

CHAPTER – I

AN OVERVIEW OF FINANCIAL MANAGEMENT

1.1. Introduction

Finance is a field that deals with the study of investments. It includes the dynamics of assets and liabilities over time under conditions of different degrees of uncertainties and risks. Finance can also be defined as the science of money management. Market participants aim to price assets based on their risk level, fundamental value, and their expected rate of return. Finance can be broken into three sub-categories: public finance, corporate finance and personal finance.

1.1.1. Meaning of Financial Management

Financial management refers to the efficient and effective management of money (funds) in such a manner as to accomplish the objectives of the organization. It is the specialized function directly associated with the top management. The significance of this function is not seen in the 'Line' but also in the capacity of the 'Staff' in overall of a company. It has been defined differently by different experts in the field.

Definition of Financial Management

"Financial management is that activity of management which is concerned with the planning, procuring and controlling of the firm's financial resources." **By Deepika & Maya Rani**

1.1.2. Classification of Finance

Finance is broadly defined into two parts:-

1. Private finance:-

The private finance can be further divided into personal finance and business finance. the personal finance is concerned with the acquisition and the proper utilization of economic resource by the individuals and households for meeting their different needs **The business finance is also a part of private finance.** the business finance is concerned with the acquisition, management and utilization of fund by the private business organizations. the business organizations may also be in the form of public enterprises. but the public enterprises fall under the category of public finance.

2. Public Finance

Public finance is the study of the financial aspect of the government. here we study about the government expenditure, public revenue, public borrowing and financial administration. The economic activities of the public enterprises also fall under public finance. The objective of private of business finance is to earn maximum return or profit. On the contrary the objective of public finance is to maximize social welfare

1.1.3. Sources of Finance

Sources of finance are equity, debt, debentures, retained earnings, term loans, working capital loans, letter of credit, euro issue, venture funding etc. These sources of funds are used in different situations. They are classified based on time period, ownership and control, and their source of generation. It is ideal to evaluate each source of capital before opting it.

On the basis of a time period, sources are classified as long-term, medium term, and short term. Ownership and **control classify** sources of finance into owned capital and borrowed capital. **Internal sources and external sources** are the two sources of generation of capital. All the sources of capital have different characteristics to suit different types of requirements.

According to the sources of Generation

Based on the source of generation, the following are the internal and external sources of finance:

I. Internal Sources

The internal source of capital is the capital which is generated internally by the business. These are as follows:

1. Retained profits
2. Reduction or controlling of working capital
3. Sale of assets etc.

The internal source of funds has the same characteristics of owned capital. The best part of the internal sourcing of capital is that the business grows by itself and does not depend on outside parties. Disadvantages of both equity capital and debt capital are not present in this form of financing. Neither ownership dilutes nor does fixed obligation or bankruptcy risk arise.

II. External Sources

An external source of finance is the capital generated from outside the business. Apart from the internal sources of funds, all the sources are external sources of capital.

Deciding the right source of funds is a crucial business decision taken by top-level finance managers. The wrong source of capital increases the cost of funds which in turn would have a direct impact on the feasibility of project under concern. Improper match of the type of capital with business requirements may go against the smooth functioning of the business. For instance, if fixed assets, which derive benefits after 2 years, are financed through short-term finances will create cash flow mismatch after one year and the manager will again have to look for finances and pay the fee for raising capital again.

1.2. Scope of Financial Management

Imagine that you were to start your own business. No matter what type you started, you would have to answer the following three questions in some form or another:

1. What long-term investments should you take on? That is, what lines of business will you be in and what sorts of buildings, machinery, and equipment will you need?
2. Where will you get the long-term financing to pay for your investment? Will you bring in other owners or will you borrow the money?
3. How will you manage your everyday financial activities such as collecting from customers and paying suppliers?

These are not the only questions by any means, but they are among the most important. Corporate finance, broadly speaking, is the study of ways to answer these three questions. Accordingly, we'll be looking at each of them in the chapters ahead.

