Accruals and deferred income | 8,409 | 9,064 |
| Derivative financial instruments | 153 | 99 |
| | **14,698** | **14,082** |

The carrying amounts of trade and other payables approximate their fair value. The fair values of the derivative financial instruments are calculated by discounting the future cash flows to net present values using appropriate market interest and foreign currency rates prevailing at 31 March.

## 26. Reconciliation of net cash flow from operating activities

| | 2011 £m | 2010 £m | 2009 £m |
|---|---|---|---|
| Profit for the financial year | 7,870 | 8,618 | 3,080 |
| Adjustments for: | | | |
| Share-based payments | 156 | 150 | 128 |
| Depreciation and amortisation | 7,876 | 7,910 | 6,814 |
| Loss on disposal of property, plant and equipment | 91 | 101 | 10 |
| Share of result in associates | (5,059) | (4,742) | (4,091) |
| Impairment losses | 6,150 | 2,100 | 5,900 |
| Other income and expense | 16 | (114) | – |
| Non-operating income and expense | (3,022) | 10 | 44 |
| Investment income | (1,309) | (716) | (795) |
| Financing costs | 429 | 1,512 | 2,419 |
| Income tax expense | 1,628 | 56 | 1,109 |
| (Increase)/decrease in inventory | (107) | 2 | 81 |
| (Increase)/decrease in trade and other receivables | (387) | (714) | 80 |
| Increase/(decrease) in trade and other payables | 1,060 | 1,164 | (145) |
| **Cash generated by operations** | **15,392** | **15,337** | **14,634** |
| Tax paid | (3,397) | (2,273) | (2,421) |
| **Net cash flow from operating activities** | **11,995** | **13,064** | **12,213** |

## 27. Commitments

### Operating lease commitments

The Group has entered into commercial leases on certain properties, network infrastructure, motor vehicles and items of equipment. The leases have various terms, escalation clauses, purchase options and renewal rights, none of which are individually significant to the Group.

Future minimum lease payments under non-cancellable operating leases comprise:

| | 2011 £m | 2010 £m |
|---|---|---|
| Within one year | 1,225 | 1,200 |
| In more than one year but less than two years | 958 | 906 |
| In more than two years but less than three years | 746 | 776 |
| In more than three years but less than four years | 638 | 614 |
| In more than four years but less than five years | 602 | 512 |
| In more than five years | 2,344 | 2,235 |
| | **6,513** | **6,243** |

The total of future minimum sublease payments expected to be received under non-cancellable subleases is £240 million (2010: £246 million).

### Capital commitments

| | Company and subsidiaries | | Share of joint ventures | | Group | |
|---|---|---|---|---|---|---|
| | 2011 £m | 2010 £m | 2011 £m | 2010 £m | 2011 £m | 2010 £m |
| Contracts placed for future capital expenditure not provided in the financial statements(1) | 1,786 | 1,800 | 338 | 219 | 2,124 | 2,019 |

Note:
(1) Commitment includes contracts placed for property, plant and equipment and intangible assets.

The commitments of Cellco Partnership ('Cellco'), which trades under the name of Verizon Wireless, are disclosed within the consolidated financial statements of Cellco for the year ended 31 December 2010, which are included as an exhibit to our 2011 annual report on Form 20-F filed with the SEC.

## 28. Contingent liabilities

| | 2011 £m | 2010 £m |
|---|---|---|
| Performance bonds | 94 | 246 |
| Credit guarantees – third party indebtedness | 114 | 76 |
| Other guarantees and contingent liabilities | 1,527 | 496 |

### Performance bonds

Performance bonds require the Group to make payments to third parties in the event that the Group does not perform what is expected of it under the terms of any related contracts or commercial arrangements.

### Credit guarantees – third party indebtedness

Credit guarantees comprise guarantees and indemnities of bank or other facilities including those in respect of the Group's associates and investments.

### Other guarantees and contingent liabilities

Other guarantees principally comprise commitments to the India Supreme Court of INR 85 billion (£1,188 million) in relation to the taxation matter discussed on page 122. The Group has pledged money market funds (£1,387 million) for this guarantee.

The Group also enters into lease arrangements in the normal course of business which are principally in respect of land, buildings and equipment. Further details on the minimum lease payments due under non-cancellable operating lease arrangements can be found in note 27.

The Company has covenanted to provide security in favour of the Trustee of the Vodafone Group UK Pension Scheme whilst there is a funding deficit in the scheme. The initial security was in the form of a Japanese law share pledge over 400,000 class 1 preferred shares of ¥200,000 in BB Mobile Corp. During the year, the Company and trustee agreed to replace the initial security with a charge over UK index linked gilts ('ILG') held by the Company. A charge in favour of the Trustee was agreed over ILG 2016 with a notional value of £100 million and ILG 2013 with a notional value of £48.9 million. The security may be replaced either on a voluntary or mandatory basis. As and when alternative security is provided, the Company has agreed that the security cover should include additional headroom of 33%, although if cash is used as the security asset the ratio will revert to 100% of the relevant liabilities or where the proposed replacement security asset is listed on an internationally recognised stock exchange in certain defined core jurisdictions, the trustee may decide to agree a lower ratio than 133%.

# Appendix B

## Time Value of Money: Future Value and Present Value

The following discussion of future value lays the foundation for our explanation of present value in Chapter 9 but is not essential. For the valuation of long-term liabilities, some instructors may wish to begin on page 832 of this appendix.

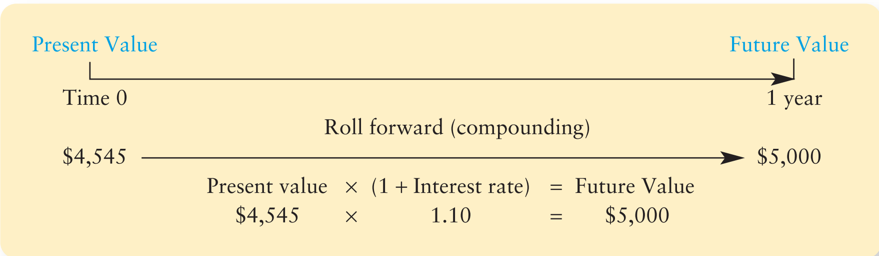
The term *time value of money* refers to the fact that money earns interest over time. *Interest* is the cost of using money. To borrowers, interest is the expense of renting money. To lenders, interest is the revenue earned from lending. We must always recognize the interest we receive or pay. Otherwise, we overlook an important part of the transaction. Suppose you invest $4,545 in corporate bonds that pay 10% interest each year. After one year, the value of your investment has grown to $5,000. The difference between your original investment ($4,545) and the future value of the investment ($5,000) is the amount of interest revenue you will earn during the year ($455). If you ignored the interest, you would fail to account for the interest revenue you have earned. Interest becomes more important as the time period lengthens because the amount of interest depends on the span of time the money is invested.

Let's consider a second example, this time from the borrower's perspective. Suppose you purchase a machine for your business. The cash price of the machine is $8,000, but you cannot pay cash now. To finance the purchase, you sign an $8,000 note payable. The note requires you to pay the $8,000 plus 10% interest one year from the date of purchase, i.e. a total of $8,800. The $800 interest is what you pay for the time value of money you borrowed. Is your cost of the machine $8,000, or is it $8,800 [$8,000 plus interest of $800 ($8,000 × 0.10)]? The cost is $8,000. The additional $800 is interest expense and not part of the cost of the machine.

### Future Value

The main application of future value is the accumulated balance of an investment at a future date. In our first example, the investment earned 10% per year. After one year, $4,545 grew to $5,000, as shown in Exhibit B-1.

**EXHIBIT B-1 | Future Value: An Example**




If the money were invested for five years, you would have to perform five such calculations. You would also have to consider the compound interest that your investment is earning. *Compound interest* is not only the interest you earn on your principal amount, but also the interest you receive on the interest you have already earned. Most business applications include compound interest. The following table shows the interest revenue earned on the original $4,545 investment each year for five years at 10%:

| End of Year | Interest | Future Value |
|---|---|---|
| 0 | — | $4,545 |
| 1 | $4,545 × 0.10 = $455 | 5,000 |
| 2 | 5,000 × 0.10 = 500 | 5,500 |
| 3 | 5,500 × 0.10 = 550 | 6,050 |
| 4 | 6,050 × 0.10 = 605 | 6,655 |
| 5 | 6,655 × 0.10 = 666 | 7,321 |

Earning 10%, a $4,545 investment grows to $5,000 at the end of one year, to $5,500 at the end of two years, and $7,321 at the end of five years. Throughout this appendix we round off to the nearest dollar.

## Future-Value Tables

The process of computing a future value is called *compounding* because the future value is *more* than the present value. Mathematical tables ease the computational burden. Exhibit B-2, Future Value of $1, gives the future value for a single sum (a present value), $1, invested to earn a particular interest rate for a specific number of periods.