The Financial Manager

A striking feature of large corporations is that the owners (the stockholders) are usually not directly involved in making business decisions, particularly on a day-to-day basis. Instead, the corporation employs managers to represent the owners' interests and make decisions on their behalf. In a large corporation, the financial manager would be in charge of answering the three questions we raised in the preceding section.

The financial management function is usually associated with a top officer of the firm, such as a vice president of finance or some other chief financial officer (CFO). The vice president of finance coordinates the activities of the treasurer and the controller. The controller's office handles cost and financial accounting, tax payments, and management information systems. The treasurer's office is responsible for managing the firm's cash and credit, its financial planning, and its capital expenditures. These treasury activities are all related to the three general questions raised earlier, and the chapters ahead deal primarily with these issues. Our study thus bears mostly on activities usually associated with the treasurer's office.

Scope of Financial Management

As the preceding discussion suggests, the financial manager must be concerned with three basic types of questions. We consider these in greater detail next.

Investment Decision/Capital Budgeting Decision

Capital Budgeting The first question concerns the firm's long-term investments. The process of planning and managing a firm's long-term investments is called capital budgeting. In capital budgeting, the financial manager tries to identify investment opportunities that are worth more to

the firm than they cost to acquire. Loosely speaking, this means that the value of the cash flow generated by an asset exceeds the cost of that asset.

The types of investment opportunities that would typically be considered depend in part on the nature of the firm's business. For example, for a large retailer such as Wal-Mart, deciding whether or not to open another store would be an important capital budgeting decision. Similarly, for a software company such as Oracle or Microsoft, the decision to develop and market a new spread sheet would be a major capital budgeting decision. Some decisions, such as what type of computer system to purchase, might not depend so much on a particular line of business.

Regardless of the specific nature of an opportunity under consideration, financial managers must be concerned not only with how much cash they expect to receive, but also with when they expect to receive it and how likely they are to receive it. Evaluating the *size*, *timing*, and *risk* of future cash flows is the essence of capital budgeting. In fact, as we will see in the chapters ahead, whenever we evaluate a business decision, the size, timing, and risk of the cash flows will be, by far, the most important things we will consider.

Financing Decision/Capital Structure Decision

Capital Structure The second question for the financial manager concerns ways in which the firm obtains and manages the long-term financing it needs to support its long term investments. A firm's **capital structure** (or financial structure) is the specific mixture of long-term debt and equity the firm uses to finance its operations. The financial manager has two concerns in this area. First, how much should the firm borrow? That is, what mixture of debt and equity is best? The mixture chosen will affect both the risk and the value of the firm. Second, what are the least expensive sources of funds for the firm?

If we picture the firm as a pie, then the firm's capital structure determines how that pie is sliced—in other words, what percentage of the firm's cash flow goes to creditors and what percentage goes to shareholders. Firms have a great deal of flexibility in choosing a financial structure. The question of whether one structure is better than any other for a particular firm is the heart of the capital structure issue.

In addition to deciding on the financing mix, the financial manager has to decide exactly how and where to raise the money. The expenses associated with raising long-term financing can be considerable, so different possibilities must be carefully evaluated. Also, corporations borrow

money from a variety of lenders in a number of different, and sometimes exotic, ways. Choosing among lenders and among loan types is another job handled by the financial manager.

Working Capital Decision

Working Capital Management The third question concerns working capital management. The term *working capital* refers to a firm's short-term assets, such as inventory, and its short-term liabilities, such as money owed to suppliers. Managing the firm's working capital is a day-to-day activity that ensures that the firm has sufficient resources to continue its operations and avoid costly interruptions. This involves a number of activities related to the firm's receipt and disbursement of cash. Some questions about working capital that must be answered are the following: (1) How much cash and inventory should we keep on hand? (2) Should we sell on credit? If so, what terms will we offer, and to whom will we extend them? (3) How will we obtain any needed short-term financing? Will we purchase on credit or will we borrow in the short term and pay cash? If we borrow in the short term, how and where should we do it? These are just a small sample of the issues that arise in managing a firm's working capital.