**EXHIBIT B-2 | Future Value of $1**

Future Value of $1

| Periods | 1% | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% | 10% | 12% | 15% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.010 | 1.020 | 1.030 | 1.040 | 1.050 | 1.060 | 1.070 | 1.080 | 1.090 | 1.100 | 1.120 | 1.150 |
| 2 | 1.020 | 1.040 | 1.061 | 1.082 | 1.103 | 1.124 | 1.145 | 1.166 | 1.188 | 1.210 | 1.254 | 1.323 |
| 3 | 1.030 | 1.061 | 1.093 | 1.125 | 1.158 | 1.191 | 1.225 | 1.260 | 1.295 | 1.331 | 1.405 | 1.521 |
| 4 | 1.041 | 1.082 | 1.126 | 1.170 | 1.216 | 1.262 | 1.311 | 1.360 | 1.412 | 1.464 | 1.574 | 1.749 |
| 5 | 1.051 | 1.104 | 1.159 | 1.217 | 1.276 | 1.338 | 1.403 | 1.469 | 1.539 | 1.611 | 1.762 | 2.011 |
| 6 | 1.062 | 1.126 | 1.194 | 1.265 | 1.340 | 1.419 | 1.501 | 1.587 | 1.677 | 1.772 | 1.974 | 2.313 |
| 7 | 1.072 | 1.149 | 1.230 | 1.316 | 1.407 | 1.504 | 1.606 | 1.714 | 1.828 | 1.949 | 2.211 | 2.660 |
| 8 | 1.083 | 1.172 | 1.267 | 1.369 | 1.477 | 1.594 | 1.718 | 1.851 | 1.993 | 2.144 | 2.476 | 3.059 |
| 9 | 1.094 | 1.195 | 1.305 | 1.423 | 1.551 | 1.689 | 1.838 | 1.999 | 2.172 | 2.358 | 2.773 | 3.518 |
| 10 | 1.105 | 1.219 | 1.344 | 1.480 | 1.629 | 1.791 | 1.967 | 2.159 | 2.367 | 2.594 | 3.106 | 4.046 |
| 11 | 1.116 | 1.243 | 1.384 | 1.539 | 1.710 | 1.898 | 2.105 | 2.332 | 2.580 | 2.853 | 3.479 | 4.652 |
| 12 | 1.127 | 1.268 | 1.426 | 1.601 | 1.796 | 2.012 | 2.252 | 2.518 | 2.813 | 3.138 | 3.896 | 5.350 |
| 13 | 1.138 | 1.294 | 1.469 | 1.665 | 1.886 | 2.133 | 2.410 | 2.720 | 3.066 | 3.452 | 4.363 | 6.153 |
| 14 | 1.149 | 1.319 | 1.513 | 1.732 | 1.980 | 2.261 | 2.579 | 2.937 | 3.342 | 3.797 | 4.887 | 7.076 |
| 15 | 1.161 | 1.346 | 1.558 | 1.801 | 2.079 | 2.397 | 2.759 | 3.172 | 3.642 | 4.177 | 5.474 | 8.137 |
| 16 | 1.173 | 1.373 | 1.605 | 1.873 | 2.183 | 2.540 | 2.952 | 3.426 | 3.970 | 4.595 | 6.130 | 9.358 |
| 17 | 1.184 | 1.400 | 1.653 | 1.948 | 2.292 | 2.693 | 3.159 | 3.700 | 4.328 | 5.054 | 6.866 | 10.761 |
| 18 | 1.196 | 1.428 | 1.702 | 2.026 | 2.407 | 2.854 | 3.380 | 3.996 | 4.717 | 5.560 | 7.690 | 12.375 |
| 19 | 1.208 | 1.457 | 1.754 | 2.107 | 2.527 | 3.026 | 3.617 | 4.316 | 5.142 | 6.116 | 8.613 | 14.232 |
| 20 | 1.220 | 1.486 | 1.806 | 2.191 | 2.653 | 3.207 | 3.870 | 4.661 | 5.604 | 6.727 | 9.646 | 16.367 |
| 25 | 1.282 | 1.641 | 2.094 | 2.666 | 3.386 | 4.292 | 5.427 | 6.848 | 8.623 | 10.835 | 17.000 | 32.919 |
| 30 | 1.348 | 1.811 | 2.427 | 3.243 | 4.322 | 5.743 | 7.612 | 10.063 | 13.268 | 17.449 | 29.960 | 66.212 |

Future value depends on three factors: (1) the amount of the investment, (2) the length of time between investment and future accumulation, and (3) the interest rate. Future-value and present-value tables are based on $1 because unity (the value 1) is so easy to work with.

In business applications, interest rates are usually stated for the annual period of one year unless specified otherwise. In fact, an interest rate can be stated for any period, such as 3% per quarter or 5% for a six-month period. The length of the period is arbitrary. For example, an investment may promise a return (income) of 3% per quarter for six months (two quarters). In that case, you would be working with 3% interest for two periods. It would be incorrect to use 6% for one period because the interest is 3% compounded quarterly, and that amount differs from 6% compounded semi-annually. *Take care in studying future-value and present-value problems to align the interest rate with the appropriate number of periods.*

Let's see how a future-value table like the one in Exhibit B-2 is used. The future value of $1.00 invested at 8% for one year is $1.08 ($1.00 × 1.080, which appears at the junction of the 8% column and row 1 in the Periods column). The figure 1.080 includes both the principal (1.000) and the compound interest for one period (0.080).

Suppose you deposit $5,000 in a savings account that pays annual interest of 8%. The account balance at the end of one year will be $5,400. To compute the future value of $5,000 at 8% for one year, multiply $5,000 by 1.080 to get $5,400. Now suppose you invest in a 10-year, 8% certificate of deposit (CD). What will be the future value of the CD at maturity? To compute the future value of $5,000 at 8% for 10 periods, multiply $5,000 by 2.159 (from Exhibit B-2) to get $10,795. This future value of $10,795 indicates that $5,000, earning 8% interest compounded annually, grows to $10,795 at the end of 10 years. Using Exhibit B-2, you can find any present amount's future value at a particular future date. Future value is especially helpful for computing the amount of cash you will have on hand for some purpose in the future.

## Future Value of an Annuity

In the preceding example, we made an investment of a single amount. Other investments, called *annuities*, include multiple investments of an equal periodic amount at fixed intervals over the duration of the investment. Consider a family investing for a child's education. The Dietrichs can invest $4,000 annually to accumulate a college fund for 15-year-old Helen. The investment can earn 7% annually until Helen turns 18—a three-year investment. How much will be available for Helen on the date of the last investment? Exhibit B-3 shows the compounding—a total future value of $12,860.

**EXHIBIT B-3 | Future Value of an Annuity**

| Time 0 | 1 year | 2 years | 3 years |
|---|---|---|---|
| | $4,000 → | | $ 4,580 |
| | | $4,000 → | 4,280 |
| | | | 4,000 |
| | | | $12,860 |

The first $4,000 invested by the Dietrichs grows to $4,580 over the investment period. The second amount grows to $4,280, and the third amount stays at $4,000 because it has no time to earn interest. The sum of the three future values

(\$4,580 + \$4,280 + \$4,000) is the future value of the annuity (\$12,860), which can also be computed as follows:

| End of Year | Annual Investment | Interest | Increase for the Year | Future Value of Annuity |
|---|---|---|---|---|
| 0 | — | — | — | 0 |
| 1 | \$4,000 | — | \$4,000 | \$ 4,000 |
| 2 | 4,000 | + (\$4,000 × 0.07 = \$280) = | 4,280 | 8,280 |
| 3 | 4,000 | + (\$8,280 × 0.07 = \$580) = | 4,580 | 12,860 |

These computations are laborious. As with the Future Value of \$1 (a lump sum), mathematical tables ease the strain of calculating annuities. Exhibit B-4, Future Value of Annuity of \$1, gives the future value of a series of investments, each of equal amount, at regular intervals.

What is the future value of an annuity of three investments of \$1 each that earn 7%? The answer, 3.215, can be found at the junction of the 7% column and row 3 in Exhibit B-4. This amount can be used to compute the future value of the investment for Helen's education, as follows:

| Amount of each periodic investment | × | Future value of annuity of \$1 (Exhibit B-4) | × | Future value of investment |
|---|---|---|---|---|
| \$4,000 | × | 3.215 | × | \$12,860 |

## EXHIBIT B-4 | Future Value of Annuity of \$1

| Future Value of Annuity of \$1 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Periods | 1% | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% | 10% | 12% | 15% |
| 1 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 2 | 2.010 | 2.020 | 2.030 | 2.040 | 2.050 | 2.060 | 2.070 | 2.080 | 2.090 | 2.100 | 2.120 | 2.150 |
| 3 | 3.030 | 3.060 | 3.091 | 3.122 | 3.153 | 3.184 | 3.215 | 3.246 | 3.278 | 3.310 | 3.374 | 3.473 |
| 4 | 4.060 | 4.122 | 4.184 | 4.246 | 4.310 | 4.375 | 4.440 | 4.506 | 4.573 | 4.641 | 4.779 | 4.993 |
| 5 | 5.101 | 5.204 | 5.309 | 5.416 | 5.526 | 5.637 | 5.751 | 5.867 | 5.985 | 6.105 | 6.353 | 6.742 |
| 6 | 6.152 | 6.308 | 6.468 | 6.633 | 6.802 | 6.975 | 7.153 | 7.336 | 7.523 | 7.716 | 8.115 | 8.754 |
| 7 | 7.214 | 7.434 | 7.662 | 7.898 | 8.142 | 8.394 | 8.654 | 8.923 | 9.200 | 9.487 | 10.089 | 11.067 |
| 8 | 8.286 | 8.583 | 8.892 | 9.214 | 9.549 | 9.897 | 10.260 | 10.637 | 11.028 | 11.436 | 12.300 | 13.727 |
| 9 | 9.369 | 9.755 | 10.159 | 10.583 | 11.027 | 11.491 | 11.978 | 12.488 | 13.021 | 13.579 | 14.776 | 16.786 |
| 10 | 10.462 | 10.950 | 11.464 | 12.006 | 12.578 | 13.181 | 13.816 | 14.487 | 15.193 | 15.937 | 17.549 | 20.304 |
| 11 | 11.567 | 12.169 | 12.808 | 13.486 | 14.207 | 14.972 | 15.784 | 16.645 | 17.560 | 18.531 | 20.655 | 24.349 |
| 12 | 12.683 | 13.412 | 14.192 | 15.026 | 15.917 | 16.870 | 17.888 | 18.977 | 20.141 | 21.384 | 24.133 | 29.002 |
| 13 | 13.809 | 14.680 | 15.618 | 16.627 | 17.713 | 18.882 | 20.141 | 21.495 | 22.953 | 24.523 | 28.029 | 34.352 |
| 14 | 14.947 | 15.974 | 17.086 | 18.292 | 19.599 | 21.015 | 22.550 | 24.215 | 26.019 | 27.975 | 32.393 | 40.505 |
| 15 | 16.097 | 17.293 | 18.599 | 20.024 | 21.579 | 23.276 | 25.129 | 27.152 | 29.361 | 31.772 | 37.280 | 47.580 |
| 16 | 17.258 | 18.639 | 20.157 | 21.825 | 23.657 | 25.673 | 27.888 | 30.324 | 33.003 | 35.950 | 42.753 | 55.717 |
| 17 | 18.430 | 20.012 | 21.762 | 23.698 | 25.840 | 28.213 | 30.840 | 33.750 | 36.974 | 40.545 | 48.884 | 65.075 |
| 18 | 19.615 | 21.412 | 23.414 | 25.645 | 28.132 | 30.906 | 33.999 | 37.450 | 41.301 | 45.599 | 55.750 | 75.836 |
| 19 | 20.811 | 22.841 | 25.117 | 27.671 | 30.539 | 33.760 | 37.379 | 41.446 | 46.018 | 51.159 | 63.440 | 88.212 |
| 20 | 22.019 | 24.297 | 26.870 | 29.778 | 33.066 | 36.786 | 40.995 | 45.762 | 51.160 | 57.275 | 72.052 | 102.444 |
| 25 | 28.243 | 32.030 | 36.459 | 41.646 | 47.727 | 54.865 | 63.249 | 73.106 | 84.701 | 98.347 | 133.334 | 212.793 |
| 30 | 34.785 | 40.568 | 47.575 | 56.085 | 66.439 | 79.058 | 94.461 | 113.283 | 136.308 | 164.494 | 241.333 | 434.745 |

This one-step calculation is much easier than computing the future value of each annual investment and then summing the individual future values. In this way, you can compute the future value of any investment consisting of equal periodic amounts at regular intervals. Businesses make periodic investments to accumulate funds for equipment replacement and other uses—an application of the future value of an annuity.