The three areas of corporate financial management we have described— capital budgeting, capital structure, and working capital management—are very broad categories. Each includes a rich variety of topics, and we have indicated only a few of the questions that arise in the different areas.

1.3. The Goal of a firm in Financial Management

The goal of a firm in financial management can be either the profit maximisation or wealth maximisation, let us discuss it in the following paragraphs

Profit Maximization simply means that The maximization of the firm's net income or EPS. Earnings Per Share (EPS) Net income divided by the number of shares of common stock outstanding.

In arguing that managers should take steps to maximize the firm's stock price, we have said nothing about the traditional objective, **profit maximization**, or the maximization of **earnings per share (EPS)**. However, while a growing number of analysts rely on cash flow projections to assess performance, at least as much attention is still paid to accounting measures, especially EPS. The traditional accounting performance measures are appealing because (1) they are easy to use and understand; (2) they are calculated on the basis of more or less standardized accounting practices, which reflect the accounting profession's best efforts to measure financial performance on a consistent basis both across firms and over time; and (3) net income is supposed to be reflective of the firm's potential to produce cash flows over time.

Generally, there is a high correlation between EPS, cash flow, and stock price, and all of them generally rise if a firm's sales rise. Nevertheless, as we will see in subsequent chapters, stock prices depend not just on today's earnings and cash flows—future cash flows and the riskiness of the future earnings stream also affect stock prices. Some actions may increase earnings and yet reduce stock price, while other actions may boost stock price but reduce earnings. For example, consider a company that undertakes large expenditures today that are designed to improve future performance. These expenditures will likely reduce earnings per share, yet the stock market may respond positively if it believes that these expenditures will significantly enhance future earnings. By contrast, a company that undertakes actions today to enhance its earnings may see a drop in its stock price, if the market believes that these actions compromise future earnings and/or dramatically increase the firm's risk. Even though the level and riskiness of current and future cash flows ultimately determine stockholder value, financial managers cannot ignore the effects of their decisions on reported EPS, because earnings announcements send messages to investors. Say, for example, a manager makes a decision that will ultimately enhance cash flows and stock price, yet the short-run effect is to lower this year's profitability and EPS. Such a decision might be a change in inventory accounting policy that increases reported expenses but also increases cash flow because it reduces current taxes. In this case, it makes sense for the manager to adopt the policy because it generates additional cash, even though it reduces reported profits. Note, though, that management must communicate the reason for the earnings decline, for otherwise the company's stock price will probably decline after the lower earnings are reported.

Stockholder Wealth Maximization

Meaning

The primary goal for management decisions; considers the risk and timing associated with expected earnings per share in order to maximize the price of the firm's common stock.

Shareholders are the owners of a corporation, and they purchase stocks because they are looking for a financial return. In most cases, shareholders elect directors, who then hire managers to run the corporation on a day-to-day basis. Since managers are working on behalf of shareholders, it follows that they should pursue policies that enhance shareholder value. Consequently, throughout this book we operate on the assumption that management's primary goal is **stockholder wealth maximization**, which translates into *maximizing the price of the firm's common stock*. Firms do, of course, have other objectives—in particular, the managers who make the actual decisions are interested in their own personal satisfaction, in their employees'

welfare, and in the good of the community and of society at large. Still, for the reasons set forth in the following sections, *stock price maximization is the most important goal for most corporations.*

What types of actions can managers take to maximize the price of a firm's stock? To answer this question, we first need to ask, "What factors determine the price of a company's stock?" While we will address this issue in detail in we can lay out three basic facts here. **(1) Any financial asset**, including a company's stock, is valuable only to the extent that the asset generates cash flows. **(2) The timing of the cash flows matters**—cash received sooner is better, because it can be reinvested to produce additional income. **(3) Investors are generally averse to risk**, so all else equal, they will pay more for a stock whose cash flows are relatively certain than for one with relatively risky cash flows. Because of these three factors, managers can enhance their firms' value (and the stock price) by increasing expected cash flows, speeding them up, and reducing their riskiness.

Within the firm, managers make investment decisions regarding the types of products or services produced, as well as the way goods and services are produced and delivered. Also, managers must decide how to finance the firm—what mix of debt and equity should be used, and what specific types of debt and equity securities should be issued? In addition, the financial manager must decide what percentage of current earnings to pay out as dividends rather than retain and reinvest; this is called the **dividend policy decision**. Each of these investment and financing decisions is likely to affect the level, timing, and riskiness of the firm's cash flows, and therefore the price of its stock. Naturally, managers should make investment and financing decisions designed to maximize the firm's stock price.

Chapter – 2

Financial Analysis and Planning

2.1. Meaning Financial Analysis

Financial analysis (also referred to as financial statement analysis or accounting analysis or Analysis of finance) refers to an assessment of the viability, stability and profitability of a business, sub-business or project. It is performed by professionals who prepare reports using ratios that make use of information taken from financial statements and other reports. These reports are usually presented to top management as one of their bases in making business decisions.

In the words of Myers, “Financial statement analysis is largely a study of relationship among various financial factors in a business as disclosed by a single set of statements and a study of the trends of these factors as shown in a series of statements.” Analysis of financial statements may be compared to x-raying the financial position to diagnose the financial strength and weakness of the business.

Financial analysts often assess the following elements of a firm:

- 1. Profitability** - its ability to earn income and sustain growth in both the short- and long-term. A company's degree of profitability is usually based on the income statement, which reports on the company's results of operations;
- 2. Solvency** - its ability to pay its obligation to creditors and other third parties in the long-term;
- 3. Liquidity** - its ability to maintain positive cash flow, while satisfying immediate obligations;
- 4. Stability** - the firm's ability to remain in business in the long run, without having to sustain significant losses in the conduct of its business. Assessing a company's stability requires the use of the income statement and the balance sheet, as well as other financial and non-financial indicators. etc.

2.1.1. Need of Analysis of Financial Statement

The analysis of financial statement helps the analyst to know the financial information from the financial data contained in the financial statements and to assess the financial health (i.e. strength or weakness) of an enterprise. It also helps to make a forecast for the future which helps us to prepare budgets and estimates. The following are the need for analysis of Financial Statements

1. It helps us to know the reasons for relative changes—either in profitability or in the financial position as a whole.
2. It also helps to know both the short-term liquidity position vis-a-vis working capital position; as also the long-term liquidity and solvency position of a firm.
3. It also highlights the operating efficiency and the present profit-earning capacity of the firm as a whole.
4. High Courts, Supreme Court, Arbitrators also require financial statements to settle various disputed matters.
5. Various financial journal (viz. Bank Bulletins), newspapers etc. also require financial statements for analyzing and scrutinizing the financial position of a firm for the readers.
6. To assess the risk (both financial as well as business) involved with firm.
7. To assess the present earning capacity of the firm for the purpose of inter-firm comparison and thereby to assess the progress or otherwise of the firm

2.1.2. Sources of Financial Data

The sources of financial data includes the mainly the a. Balance Sheet, b. Income Statement, c. Cash Flow Statement

a. Balance Sheet

The balance sheet provides an overview of assets, liabilities and stockholders' equity as a snapshot in time. The date at the top of the balance sheet tells you when the snapshot was taken, which is generally the end of the fiscal year. The balance sheet equation is assets equals liabilities plus stockholders' equity, because assets are paid for with either liabilities, such as debt, or stockholders' equity, such as retained earnings and additional paid-in capital. Assets are listed on the balance sheet in order of liquidity. Liabilities are listed in the order in which they will be paid. Short-term or current liabilities are expected to be paid within the year, while long-term or noncurrent liabilities are debts expected to be paid after one year.

b. Income Statement

Unlike the balance sheet, the income statement covers a range of time, which is a year for annual financial statements and a quarter for quarterly financial statements. The income statement