## Present Value

Often a person knows a future amount and needs to know the related present value. Recall Exhibit B-1, in which present value and future value are on opposite ends of the same time line. Suppose an investment promises to pay you $5,000 at the *end* of one year. How much would you pay *now* to acquire this investment? You would be willing to pay the present value of the $5,000 future amount.

Like future value, present value depends on three factors: (1) the *amount of payment* (*or receipt*), (2) the length of *time* between investment and future receipt (or *payment*), and (3) the *interest rate*. The process of computing a present value is called *discounting* because the present value is *less* than the future value.

In our investment example, the future receipt is $5,000. The investment period is one year. Assume that you demand an annual interest rate of 10% on your investment. With all three factors specified, you can compute the present value of $5,000 at 10% for one year:

$$\text{Present value} = \frac{\text{Future value}}{1 + \text{Interest rate}} = \frac{\$5{,}000}{1.10} = \$4{,}545$$

By turning the data around into a future-value problem, we can verify the present-value computation:

| | |
|---|---|
| Amount invested (present value) | $4,545 |
| Expected earnings ($4,545 × 0.10) | 455 |
| Amount to be received one year from now (future value) | $5,000 |

This example illustrates that present value and future value are based on the same equation:

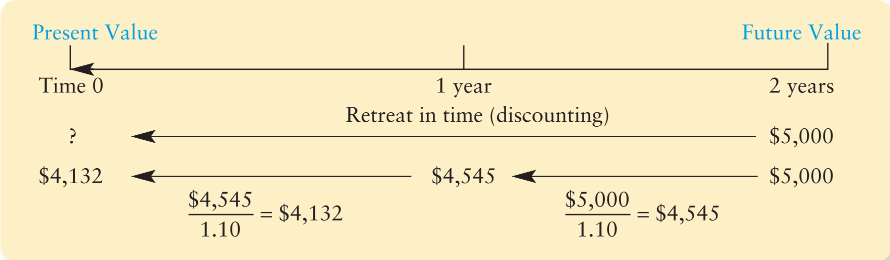
$$\text{Future value} = \text{Present value} \times (1 + \text{Interest rate})$$

$$\text{Present value} = \frac{\text{Future value}}{1 + \text{Interest rate}}$$

If the $5,000 is to be received two years from now, you will pay only $4,132 for the investment, as shown in Exhibit B-5. By turning the data around, we verify that $4,132 accumulates to $5,000 at 10% for two years:

| | |
|---|---|
| Amount invested (present value) | $4,132 |
| Expected earnings for first year ($4,132 × 0.10) | 413 |
| Value of investment after one year | 4,545 |
| Expected earnings for second year ($4,545 × 0.10) | 455 |
| Amount to be received two years from now (future value) | $5,000 |

**EXHIBIT B-5 | Present Value: An Example**




You would pay $4,132—the present value of $5,000—to receive the $5,000 future amount at the end of two years at 10% per year. The $868 difference between the amount invested ($4,132) and the amount to be received ($5,000) is the return on the investment, the sum of the two interest receipts: $413 + $455 = $868.

## Present-Value Tables

We have shown the simple formula for computing present value. However, figuring present value "by hand" for investments spanning many years is time-consuming and presents too many opportunities for arithmetic errors. Present-value tables ease our work. Let's re-examine our examples of present value by using Exhibit B-6, Present Value of $1, given below.

**EXHIBIT B-6 | Present Value of $1**

Present Value of $1

| Periods | 1% | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% | 10% | 12% | 15% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.990 | 0.980 | 0.971 | 0.962 | 0.952 | 0.943 | 0.935 | 0.926 | 0.917 | 0.909 | 0.893 | 0.870 |
| 2 | 0.980 | 0.961 | 0.943 | 0.925 | 0.907 | 0.890 | 0.873 | 0.857 | 0.842 | 0.826 | 0.797 | 0.756 |
| 3 | 0.971 | 0.942 | 0.915 | 0.889 | 0.864 | 0.840 | 0.816 | 0.794 | 0.772 | 0.751 | 0.712 | 0.658 |
| 4 | 0.961 | 0.924 | 0.888 | 0.855 | 0.823 | 0.792 | 0.763 | 0.735 | 0.708 | 0.683 | 0.636 | 0.572 |
| 5 | 0.951 | 0.906 | 0.863 | 0.822 | 0.784 | 0.747 | 0.713 | 0.681 | 0.650 | 0.621 | 0.567 | 0.497 |
| 6 | 0.942 | 0.888 | 0.837 | 0.790 | 0.746 | 0.705 | 0.666 | 0.630 | 0.596 | 0.564 | 0.507 | 0.432 |
| 7 | 0.933 | 0.871 | 0.813 | 0.760 | 0.711 | 0.665 | 0.623 | 0.583 | 0.547 | 0.513 | 0.452 | 0.376 |
| 8 | 0.923 | 0.853 | 0.789 | 0.731 | 0.677 | 0.627 | 0.582 | 0.540 | 0.502 | 0.467 | 0.404 | 0.327 |
| 9 | 0.914 | 0.837 | 0.766 | 0.703 | 0.645 | 0.592 | 0.544 | 0.500 | 0.460 | 0.424 | 0.361 | 0.284 |
| 10 | 0.905 | 0.820 | 0.744 | 0.676 | 0.614 | 0.558 | 0.508 | 0.463 | 0.422 | 0.386 | 0.322 | 0.247 |
| 11 | 0.896 | 0.804 | 0.722 | 0.650 | 0.585 | 0.527 | 0.475 | 0.429 | 0.388 | 0.350 | 0.287 | 0.215 |
| 12 | 0.887 | 0.788 | 0.701 | 0.625 | 0.557 | 0.497 | 0.444 | 0.397 | 0.356 | 0.319 | 0.257 | 0.187 |
| 13 | 0.879 | 0.773 | 0.681 | 0.601 | 0.530 | 0.469 | 0.415 | 0.368 | 0.326 | 0.290 | 0.229 | 0.163 |
| 14 | 0.870 | 0.758 | 0.661 | 0.577 | 0.505 | 0.442 | 0.388 | 0.340 | 0.299 | 0.263 | 0.205 | 0.141 |
| 15 | 0.861 | 0.743 | 0.642 | 0.555 | 0.481 | 0.417 | 0.362 | 0.315 | 0.275 | 0.239 | 0.183 | 0.123 |
| 16 | 0.853 | 0.728 | 0.623 | 0.534 | 0.458 | 0.394 | 0.339 | 0.292 | 0.252 | 0.218 | 0.163 | 0.107 |
| 17 | 0.844 | 0.714 | 0.605 | 0.513 | 0.436 | 0.371 | 0.317 | 0.270 | 0.231 | 0.198 | 0.146 | 0.093 |
| 18 | 0.836 | 0.700 | 0.587 | 0.494 | 0.416 | 0.350 | 0.296 | 0.250 | 0.212 | 0.180 | 0.130 | 0.081 |
| 19 | 0.828 | 0.686 | 0.570 | 0.475 | 0.396 | 0.331 | 0.277 | 0.232 | 0.194 | 0.164 | 0.116 | 0.070 |
| 20 | 0.820 | 0.673 | 0.554 | 0.456 | 0.377 | 0.312 | 0.258 | 0.215 | 0.178 | 0.149 | 0.104 | 0.061 |
| 25 | 0.780 | 0.610 | 0.478 | 0.375 | 0.295 | 0.233 | 0.184 | 0.146 | 0.116 | 0.092 | 0.059 | 0.030 |
| 30 | 0.742 | 0.552 | 0.412 | 0.308 | 0.231 | 0.174 | 0.131 | 0.099 | 0.075 | 0.057 | 0.033 | 0.015 |

For the 10% investment for one year, we find the junction of the 10% column and row 1 in Exhibit B-6. The figure 0.909 is computed as follows: 1/1.10 = 0.909. This work has been done for us, and only the present values are given in the table. To figure the present value for $5,000, we multiply 0.909 by $5,000. The result is $4,545, which matches the result we obtained by hand.

For the two-year investment, we read down the 10% column and across row 2. We multiply 0.826 (computed as 0.909/1.10 = 0.826) by $5,000 and get $4,130, which confirms our earlier computation of $4,132 (the difference is due to rounding in the present-value table). Using the table, we can compute the present value of any single future amount.

## Present Value of an Annuity

Return to the investment example near the bottom of page 828 of this appendix. That investment provided the investor with only a single future receipt ($5,000 at the end of two years). *Annuity investments* provide multiple receipts of an equal amount at fixed intervals over the investment's duration.

Consider an investment that promises *annual* cash receipts of $10,000 to be received at the end of three years. Assume that you demand a 12% return on your investment. What is the investment's present value? That is, what would you pay today to acquire the investment? The investment spans three periods, and you would pay the sum of three present values. The computation follows.

| Year | Annual Cash Receipt | Present Value of $1 at 12% (Exhibit B-6) | Present Value of Annual Cash Receipt |
|---|---|---|---|
| 1 | $10,000 | 0.893 | $ 8,930 |
| 2 | 10,000 | 0.797 | 7,970 |
| 3 | 10,000 | 0.712 | 7,120 |
| Total present value of investment.............. | | | $24,020 |

The present value of this annuity is $24,020. By paying this amount today, you will receive $10,000 at the end of each of the three years while earning 12% on your investment.

This example illustrates repetitive computations of the three future amounts, a time-consuming process. One way to ease the computational burden is to add the three present values of $1 (0.893 + 0.797 + 0.712) and multiply their sum (2.402) by the annual cash receipt ($10,000) to obtain the present value of the annuity ($10,000 × 2.402 = $24,020).

An easier approach is to use a present-value-of-an-annuity table. Exhibit B-7 on the following page shows the present value of $1 to be received periodically for a given number of periods. The present value of a three-period annuity at 12% is 2.402 (the junction of row 3 and the 12% column). Thus, $10,000 received annually at the end of each of three years, discounted at 12%, is $24,020 ($10,000 × 2.402), which is the present value.