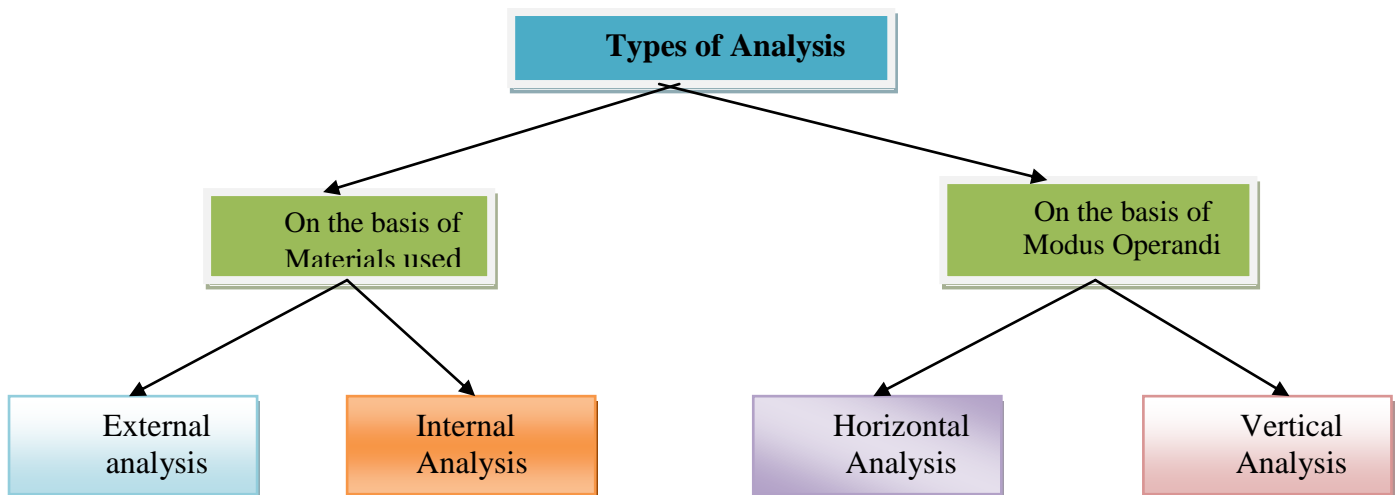
provides an overview of revenues, expenses, net income and earnings per share. It usually provides two to three years of data for comparison.

c. The Statement of Cash flows

The cash flow statement merges the balance sheet and the income statement. Due to accounting convention, net income can fall out of alignment with cash flow. The cash flow *statement reconciles the income statement with the balance sheet in three major business activities*. These activities include **operating, investing and financing activities**. Operating activities include cash flows made from regular business operations. Investing activities include cash flows due to the buying and selling of assets such as real estate and equipment. Financing activities include cash flows from debt and equity. This is where analysts can also find the amount of dividends paid and/or dollar value of shares repurchased.

2.1.3. Approaches of Financial Analysis and Interpretations

Financial analysis is classified on the basis of materials used and modus operandi of the analysis. This is shown below



External analysis

Such type of analysis is made by outsiders who have no access to the books of accounts. They constitute investors, creditors, credit agencies and government agencies. As they don't have access to the books of accounts they have to depend on the published accounts for the purpose of analysis. However, government regulation requiring auditing of accounts has made published accounts more reliable and dependable. As compared to internal analysis, external analysis is not done in detail and hence it serves limited purpose.

Internal Analysis

It is done by those parties in the business who have access to books of account. Such parties can be designated as accountant or financial analyst. Sometimes it can also be done by employees to know the performance of the business. Internal analysis is done in more detail when compared to external analysis.

Horizontal Analysis

When financial analysis is done for number of years, it is known as horizontal analysis. Such analysis sets a trend wherein the figures of various years are compared with one standard year known as base year. Based on the trend prevailing it is possible to make decision and form a rational judgment about the progress of the business. This type of analysis is also known as dynamic analysis as it measures the change of position of the business over a number of years.

Vertical Analysis

When analysis is made for data covering one year's period, it is known as vertical analysis. This type is also known as static analysis as it measures the state of affairs of the business as on given period of time. This type of analysis is useful in comparing the performance of several firms belonging to the same industry or various departments belonging to the same company.

Tools, or Techniques or Methods of Financial Analysis

For analyzing the financial data and interpreting them in a systematic manner and a number of techniques or tools are available. These are as follows:

1. Comparative financial statements
2. Common-size statement analysis.
3. Trend analysis.
4. Average analysis
5. Ratio analysis
6. Fund flow analysis
7. Cash flow analysis

Trend Analysis or Trend Ratios

Trend ratios can be defined as the index numbers of the movements of the various financial items on the financial statement for a number of periods. It is a statistical device applied in the analysis of financial statements to reveal the trend of the items with the passage of time. They are very useful in predicting the behavior of the various financial factors in future. Sometimes trends are significantly affected by external causes over which the organization has no control. Such factors are Government policies, economic conditions, change in income and its distribution etc.

Points to be considered in calculation of trend ratios:

- (a) The accounting principles and practices followed should be constant throughout the period for which analysis is made.
- (b) Trend ratios should be calculated only for items having logical relationship with one another.
- (c) There should be financial statement for a number of years.
- (d) Take one of the statements as the base with reference to which all other statements are to be studied but the selected base statements should belong to a normal year.
- (e) Every item in the base statement should be stated as 100.
- (f) Trend Ratios of each item in other statement is calculated with reference to same item in the base statement by using the following formula.

$\text{Absolute value of item in the state under study} / \text{absolute value of the same item in the base statement} \times 100$

From the following data, calculate trend percentage taking 2015 as base

	2015 (Br)	2016 (Br)	2017 (Br)
Sales	5000	7500	10000
Purchases	4000	6000	7200
Expenses	500	800	1500
Profit	500	700	1300

Statement showing Trend Percentages

	2015 B r .	2016 B r .	2017 B r .	Trend % (base yr 2015)		
				2015	2016	2017
Purchases	4000	6000	7200	100	150	180
Expenses	500	800	1500	100	160	300
Profit	500	700	1300	100	140	260
Sales	5000	7500	10000	100	150	200

Ratio Analyses

In order to understand the importance of ratio analysis in financial analysis, the following short term solvency can be considered

- Current Ratio

- Liquid Ration

Current Ratio

The current ratio is a Liquidity ratio that measures a company's ability to pay short-term and long-term obligations. To gauge this ability, the current ratio considers the current total assets of a company (both liquid and illiquid) relative to that company's current total liabilities. The formula for calculating a company's current ratio is: **Current Ratio = Current Assets / Current Liabilities**

The current ratio is called "current" because, unlike some other liquidity ratios, it incorporates *all current* assets and liabilities. The current ratio is also known as the working capital ratio

Quick Ratio or Liquid Ratio

The liquid ratio, on the other hand, is a liquidity indicator that filters the current ratio by measuring the amount of the most liquid current assets there are to cover current liabilities (you can think of the "quick" part as meaning assets that can be liquidated fast). **The quick ratio, also called the "acid-test ratio," is calculated by adding cash & equivalents, marketable investments and accounts receivables, and dividing that sum by current liabilities.**

For Example:

Your are given the following information: (Values in Birr)

Cash	18000
Debtors	142000
Closing stock	180000
Bills payable	27000
Creditors	50000
Outstanding expenses	15000
Tax Payable	75000

Calculate Current ratio and Liquidity ratio.

Solution

Current Assets : Cash	18000	Current Liabilities:	Bills payable	27000
Debtors	142000		Creditors	50000
Stock	180000		O/S Exp	15000
Total Current Assets	340000		Tax payable	75000
		Total C/Liabilities		167000

Current Ratio = Current Assets/Current Liabilities = 340000/167000 = 2.036

$$\begin{aligned} \text{Liquid Ratio} &= \text{Liquid Assets} / \text{Current Liabilities} \\ \text{Liquid assets} &= \text{Current Assets} - \text{Stock} \\ &= 340000 - 180000 = 160000 \end{aligned}$$

$$\text{Liquid Ratio} = 160000 / 167000 = 0.96$$

2.2 Financial Planning (Forecasting)

Definition of Financial Planning

Financial Planning is the process of estimating the capital required and determining its competition. It is the process of framing financial policies in relation to procurement, investment and administration of funds of an enterprise.