**EXHIBIT B-7 | Present Value Annuity of $1**

| Present Value of Annuity of $1 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Periods | 1% | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% | 10% | 12% | 15% |
| 1 | 0.990 | 0.980 | 0.971 | 0.962 | 0.952 | 0.943 | 0.935 | 0.926 | 0.917 | 0.909 | 0.893 | 0.870 |
| 2 | 1.970 | 1.942 | 1.913 | 1.886 | 1.859 | 1.833 | 1.808 | 1.783 | 1.759 | 1.736 | 1.690 | 1.626 |
| 3 | 2.941 | 2.884 | 2.829 | 2.775 | 2.723 | 2.673 | 2.624 | 2.577 | 2.531 | 2.487 | 2.402 | 2.283 |
| 4 | 3.902 | 3.808 | 3.717 | 3.630 | 3.546 | 3.465 | 3.387 | 3.312 | 3.240 | 3.170 | 3.037 | 2.855 |
| 5 | 4.853 | 4.713 | 4.580 | 4.452 | 4.329 | 4.212 | 4.100 | 3.993 | 3.890 | 3.791 | 3.605 | 3.352 |
| 6 | 5.795 | 5.601 | 5.417 | 5.242 | 5.076 | 4.917 | 4.767 | 4.623 | 4.486 | 4.355 | 4.111 | 3.784 |
| 7 | 6.728 | 6.472 | 6.230 | 6.002 | 5.786 | 5.582 | 5.389 | 5.206 | 5.033 | 4.868 | 4.564 | 4.160 |
| 8 | 7.652 | 7.325 | 7.020 | 6.733 | 6.463 | 6.210 | 5.971 | 5.747 | 5.535 | 5.335 | 4.968 | 4.487 |
| 9 | 8.566 | 8.162 | 7.786 | 7.435 | 7.108 | 6.802 | 6.515 | 6.247 | 5.995 | 5.759 | 5.328 | 4.772 |
| 10 | 9.471 | 8.983 | 8.530 | 8.111 | 7.722 | 7.360 | 7.024 | 6.710 | 6.418 | 6.145 | 5.650 | 5.019 |
| 11 | 10.368 | 9.787 | 9.253 | 8.760 | 8.306 | 7.887 | 7.499 | 7.139 | 6.805 | 6.495 | 5.938 | 5.234 |
| 12 | 11.255 | 10.575 | 9.954 | 9.385 | 8.863 | 8.384 | 7.943 | 7.536 | 7.161 | 6.814 | 6.194 | 5.421 |
| 13 | 12.134 | 11.348 | 10.635 | 9.986 | 9.394 | 8.853 | 8.358 | 7.904 | 7.487 | 7.103 | 6.424 | 5.583 |
| 14 | 13.004 | 12.106 | 11.296 | 10.563 | 9.899 | 9.295 | 8.745 | 8.244 | 7.786 | 7.367 | 6.628 | 5.724 |
| 15 | 13.865 | 12.849 | 11.938 | 11.118 | 10.380 | 9.712 | 9.108 | 8.559 | 8.061 | 7.606 | 6.811 | 5.847 |
| 16 | 14.718 | 13.578 | 12.561 | 11.652 | 10.838 | 10.106 | 9.447 | 8.851 | 8.313 | 7.824 | 6.974 | 5.954 |
| 17 | 15.562 | 14.292 | 13.166 | 12.166 | 11.274 | 10.477 | 9.763 | 9.122 | 8.544 | 8.022 | 7.120 | 6.047 |
| 18 | 16.398 | 14.992 | 13.754 | 12.659 | 11.690 | 10.828 | 10.059 | 9.372 | 8.756 | 8.201 | 7.250 | 6.128 |
| 19 | 17.226 | 15.678 | 14.324 | 13.134 | 12.085 | 11.158 | 10.336 | 9.604 | 8.950 | 8.365 | 7.366 | 6.198 |
| 20 | 18.046 | 16.351 | 14.877 | 13.590 | 12.462 | 11.470 | 10.594 | 9.818 | 9.129 | 8.514 | 7.469 | 6.259 |
| 25 | 22.023 | 19.523 | 17.413 | 15.622 | 14.094 | 12.783 | 11.654 | 10.675 | 9.823 | 9.077 | 7.843 | 6.464 |
| 30 | 25.808 | 22.396 | 19.600 | 17.292 | 15.372 | 13.765 | 12.409 | 11.258 | 10.274 | 9.427 | 8.055 | 6.566 |

## Using Spreadsheets to Calculate Time Value of Money

Whilst financial tables are useful in performing time value of money calculations, they are limited to the predetermined columns and rows in the table. If you have a scientific calculator, you could also use the mathematical formulas to calculate the desired time value factors. However, a more popular (and easier) method is to use a spreadsheet such as Microsoft Excel to perform your time value of money calculations.

The easiest way to do this is to try it out yourself and compare the results with the factor tables in earlier exhibits. The two primary functions you will need are the PV (present value) and FV (future value) functions. Both functions take similar arguments as shown below:

***PV function*** = *PV(rate, nper, pmt, fv, type)*
***FV function*** = *FV(rate, nper, pmt, pv, type)*

where: rate is the interest rate per period
nper is the total number of periods
pmt is the known payment/receipt amount (only if calculating annuities)
fv is the known future value amount (only if calculating present value)
pv is the known present value amount (only if calculating future value)
type is 0 for ordinary annuity (default) or 1 for annuity due

Note that the pmt, pv, or fv amounts are usually entered as negative numbers. If you are calculating PV or FV, remember to "skip" the pmt amount.

For example, the following formulas (functions and arguments) will result in:

| Formula examples | Meaning | Results |
|---|---|---|
| = PV (3%, 10,, –1,000) | PV of a $1,000 future value at 3% in 10 periods | 744.09 |
| = FV (3%, 10,, –1,000) | FV of a $1,000 present value at 3% in 10 periods | 1,343.92 |
| = PV (3%, 10, –1,000) | PVA of a $1,000 annuity at 3% in 10 periods | 8,530.20 |
| = FV (3%, 10, –1,000) | FVA of a $1,000 annuity at 3% in 10 periods | 11,463.88 |

## Present Value of Bonds Payable

The present value of a bond—its market price—is the present value of the future principal amount at maturity plus the present value of the future stated interest payments. The principal is a *single amount* to be paid at maturity. The interest is an *annuity* because it occurs periodically.

Let's compute the present value of 9% five-year bonds of **Unilever**. The face value of the bonds is $100,000, and they pay 4½%—stated (cash) interest semi-annually (that is, twice a year).[1] At issuance, the market interest rate is expressed as 10% annually, but it is computed at 5% semiannually. Therefore, the effective interest rate for each of the 10 semi-annual periods is 5%. We thus use 5% in computing the present value (PV) of the maturity and of the interest. The market price of these bonds is $96,149, as follows:

| | Annual Market Interest Rate ÷ 2 | Number of Semi-annual Interest Payments | |
|---|---|---|---|
| PV of principal: | | | |
| $100,000 × PV of single amount at 5% | | for 10 periods | |
| $100,000 × 0.614 (Exhibit B-6) | | | $61,400 |
| PV of stated (cash) interest: | | | |
| $100,000 × 0.045 × PV of annuity at 5% | | for 10 periods | |
| $4,500 × 7.722 (Exhibit B-7) | | | 34,749 |
| PV (market price) of bonds | | | $96,149 |

The market price of the Unilever bonds shows a discount because the contract (stated) interest rate on the bonds (9%) is less than the market interest rate (10%).

[1] For a definition of stated interest rate, see page 552.

Let's consider a premium price for the 9% Unilever bonds. Assume that the market interest rate is 8% (rather than 10%) at issuance. The effective interest rate is thus 4% for each of the 10 semi-annual periods:

| | Annual Market Interest Rate ÷ 2 | Number of Semi-annual Interest Payments | |
|---|---|---|---|
| PV of principal: | | | |
| $100,000 × PV of single amount at 4% | | for 10 periods | |
| $100,000 × 0.676 (Exhibit B-6) | | | $ 67,600 |
| PV of stated (cash) interest: | | | |
| $100,000 × 0.045 × PV of annuity at 4% | | for 10 periods | |
| $4,500 × 8.111 (Exhibit B-7) | | | 36,500 |
| PV (market price) of bonds | | | $104,100 |

We discuss accounting for these bonds on pages 556–562. It may be helpful for you to reread this section ("Present Value of Bonds Payable") after you've studied those pages.

## A CLOSER LOOK

Can you use a spreadsheet formula to calculate a bond's issuance price? Yes, but you will need to utilize both the *pmt* and *fv* arguments. You will need to work out the interest payments (based on the bond's stated rate) and enter it as *pmt*, and the bond face value is entered as *fv*. Again, remember to use negative signs to ensure the calculations are correct. There will be slight differences between the results using spreadsheets and the amounts calculated using present value tables, due to rounding.

| Formula examples | Meaning | Results |
|---|---|---|
| = PV (5%, 10, −4500, −100000) | PV of a bond payable with interest payments of $4,500 and face value of $100,000 discounted at market rate of 5% over 10 periods (at a discount) | 96,139.13 |
| = PV (4%, 10, −4500, −100000) | PV of a bond payable with interest payments of $4,500 and face value of $100,000 discounted at market rate of 4% over 10 periods (at a premium) | 104,055.45 |

## Capital Leases

How does a lessee compute the cost of an asset acquired through a capital lease?[2] Consider that the lessee gets the use of the asset but does *not* pay for the leased asset in full at the beginning of the lease. A capital lease is therefore similar to an installment purchase of the leased asset. The lessee must record the leased asset at the present value of the lease liability. The time value of money must be weighed.

The cost of the asset to the lessee is the sum of any payment made at the beginning of the lease period plus the present value of the future lease payments. The lease payments are equal amounts occurring at regular intervals—that is, they are annuity payments.

[2] See page 566 for the definition of *capital leases*.

Consider a 20-year equipment lease that requires 20 annual payments of \$10,000 each, with the first payment due immediately.[3] The interest rate in the lease is 10%, and the present value of the 19 future payments is \$83,650 (\$10,000 × PV of annuity at 10% for 19 periods, or 8.365 from Exhibit B-7). The lessee's cost of the equipment is \$93,650 (the sum of the initial payment, \$10,000, plus the present value of the future payments, \$83,650). The lessee would base its accounting for the leased asset (and the related depreciation) and for the lease liability (and the related interest expense) on the cost of the equipment that we have just computed.

## Appendix Problems

**PC-1.** For each situation, compute the required amount.

**a.** Kellogg Corporation is budgeting for the acquisition of land over the next several years. Kellogg can invest \$100,000 today at 9%. How much cash will Kellogg have for land acquisitions at the end of five years? At the end of six years?

**b.** Davidson, Inc., is planning to invest \$50,000 each year for five years. The company's investment adviser believes that Davidson can earn 6% interest without taking on too much risk. What will be the value of Davidson's investment on the date of the last deposit if Davidson can earn 6%? If Davidson can earn 8%?

**PC-2.** For each situation, compute the required amount.

**a.** Intel Corporation operations are generating excess cash that will be invested in a special fund. During 20X3, Intel invests \$5,643,341 in the fund for a planned advertising campaign on a new product to be released six years later, in 20X9 (i.e. 6 years later). If Intel's investments can earn 10% each year, how much cash will the company have for the advertising campaign in 20X9?

**b.** Intel will need \$10 million to advertise a new type of chip in 20X9. How much must Intel invest in 20X3 to have the cash available for the advertising campaign? Intel's investments can earn 10% annually.

**c.** Explain the relationship between your answers to a and b.

**PC-3.** Determine the present value of the following notes and bonds:

**1.** Ten-year bonds payable with maturity value of \$500,000 and stated interest rate of 12%, paid semi-annually. The market rate of interest is 12% at issuance.

**2.** Same bonds payable as in number 1, but the market interest rate is 14%.

**3.** Same bonds payable as in number 1, but the market interest rate is 10%.

**PC-4.** On December 31, 20X6, when the market interest rate is 8% Libby, Libby, & Short, a partnership, issues \$400,000 of 10-year, 7.25% bonds payable. The bonds pay interest semi-annually.

***Requirements***

**1.** Determine the present value of the bonds at issuance.

**2.** Assume that the bonds are issued at the price computed in Requirement 1. Prepare an effective-interest-method amortization table for the first two semi-annual interest periods.

**3.** Using the amortization table prepared in Requirement 2, journalize issuance of the bonds and the first two interest payments and amortization of the bonds.

[3] This lease is calculated as *annuity due* where the first payment is made immediately on the signing of the lease. If you are calculating leases based on *ordinary annuity*, the first payment will be made at the end of year 1. This will affect PV calculations.

**PC-5.** St. Mere Eglise Children's Home needs a fleet of vans to transport the children to singing engagements throughout Normandy. **Renault** offers the vehicles for a single payment of €630,000 due at the end of four years. **Peugeot** prices a similar fleet of vans for four annual payments of €150,000 at the end of each year. The children's home could borrow the funds at 6%, so this is the appropriate interest rate. Which company should get the business, Renault or Peugeot? Base your decision on present value, and give your reason.

**PC-6.** American Family Association acquired equipment under a capital lease that requires six annual lease payments of $40,000. The first payment is due when the lease begins, on January 1, 20X6. Future payments are due on January 1 of each year of the lease term. The interest rate in the lease is 16%.

***Requirement***

1. Compute the association's cost of the equipment.

## Answers

| | | | |
|---|---|---|---|
| PC-1 | a. 5 yrs. $153,900<br>6 yrs. $167,700 | b. 6% $281,850<br>8% $293,350 | |
| PC-2 | a. $10,000,000 | b. $5,640,000 | |
| PC-3 | 1. $500,100 | 2. $446,820 | 3. $562,360 |
| PC-4 | 1. $379,455 | 2. Bond carry. amt. at 12-31-11 $380,838 | |
| PC-5 | Renault PV €498,960<br>Peugeot PV €519,750 | | |
| PC-6 | Cost $170,960 | | |

# Appendix C

## Typical Charts of Accounts for Different Types of Businesses*

### A Simple Service Corporation

| Assets | Liabilities | Shareholders' Equity |
|---|---|---|
| Cash | Accounts Payable | Share Capital |
| Accounts Receivable | Notes Payable, Short-Term | Retained Earnings |
| Allowance for Uncollectible Accounts | Salary Payable | Dividends |
| Notes Receivable, Short-Term | Wages Payable | **Revenues and Gains** |
| Interest Receivable | Payroll Taxes Payable | Service Revenue |
| Supplies | Employee Benefits Payable | Interest Revenue |
| Prepaid Rent | Interest Payable | Gain on Sale of Land (Furniture, Equipment, or Building) |
| Prepaid Insurance | Unearned Service Revenue | **Expenses and Losses** |
| Notes Receivable, Long-Term | Notes Payable, Long-Term | Salary Expense |
| Land | | Payroll Tax Expense |
| Furniture | | Employee Benefits Expense |
| Accumulated Depreciation—Furniture | | Rent Expense |
| Equipment | | Insurance Expense |
| Accumulated Depreciation—Equipment | | Supplies Expense |
| Building | | Uncollectible Account Expense |
| Accumulated Depreciation—Building | | Depreciation Expense |

### Service Partnership

Same as service corporation, except for owners' equity

**Owners' Equity**

Partner 1, Capital
Partner 2, Capital
.
.
.
Partner *N*, Capital

Partner 1, Drawing
Partner 2, Drawing
.
.
.
Partner *N*, Drawing

*Account numbers are not shown in these examples.

## A Complex Merchandising Corporation

### Assets

Cash
Short-Term Investments
Accounts Receivable
Allowance for Uncollectible Accounts
Notes Receivable, Short-Term
Interest Receivable
Inventory
Supplies
Prepaid Rent
Prepaid Insurance
Notes Receivable, Long-Term
Investments in Subsidiaries
Investments in Stock (Available-for-Sale Securities)
Investments in Bonds (Held-to-Maturity Securities)
Other Receivables, Long-Term
Land
Land Improvements
Furniture and Fixtures
Accumulated Depreciation—Furniture and Fixtures
Equipment
Accumulated Depreciation—Equipment
Buildings
Accumulated Depreciation—Buildings
Franchises
Patents
Leaseholds
Goodwill

### Liabilities

Accounts Payable
Notes Payable, Short-Term
Current Portion of Bonds Payable
Salary Payable
Wages Payable
Payroll Taxes Payable
Employee Benefits Payable
Interest Payable
Income Tax Payable
Unearned Sales Revenue
Notes Payable, Long-Term
Bonds Payable
Lease Liability
Minority Interest

### Shareholders' Equity

Preference Shares
Paid-in Capital in Excess of Par—Preference Shares
Ordinary Shares
Retained Earnings
Unrealized Gain (or Loss) on Investments
Foreign Currency Translation Adjustment
Treasury Share

#### Revenues and Gains

Sales Revenue
Interest Revenue
Dividend Revenue
Equity-Method Investment Revenue
Unrealized Holding Gain on Trading Investments
Gain on Sale of Investments
Gain on Sale of Land (Furniture and Fixtures, Equipment, or Buildings)
Discontinued Operations—Gain

#### Expenses and Losses

Cost of Goods Sold
Salary Expense
Wage Expense
Commission Expense
Payroll Tax Expense
Employee Benefits Expense
Rent Expense
Insurance Expense
Supplies Expense
Uncollectible Account Expense
Depreciation Expense
Administrative Expense
Amortization Expense
Income Tax Expense
Unrealized Holding Loss on Trading Investments
Loss on Sale of Investments
Loss on Sale (or Exchange) of Land (Furniture and Fixtures, Equipment, or Buildings)
Discontinued Operations—Loss

## A Manufacturing Corporation

Same as merchandising corporation, except for Assets

### Assets

Inventories:
- Materials Inventory
- Work-in-Process Inventory
- Finished Goods Inventory

Factory Wages
Factory Overhead

# Appendix D

## INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRSs)

### Accounting Standards

Every technical area has professional associations and regulatory bodies that govern the practice of the profession. Accounting is no exception. Whilst the International Financial Reporting Standards, issued by the International Accounting Standards Board (IASB), are gaining momentum all around the world, they actually have no "legal" authority, unless formally adopted by a country's accounting regulatory body.

In some countries, adoption of certain standards may be faster than others. This is why sometimes you see IFRSs relabeled in a variety of ways and they are not always applicable at the same time around the world. In some instances, the requirement (or permission) to use IFRS is limited to listed companies.

Throughout this text, we have used the standards' formal names and they may be a little different from what is applicable in your own country. Standards issued by the predecessor of IASB are labeled IAS and the newer standards are labeled IFRS. There are also interpretations of IFRSs labeled IFRIC (or SIC, under the predecessor to IASB) on the IASB website (www.ifrs.org). Collectively, they are referred to as IFRSs. As of August 2012, the IASB have issued the following pronouncements.

| Title | Chapter |
|---|---|
| Preface to International Financial Reporting Standards | |
| Conceptual Framework for Financial Reporting | 1 |
| IAS 1—Presentation of Financial Statements | 3, 4, 8, 11 |
| IAS 2—Inventories | 6 |
| IAS 7—Statement of Cash Flows | 11 |
| IAS 8—Accounting Policies, Changes in Accounting Estimates and Errors | 4, 7 |
| IAS 10—Events After the Balance Sheet Date | |
| IAS 11—Construction Contracts | 7 |
| IAS 12—Income Taxes | 7, 9 |
| IAS 16—Property, Plant and Equipment | 7 |
| IAS 17—Leases | 9 |
| IAS 18—Revenue | 3, 6 |
| IAS 19—Employee Benefits | 9 |
| IAS 20—Accounting for Government Grants and Disclosure of Government Assistance | |
| IAS 21—The Effects of Changes in Foreign Exchange Rates | 8 |
| IAS 23—Borrowing Costs | 7, 11 |
| IAS 24—Related Party Disclosures | |
| IAS 26—Accounting and Reporting by Retirement Benefit Plans | |
| IAS 27—Consolidated and Separate Financial Statements | 8 |
| IAS 28—Investment in Associates | 8 |
| IAS 29—Financial Reporting in Hyperinflationary Economies | |
| IAS 32—Financial Instruments: Presentation | 8, 10 |
| IAS 33—Earnings Per Share | 10 |
| IAS 34—Interim Financial Reporting | |
| IAS 36—Impairment of Assets | 7 |
| IAS 37—Provisions, Contingent Liabilities and Contingent Assets | 7, 9 |
| IAS 38—Intangible Assets | 7 |
| IAS 39—Financial Instruments: Recognition and Measurement | 5, 8, 9 |
| IAS 40—Investment Property | 7 |
| IAS 41—Agriculture | 7 |

| Title | Chapter |
|---|---|
| IFRS 1—First-time Adoption of International Financial Reporting Standards | |
| IFRS 2—Share-based Payment | |
| IFRS 3—Business Combinations | 7 |
| IFRS 4—Insurance Contracts | |
| IFRS 5—Non-current Assets Held for Sale and Discontinued Operations | |
| IFRS 6—Exploration for and Evaluation of Mineral Assets | |
| IFRS 7—Financial Instruments: Disclosures | 9 |
| IFRS 8—Operating Segments | |
| IFRS 9—Financial Instruments | 8 |
| IFRS 10—Consolidated Financial Statements | |
| IFRS 11—Joint Arrangements | |
| IFRS 12—Disclosure of Interests in Other Entities | |
| IFRS 13—Fair Value Measurements | |

## Use of IFRSs around the World

All G20 (Group of 20) members have made significant progress in adopting, converging or allowing the use of IFRSs in their respective jurisdictions. As at December 2011, the status of IFRS adoption among the G20 members can be summarized as follows:

| Country | Status for listed companies |
|---|---|
| Argentina | Required for fiscal years beginning on or after 1 January 2012 |
| Australia | Required for all private sector reporting entities and as the basis for public sector reporting since 2005 |
| Brazil | Required for consolidated financial statements of banks and listed companies from 31 December 2010 and for individual company accounts progressively since January 2008 |
| Canada | Required from 1 January 2011 for all listed entities and permitted for private sector entities including not-for-profit organizations |
| China | Substantially converged national standards |
| European Union | All member states of the EU are required to use IFRSs as adopted by the EU for listed companies since 2005 |
| France | Required via EU adoption and implementation process since 2005 |
| Germany | Required via EU adoption and implementation process since 2005 |
| India | India is converging with IFRSs at a date to be confirmed |
| Indonesia | Convergence process ongoing; a decision about a target date for full compliance with IFRSs is expected to be made in 2012 |
| Italy | Required via EU adoption and implementation process since 2005 |
| Japan | Permitted from 2010 for a number of international companies; decision about mandatory adoption by 2016 expected around 2012 |
| Mexico | Required from 2012 |
| South Korea | Required from 2011 |
| Russia | Required from 2012 |
| Saudi Arabia | Required for banking and insurance companies. Full convergence with IFRSs currently under consideration. |
| South Africa | Required for listed entities since 2005 |
| Turkey | Required for listed entities since 2005 |
| United Kingdom | Required via EU adoption and implementation process since 2005 |
| United States | Allowed for foreign issuers in the US since 2007; target date for substantial convergence with IFRSs is 2011 and decision about possible adoption for US companies expected in 2011. |

*Source*: IFRS Foundation (http://www.ifrs.org/Use+around+the+world/Use+around+the+world.htm)

For an interactive chart of how IFRS is used around the world or to find specific country information, you can visit www.pwc.com/us/en/issues/ifrs-reporting/country-adoption/index.jhtml

## IFRS Teaching and Learning Resources

There are many websites (most with free access, or with registration) that you can visit for teaching and learning resources on IFRS. Here is a selected list of resources that may be useful to you in your study of accounting.

The IASB website provides free access to unaccompanied IFRS in English and a number of other languages. It also has educational materials for students and faculty.

Accounting firms' websites (related to IFRS):

- Deloitte: www.iasplus.com and www.deloitteifrslearning.com
- Ernst & Young: www.ey.com/ifrs
- KPMG: www.kpmg.com/global/en/topics/global-ifrs-institute
- PwC: www.pwc.com/gx/en/ifrs-reporting

## International Association for Accounting Education and Research (IAAER)

- e-IFRS contains all IFRS and other educational materials (including basis of conclusions) and can be obtained via membership of IAAER at US$25 (faculty) or US$20 (student). For more information, visit www.iaaer.org.

# Glindex

A Combined Glossary and Subject Index

**book value per ordinary share** Ordinary shareholders' equity divided by the number of ordinary shares outstanding. The recorded amount for each ordinary share outstanding. 771

**budget** A quantitative expression of a plan that helps managers coordinate the entity's activities. 280
- cash budget, 280
- operating budget, 280

## C

**callable bond** Bonds that are paid off early at a specified price at the option of the issuer. 563

**capital charge** The amount that shareholders and lenders charge a company for the use of their money. Calculated as beginning balances of (Notes payable + Loans payable + Long-term debt + Shareholders' equity) × Cost of capital. 773

**capital expenditure** Expenditure that increases an asset's capacity or efficiency or extends its useful life. Capital expenditures are debited to an asset account. 426

**capital lease** Lease agreement in which the lessee assumes, in substance, the risks and rewards of asset ownership. 566

**carrying amount (of a PPE)** The asset's cost minus accumulated depreciation. 156

**cash** Money or any medium of exchange that a bank accepts at face value. 22, 64
- petty cash, 287

**cash basis accounting** Accounting that records only transactions in which cash is received or paid. 140

**cash budget** A budget that projects the entity's future cash receipts and cash disbursements. 280

**cash conversion cycle** The length of time it takes a company to convert cash from its inventory purchases and receivables. Calculated as inventory resident period plus receivable collection period less payable outstanding period. 762
- inventory resident period, 374, 760
- inventory turnover, 374, 760
- payable outstanding period, 761
- payable turnover, 751
- receivable collection period, 316, 761
- receivable turnover, 760

**cash equivalents** Investments such as time deposits, certificates of deposit, or high-grade government securities that are considered so similar to cash that they are combined with cash for financial disclosure purposes on the balance sheet and cash flow statement. 299, 674

**cash flows** Cash receipts and cash payments (disbursements). 673
- free cash flow, 702

**cash realization ratio** An entity's ability to generate cash from net or operating profit. Calculated as cash flows from operations divided by net profit. 702

**chairman** Head of a board of directors. 226

**chairperson** Elected by a corporation's board of directors, usually the most influential person in the corporation. Usually referred to as Chairman. 609

**chart of accounts** List of a company's accounts and their account numbers. 89

**cheque** Document instructing a bank to pay the designated person or business the specified amount of money. 288
- non-sufficient funds (NSF) cheque, 291
- outstanding cheques, 291

**closing entries** Entries that transfer the income, expense, and dividends balances from these respective accounts to the Retained Earnings account. 167

**closing the books** The process of preparing the accounts to begin recording the next period's transactions. Closing the accounts consists of journalizing and posting the closing entries to set the balances of the revenue, expense, and dividends accounts to zero. Also called *closing the accounts*. 167

**common-size statement** A financial statement that reports only percentages (no dollar amounts). 755

**comparability** A business must use the same accounting methods and procedures from period to period. Comparability is an enhancing qualitative characteristic of financial statements. 370

**comparative information** Corresponding figures from previous financial period(s) that must be displayed on the same presentation basis as the current year's financial period. 235

**computer virus** A malicious program that enters a company's computer system by e-mail or other means and destroys program and data files. 282

**conceptual framework** The basic objective, principles and assumptions guiding the presentation and preparation of general purpose financial statements. 8
- comparability, 370
- going concern, 13
- materiality, 11
- time-period concept, 142

**consignment** An inventory arrangement where the seller sells inventory that belongs to another party. The seller does not include consigned merchandise on hand in its balance sheet, because the seller does not own this inventory. 357

**consolidated statements** Financial statements of the parent company plus those of majority-owned subsidiaries as if the combination were a single legal entity. 498

**contra account** An account that always has a companion account and whose normal balance is opposite that of the companion account. 156

**contributed capital** The amount of shareholders' equity that shareholders have contributed to the corporation. Also called *paid-in capital*. 610

**controller** The chief accounting officer of a business. 279

**controlling (majority) interest** Ownership of more than 50% of an investee company's voting shares. 497

**convertible bonds (or notes)** Bonds or notes that may be converted into the issuing company's share capital at the investor's option. 563

**copyright** Exclusive right to reproduce and sell a book, musical composition, film, other work of art, or computer program. Issued by the government, copyrights may extend many years beyond the author's life. 450

**corporate governance** The broad guidelines regulating how a company should be governed and managed, to ensure accountability to shareholders. 227

**corporations** A business owned by shareholders. A corporation is a legal entity, an "artificial person" in the eye of the law. 6

**cost formulas** Cost assumptions (e.g. LIFO, FIFO or weighted-average) used in the measurement of inventory and cost of goods sold when goods are ordinarily interchangeable. Also called *inventory costing method*. 362

**cost of capital** A weighted average of the returns demanded by the company's shareholders and lenders. 773

**cost of goods sold** Cost of the inventory the business has sold to customers. 356

**cost-of-goods-sold model** Formula that brings together all the inventory data for the entire accounting period: Beginning inventory + Purchases = Goods available. Then, Goods available − Ending inventory = Cost of goods sold. 375

**credit** The right side of an account. 76

**creditor** The party to whom money is owed; also called the *lender*. 311

**cumulative preference share** Preference share whose owners must receive all dividends in arrears before the corporation can pay dividends to the ordinary shareholders. 627

**current asset** An asset that is expected to be converted to cash, sold, or consumed during the next 12 months. 22, 238

**current liability** A financial obligation that is due to be paid within 12 months. 23, 238
- short-term notes payable, 546

**current portion of long-term debt** The amount of the principal that is payable within one year. 546

**current ratio** Current assets divided by current liabilities. Measures a company's ability to pay current liabilities with current assets. 315, 763

## D

**debentures** Unsecured bonds—bonds backed only by the good faith of the borrower. 551

**debit** The left side of an account. 76

**debit memorandum** A document issued to the seller (vendor) when an item of inventory that is unwanted or damaged is returned. This document authorizes a reduction (debit) to accounts payable for the amount of the goods returned. 360

**debt ratio** A measure of indebtedness or leverage. Measured by total liabilities divided by total assets. 568, 764, 765

**debt-to-equity** A measure of indebtedness, the amount of liabilities (or interest-bearing liabilities) as a proportion of total equity. 765

**debtor** The party that borrowed and owes money on the note; also called the *maker of the note* or the *borrower*. 311

**deferral** An adjustment for which the business paid or received cash in advance. Examples include prepaid rent, prepaid insurance, and supplies. 151

**deficit** Retained Earnings account with a debit balance. Also called *accumulated losses*. 624

**depletion expense** That portion of a natural resource's cost that is used up in a particular period. Depletion expense is computed in the same way as units-of-production depreciation. 448

**deposits in transit** A deposit recorded by the company but not yet by its bank. 291

**depreciable cost** The cost of a PPE minus its estimated residual value. 431

**depreciation** Allocation of the cost of a PPE to expense over its useful life. 152, 419, 429
- accelerated depreciation method, 433
- depreciable cost, 431
- double-declining-balance (DDB) method, 433
- estimated residual value, 431
- estimated useful life, 430
- straight-line (SL) method, 431

**direct method** Format of the operating activities section of the statement of cash flows; lists the major categories of operating cash receipts (collections from customers and receipts of interest and dividends) and cash disbursements (payments to suppliers, to employees, for interest and income taxes). 678

**direct write-off** A method of accounting for bad debts. 309

**discount (on a bond)** Excess of a bond's face (par) value over its issue price. 551

**dividend yield** Ratio of dividends per share to the share's market price. Tells the percentage of a share's market value that the company returns to shareholders as dividends. 770

**dividends** Distributions (usually in the form of cash) by a corporation to its shareholders. 15, 625, 634

**double-declining-balance (DDB) method** An accelerated depreciation method that computes annual depreciation by multiplying the asset's decreasing book value by a constant percentage, which is two times the straight-line rate. 433

**doubtful-account expense** Another name for *uncollectible-account expense*. 301

## E

**earnings per share (EPS)** Amount of a company's net income per share of its outstanding share capital. 569, 632, 770

**economic phenomena** Information about the reporting entity's economic resources, claims against the reporting entity and the effects of transactions and other events and conditions that change those resources and claims. 11

**economic value added (EVA®)** Used to evaluate a company's operating performance. EVA combines the concepts of accounting income and corporate finance to measure whether the company's operations have increased shareholder wealth. EVA = Net income + Interest expense − Capital charge. 773

**electronic fund transfer (EFT)** System that transfers cash by electronic communication rather than by paper documents. 289

**equity** The owners' residual claim to the assets of the business (i.e. after deducting outstanding liabilities). Also called *owners' equity, shareholders' equity or net assets*. 13

**equity method** The method used to account for investments in which the investor has 20–50% of the investee's voting shares and can significantly influence the decisions of the investee. 494

**estimated residual value** Expected cash value of an asset at the end of its useful life. Also called *residual value*, *scrap value*, or *salvage value*. 431

**estimated useful life** Length of service that a business expects to get from an asset. May be expressed in years, units of output, miles, or other measures. 430

**ethics** Standards of right and wrong that transcend economic and legal boundaries. Ethical standards deal with the way we treat others and restrain our own actions because of the desires, expectations, or rights of others, or with our obligations to them. 28

**exception reporting** Identifying data that is not within "normal limits" so that managers can follow up and take corrective action. Exception reporting is used in operating and cash budgets to keep company profits and cash flow in line with management's plans. 280

**expenses** Decrease in equity that results from operations; the cost of doing business; opposite of revenues. 13

**expenses by function** One alternative in presenting expenses of a company, where expenses are categorized into major functions, such as cost of sales, selling and administration expenses, and so forth. 243

**expenses by nature** One alternative in presenting expenses of a company, where expenses are reported as they are (e.g. depreciation, purchases of materials, staff costs, etc.) without allocation to functional areas. 243

## F

**fair market value** The amount that a seller would receive on the sale of an investment to a willing purchaser on a given date. Securities and available-for-sale securities are valued at fair market values on the balance sheet date. Other assets may be recorded at fair market value. 488

**financial accounting** The branch of accounting that provides information to people outside the firm. 5

**financial assets** An asset that arises because of contractual rights to receive items of value, for example, cash, receivables, etc. and similar rights. 483

**financial statements** Business documents that report financial information about a business entity to decision makers. 2

**financing activities** Activities that obtain from investors and creditors the cash needed to launch and sustain the business;

a section of the statement of cash flows. 24, 676

**first-in, first-out (FIFO) cost (method)** Inventory costing method by which the first costs into inventory are the first costs out to cost of goods sold. Ending inventory is based on the costs of the most recent purchases. 362, 365

**FOB** Stands for *free on board (or freight on board)*, a legal term that designates the point at which title passes for goods sold. FOB shipping point means that the buyer owns, and therefore is legally obligated to pay for, goods at the point of shipment, including transportation costs. In this case, the buyer owns the goods while they are in transit from the seller and must include their costs, including freight, in inventory at that point. FOB destination means that the seller pays the transportation costs, so the goods do not belong to the buyer until they reach the buyer's place of business. 357

**foreign-currency exchange rate** The measure of one country's currency against another country's currency. 507

**foreign-currency translation adjustment** The balancing figure that brings the dollar amount of the total liabilities and shareholders' equity of the foreign subsidiary into agreement with the dollar amount of its total assets. 511

**franchises and licenses** Privileges granted by a private business or a government to sell a product or service in accordance with specified conditions. 451

**fraud** An intentional misrepresentation of facts, made for the purpose of persuading another party to act in a way that causes injury or damage to that party. 275
  lapping, 278
  misappropriation of assets, 273

**fraud triangle** The three elements that are present in almost all cases of fraud. These elements are pressure, opportunity, and rationalization on the part of the perpetrator. 274

**fraudulent financial reporting** Fraud perpetrated by management by preparing misleading financial statements. 273

**free cash flow** The amount of cash available from operations after paying for capital expenditures such as investments in PPE. 702

## G

**gains** Usually separated from revenues. Part of income and result in an increase in equity. 13

**gearing** The level of indebtedness of an entity, also known as leverage, typically measured by the proportion of assets financed by liabilities (or alternatively, only interest-bearing liabilities). 765

**general purpose financial statements** The common set of financial statements prepared for all users of financial statements. 9

**generally accepted accounting principles (GAAP)** Accounting guidelines, usually in reference to US standards as formulated by the Financial Accounting Standards Board. Eventually, many expect US GAAP will converge or co-exist with IFRS. 7

**going concern** An assumption that an entity will remain in operation for the foreseeable future. 13

**goodwill** Excess of the cost of an acquired company over the sum of the market values of its net assets (assets minus liabilities). 451, 500

**gross margin** Another name for *gross profit*. 357

**gross margin method** Another name for the gross *profit method*. 376

**gross margin percentage** Another name for the *gross profit percentage*. 373

**gross profit** Sales revenue minus cost of goods sold. Also called *gross margin*. 357

**gross profit margin** The amount of gross profit earned from each currency unit of sales. 373, 367

**gross profit method** A way to estimate inventory based on a rearrangement of the cost-of-goods-sold model: Beginning inventory + Net purchases = Goods available – Cost of goods sold = Ending inventory. Also called the *gross margin method*. 376

**gross profit percentage** Gross profit divided by net sales revenue. Also called the *gross margin percentage*. 373

## H

**hedging** To protect oneself from losing money in one transaction by engaging in a counterbalancing transaction. 510

**held-to-maturity investments** Bonds and notes that an investor intends to hold until maturity. 490

**horizontal analysis** Study of percentage changes in comparative financial statements. 748

## I

**impairment** The condition that exists when the carrying amount of an asset exceeds its recoverable amount. 419

**imprest system** A way to account for petty cash by maintaining a constant balance in the petty cash account, supported by the fund (cash plus payment tickets) totaling the same amount. 287

**income** Increases in equity from revenue and gains. 13

**income statement** A financial statement listing an entity's revenues, expenses, and net income or net loss for a specific period. Part of Statement of Comprehensive Income. 14

**indirect method** Format of the operating activities section of the statement of cash flows; starts with net income and reconciles to cash flows from operating activities. 678

**intangible assets** A non-monetary asset with no physical form that conveys future economic benefits to the entity. 420
  amortization, 449
  copyright, 450
  franchises and licenses, 451
  goodwill, 451, 500
  patent, 450
  trademark, trade name, 450

**interest** The borrower's cost of renting money from a lender. Interest is revenue for the lender and expense for the borrower. 311

**interest-coverage ratio** Another name for *times-interest-earned*. 571, 765

**interim reports** Quarterly or half-yearly financial reports that are usually not audited and less detailed than an annual report. 235

**internal control** Organizational plan and related measures adopted by an entity to safeguard assets, encourage adherence to company policies, promote operational efficiency, and ensure accurate and reliable accounting records. 275

**International Financial Reporting Standards (IFRS)** Accounting guidelines, formulated by the International Accounting Standards Board (IASB). 7, 838–40

**inventory** The merchandise that a company holds for sale to customers. 22, 356
  average-cost method (weighted average method), 366
  consignment, 357
  first-in, first-out (FIFO) cost (method), 362, 365
  last-in, first-out (LIFO) cost (method), 362, 365
  net realizable value (NRV), 371
  periodic inventory system, 358, 375
  perpetual inventory system, 359

**inventory costing method** Cost assumptions (e.g. LIFO, FIFO or weighted-average) used in the measurement of inventory and cost of goods sold when goods are ordinarily interchangeable. Also called *cost formulas*. 362

**inventory resident period** The average number of days to sell inventory to customers, calculated by dividing 000 by inventory turnover. Also called *days inventory on hand*. 374, 760

**inventory turnover** The number of times inventories are sold during the year, approximated by taking total cost of goods sold divided by average inventory. Used in calculating *inventory resident period*. 374, 760

**investing activities** Activities that increase or decrease the long-term assets available to the business; a section of the statement of cash flows. 24, 676

**issued share** Number of shares a corporation has issued to its shareholders. 620

## J

**journal** The chronological accounting record of an entity's transactions. 79

## L

**lapping** A fraudulent scheme to steal cash through misappropriating certain customer payments and posting payments from other customers to the affected accounts to cover it up. Lapping is caused by weak internal controls (i.e., not segregating the duties of cash handling and accounts receivable bookkeeping, allowing the bookkeeper improper access to cash, and not appropriately monitoring the activities of those who handle cash). 278

**last-in, first-out (LIFO) cost (method)** Inventory costing method by which the last costs into inventory are the first costs out to cost of goods sold. This method leaves the oldest costs—those of beginning inventory and the earliest purchases of the period—in ending inventory. 362, 365

**lease** Rental agreement in which the tenant (lessee) agrees to make rent payments to the property owner (lessor) in exchange for the use of the asset. 564
- capital lease, 566
- operating lease, 565

**ledger** The book of accounts and their balances. 80

**lessee** Tenant or recipient of the leased asset in a lease agreement. 564

**lessor** Property owner of the leased asset in a lease agreement. 564

**leverage** Using borrowed funds to increase the return on equity. Successful use of leverage means earning more income on borrowed money than the related interest expense, thereby increasing the earnings for the owners of the business. Also called *trading on the equity*. 765

**liability** An economic obligation payable to an individual or an organization outside the business. 13, 238

**limited liability** No personal obligation of a shareholder for corporation debts. A shareholder can lose no more on an investment in a corporation's share than the cost of the investment. 607

**liquidation value** The amount a corporation must pay a preference shareholder in the event the company liquidates and goes out of business, after settling liabilities. 630

**liquidity** A measure of an entity's ability to convert an asset to cash (if it is not already cash) or settle an obligation. Typically grouped into current and non-current assets and liabilities. 238

**listing requirements** The rules stipulated by a stock exchange or bourse for all listed companies. 224

**lock-box system** A system of handling cash receipts by mail whereby customers remit payment directly to the bank, rather than through the entity's mail system. 280

**long-term investments** Any investment that does not meet the criteria of a short-term investment; any investment that the investor expects to hold longer than a year or that is not readily marketable. 484

**losses** Usually separated from expenses, results in a reduction in equity. 13

## M

**management accounting** The branch of accounting that generates information for the internal decision makers of a business, such as top executives. 5

**market capitalization** A measure of the size of a listed company, equal to the share price multiplied by the number of shares outstanding. 630

**market interest rate** Interest rate that investors demand for loaning their money. Also called *effective interest rate*. 552

**market value (of a share)** Price for which a person could buy or sell a share. 630

**matching concept** A concept for matching expenses to revenue. Directs accountants to identify all expenses incurred during the period, to measure the expenses, and to match them against the revenues earned during that same period. 144

**material** An item is material when its omission or misstatement could, individually or collectively, influence the economic decisions that users make on the basis of the financial statements. 234

**materiality** The importance or significance of information that may change the user's final assessment of a situation. 11

**maturity date** The date on which the debtor must pay the note. 311

**maturity value** The sum of principal and interest on the note. 311

**misappropriation of assets** Fraud committed by employees by stealing assets from the company. 273

## N

**net income** Excess of total revenues over total expenses. Also called *net earnings or net profit*. 14

**net loss** Excess of total expenses over total revenues. 14

**net profit** Another name for net income. 14

**net profit margin** The amount of net profit earned from each currency unit of sales. Also called *return on sales*. 512, 767

**net realizable value (NRV)** The estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale. 371

**non-controlling interest** A subsidiary company's equity that is held by shareholders other than the parent company (i.e. less than 50%). 501

**non-sufficient funds (NSF) cheque** A "hot" cheque, one for which the payer's bank account has insufficient money to pay the cheque. NSF cheques are cash receipts that turn out to be worthless. 291

## O

**operating activities** Activities that create revenue or expense in the entity's major line of business; a section of the statement of cash flows. Operating activities affect the income statement. 24, 675

**operating budget** A budget of future net income. The operating budget projects a company's future revenue and expenses. It is usually prepared by line item of the company's income statement. 280

**operating lease** A lease in which the lessee does not assume the risks or rewards of asset ownership. 565

**operating profit margin** The amount of operating profit earned from each currency unit of sales. 767

**ordinary share** The most basic form of capital shares. The ordinary shareholders own a corporation. 611

**outstanding cheques** A cheque issued by the company and recorded on its books but not yet paid by its bank. 291

**outstanding share** Share in the hands of shareholders calculated as issued shares less treasury shares, if any. 620

## P

**paid-in capital** The amount of shareholders' equity that shareholders have contributed to the corporation. Also called *contributed capital or share capital*. 24, 610

**par value** Arbitrary amount assigned by a company to a share. 612

**parent company** An investor company that owns more than 50% of the voting shares of a subsidiary company. 497

**partnership** An association of two or more persons who co-own a business for profit. 6

**patent** A government grant giving the holder the exclusive right for a certain number of years to produce and sell an invention. 450

**payable outstanding period** The average length of time (in days) to pay account payables, based on *payable turnover*. Part of *cash conversion cycle*. 761

**payable turnover** Ratio of cost of goods sold to average payables. Indicates how quickly trade creditors are paid. Can also be expressed in days (payables outstanding period). 761

**payroll** Employee compensation, a major expense of many businesses. 541

**pension** Employee compensation that will be paid during the employee's retirement. 542

**periodic inventory system** An inventory system in which the business does not keep a continuous record of the inventory on hand. Instead, at the end of the period, the business makes a physical count of the inventory on hand and applies the appropriate unit costs to determine the cost of the ending inventory. 358, 375

**permanent accounts** Asset, liability, and shareholders' equity accounts that are not closed at the end of the period. 167

**perpetual inventory system** An inventory system in which the business keeps a continuous record for each inventory item to show the inventory on hand at all times. 359

**petty cash** Fund containing a small amount of cash that is used to pay minor amounts. 287

**phishing** Creating bogus websites for the purpose of stealing unauthorized data, such as names, addresses, social security numbers, bank account, and credit card numbers. 283

**posting** Copying amounts from the journal to the respective ledger accounts. 81

**preference share** Share that gives its owners certain advantages, such as the priority to receive dividends before the ordinary shareholders and the priority to receive assets before the ordinary shareholders if the corporation liquidates. 611

**premium (on a bond)** Excess of a bond's issue price over its face (par) value. 551

**prepaid expense** A category of miscellaneous assets that typically expire or get used up in the near future. Examples include prepaid rent, prepaid insurance, and supplies. 152

**prepaid expenses** Paying expenses in advance before actual consumption. Also called *prepayments*. 64

**present value** Amount a person would invest now to receive a greater amount at a future date. 551

**price/earnings ratio** Ratio of the market price of an ordinary share to the company's earnings per share. Measures the value that the share market places on one currency unit of a company's earnings. 770

**principal** The amount borrowed by a debtor and lent by a creditor. 311

**prior-period errors** Errors arising from arithmetic mistakes, mistakes in applying accounting policies, oversights or misinterpretations of facts, and fraud, that are discovered in subsequent accounting period. 247

**property, plant and equipment or PPE** Long-lived assets, such as land, buildings, and equipment, used in the operation of the business. Also called *fixed assets*. 22, 64, 155, 419

**proprietorship** A business with a single owner. 5

**purchase allowance** A decrease in the cost of purchases because the seller has granted the buyer a subtraction (an allowance) from the amount owed. 360

**purchase discount** A decrease in the cost of purchases earned by making an early payment to the vendor. 359

**purchase return** A decrease in the cost of purchases because the buyer returned the goods to the seller. 360

## Q

**qualified opinion** An auditor's opinion that the financial statements, as a whole, fairly represent the financial position and performance of the audited entity, with exception in one or two areas. 231

**qualitative characteristics** The attributes that are most likely to make the information provided in financial statements useful to users. 11

**quick ratio** Another name for the *acid-test ratio*. 763

## R

**receivable collection period** The average number of days to collect receivables from customers, calculated by dividing 000 by receivable turnover. Also called days' *sales in receivables or days sales outstanding*. 316, 761

**receivable turnover** The number of times receivables are collected during the year, approximated by taking total sales divided by average receivables. Used in calculating *receivable collection period*. 760

**receivables** Monetary claims against a business or an individual, acquired mainly by selling goods or services and by lending money. 299
debtor, 311

**receivables turnover** Ratio of sales to average receivables. Indicates how rapidly receivables are collected. Can also be expressed in days (*receivables collection period*). 316

**recoverable amount** The higher of fair value less cost to sell and value in use. Used in impairment tests. 442

**redeemable preference shares** A corporation reserves the right to buy an issue of shares back from its shareholders, with the intent to retire the share. 612

**redemption value** The price a corporation agrees to eventually pay for its redeemable preference shares, set when the share is issued. 630

**remittance advice** An optional attachment to a cheque (sometimes a perforated tear-off document and sometimes capable of being electronically scanned) that indicates the payer, date, and purpose of the cash payment. The remittance advice is often used as the source documents for posting cash receipts or payments. 289

**report format** A balance-sheet format that lists assets at the top, followed by liabilities and shareholders' equity below. 239

**reporting entity** An organization or a section of an organization that, for accounting purposes, stands apart from other organizations and individuals as a separate economic unit. 5

**retained earnings** The amount of shareholders' equity that the corporation has earned through profitable operation that has been retained in the business (not distributed back to shareholders). 13, 610

**return on ordinary equity (ROE)** Net income minus preference dividends, divided by average ordinary shareholders' equity. A measure of profitability. 633

**return on ordinary shareholders' equity** Net income minus preference dividends, divided by average ordinary shareholders' equity. A measure of profitability. Also called *return on equity (ROE)*. 767

**return on sales** Another name for *net profit margin*. 767

**return on total assets** Net income divided by average total assets. This ratio measures a company's success in using its assets to earn income for the persons who finance the business. Also called *return on assets (ROA)*. 767

**revenue** Increase in retained earnings from delivering goods or services to customers or clients. 13

**revenue recognition principle** The basis for recording and measurement of revenues; tells accountants when to record revenue and the amount of revenue to record. 142

## S

**serial bonds** Bonds that mature in installments over a period of time. 551

**share** Share into which the owners' equity of a corporation is divided. 607
- authorized share, 620
- cumulative preference share, 627
- issued share, 620
- market value, 630
- ordinary share, 611
- par-value, 612
- preference share, 611
- treasury share, 621

**share capital** The amount of shareholders' equity that shareholders have contributed to the corporation. Also called *contributed capital* or *paid-in capital*. 13, 610

**share dividend** A proportional distribution by a corporation of its own shares to its shareholders. 627

**shareholder** A person who owns shares in a corporation. 6, 607

**shareholders' equity** The shareholders' ownership interest in the assets of a corporation. 610

**short-term investments** Investment that a company plans to hold for 0 year or less. Usually in the form of marketable securities. 484

**short-term notes payable** Note payable due within one year. 546

**specific identification** When goods are ordinarily not interchangeable, cost of goods sold and on-hand are determined by specifically identifying which units have been sold and which units remain on-hand, respectively. 362

**stated interest rate** Interest rate that determines the amount of cash interest the borrower pays and the investor receives each year. 552

**statement of cash flows** Reports cash receipts and cash payments classified according to the entity's major activities: operating, investing, and financing. 24, 673
- direct method, 678
- indirect method, 678
- financing activities, 24, 676
- free cash flow, 702
- investing activities, 24, 676
- operating activities, 24, 675

**statement of changes in equity** Provides a reconciliation of the movement of equity items during a financial period. Affected share issuance, share cancellation, net income (or net loss) and dividends paid. 20

**statement of comprehensive income** Net profit (loss) for the period plus other comprehensive income. 17

**statement of financial position** Another name for the balance sheet. 21

**stock split** An increase in the number of authorized, issued, and outstanding shares of share coupled with a proportionate reduction in the share's par-value and market price per share. 628

**straight-line (SL) method** Depreciation method in which an equal amount of depreciation expense is assigned to each year of asset use. 431

**strong currency** A currency whose exchange rate is rising relative to other nations' currencies. 507

**subsidiary** An investee company in which a parent company owns more than 50% of the voting shares. 497

## T

**temporary accounts** The revenue and expense accounts that relate to a limited period and are closed at the end of the period are temporary accounts. For a corporation, the Dividends account is also temporary. 167

**term** The length of time from when the note was signed by the debtor to when the debtor must pay the note. 311

**term bonds** Bonds that all mature at the same time for a particular issue. 581

**time-period concept** Ensures that accounting information is reported at regular intervals. 142

**times-interest-earned ratio** Ratio of income from operations (or earnings before interest and tax) to interest expense. Measures the number of times that operating income can cover interest expense. Also called the *interest-coverage ratio*. 571, 765

**trademark, trade name** A distinctive identification of a product or service. Also called a *brand name*. 450

**trading on the equity** Earning more income on borrowed money than the related interest expense, thereby increasing the earnings for the owners of the business. Also called *leverage*. 569

**trading securities** Investments in financial assets that are primarily for the purpose of trading, with the intent of generating profits on the sale. Also called *fair value investments through profit or loss*. 487

**transaction** Any event that has a financial impact on the business and can be measured reliably. 62

**treasurer** In a large company, the department that has total responsibility for cash handling and cash management. This includes cash budgeting, cash collections, writing cheques, investing excess funds, and making proposals for raising additional cash when needed. 279

**treasury share** A corporation's own share that it has issued and later reacquired. 621

**trend percentages** A form of horizontal analysis that indicates the direction a business is taking. 751

**trial balance** A list of all the ledger accounts with their balances. 87

**trojan horse** A malicious program that hides within legitimate programs and acts like a computer virus. 282

## U

**uncollectible-account expense** Cost to the seller of extending credit. Arises from the failure to collect from credit customers. Also called *doubtful-account expense* or *bad-debt expense*. 301

**underwriter** Organization that purchases the bonds from an issuing company and resells them to its clients or sells the bonds for a commission, agreeing to buy all unsold bonds. 550

**unearned revenue** A liability created when a business collects cash from customers in advance of earning the revenue. The obligation is to provide a product or a service in the future. 160

**units-of-production (UOP) method** Depreciation method by which a fixed amount of depreciation is assigned to each unit of output produced by the PPE. 433

**unqualified opinion** An auditor's opinion that the financial statements fairly represent the financial position and performance of the audited entity. 230

## V

**vertical analysis** Analysis of a financial statement that reveals the relationship of each statement item to a specified base, which is the 100% figure. 752

## W

**weak currency** A currency whose exchange rate is falling relative to that of other nations. 507

**weighted-average method** Another name for the *average-cost method*. 362, 366

**working capital** Current assets minus current liabilities; measures a business's ability to meet its short-term obligations with its current assets. 763

# Company Index