Objectives of Financial Planning

Financial Planning has got many objectives to look forward to:

- a. **Determining capital requirements-** This will depend upon factors like cost of current and fixed assets, promotional expenses and long- range planning. Capital requirements have to be looked with both aspects: short- term and long- term requirements.
- b. **Determining capital structure-** The capital structure is the composition of capital, i.e., the relative kind and proportion of capital required in the business. This includes decisions of debt- equity ratio- both short-term and long- term.
- c. **Framing financial policies** with regards to cash control, lending, borrowings, etc.
- d. A finance manager **ensures that the scarce financial resources are maximally utilized in the best possible manner** at least cost in order to get maximum returns on investment.

2.3. The Financial Planning Process

The financial planning process can be broken down into six steps:

1. **Project financial statements** and use these projections to analyze the effects of the operating plan on projected profits and various financial ratios. The projections can also be used to monitor operations after the plan has been finalized and put into effect. Rapid awareness of deviations from the plan is essential in a good control system, which, in turn, is essential to corporate success in a changing world.
2. **Determine the funds needed to support the five-year plan.** This includes funds for plant and equipment as well as for inventories and receivables, for R&D programs, and for major advertising campaign

3. **Forecast funds availability over the next five years.** This involves estimating the funds to be generated internally as well as those to be obtained from external sources. Any constraints on operating plans imposed by financial restrictions must be incorporated into the plan; constraints include restrictions on the debt ratio, the current ratio, and the coverage ratios.
4. **Establish and maintain a system of controls to govern the allocation and use of funds within the firm.** In essence, this involves making sure that the basic plan is carried out properly.
5. **Develop procedures for adjusting the basic plan if the economic forecasts** upon which the plan was based do not materialize. For example, if the economy turns out to be stronger than was forecasted, then these new conditions must be recognized and reflected in higher production schedules, larger marketing quotas, and the like, and as rapidly as possible. Thus, Step 5 is really a “feedback loop” that triggers modifications to the financial plan.
6. **Establish a performance-based management compensation system.** It is critically important that such a system rewards managers for doing what stockholders want them to do—maximize share prices.

In the remainder of this planning process, we discuss how firms use computerized financial planning models to implement the three key components of the financial plan: (1) the sales forecast, (2) pro forma financial statements, and (3) the external financing plan.

2.4 Sales Forecast – Importance

Sales are the lifeblood of a business. ... **Sales forecasting** is a crucial part of the financial planning of a business. It's a self-assessment tool that uses past and current **sales** statistics to intelligently predict future performance. With an accurate **sales forecast** in hand, you can plan for the future.



Sales are the lifeblood of a business. It's what helps you pay employees, cover operating expenses, buy more inventory, market new products and attract more investors. Sales forecasting is a crucial part of the financial planning of a business. It's a self-assessment tool that uses past and current sales statistics to intelligently predict future performance.

With an accurate sales forecast in hand, **you can plan for the future.** If your sales forecast says that during December you make 30 percent of your yearly sales, then you need to ramp up manufacturing in September to prepare for the rush. It might also be smart to invest in more seasonal salespeople and start a targeted marketing campaign right after Thanksgiving. One simple sales forecast can inform every other aspect of your business

Sales forecasts are also an important part of starting a new business. Almost all new businesses need loans or start-up capital to purchase everything necessary to get off the ground: office space, equipment, inventory, employee salaries and marketing. You can't just walk into a bank with a bright idea and lots of enthusiasm. You need to show them numbers that prove your business is viable. In other words, you need a **business plan.**

A central part of that business plan will be the sales forecast. Since you won't have any past sales numbers to work with, you'll have to do research about related businesses that operate in the same geographical market with a similar customer base. You'll have to make concessions for

the difficulty of starting from scratch, meaning that the first few months will be lean. Then you'll need to convince the bank that your business has fresh ideas that will eventually outsell the competition. All of these ideas need to be expressed as numbers -- losses, profits and sales forecasts that the bank can easily understand.

As your business grows, sales forecasts continue to be an important measurement of your company's health. Wall Street measures the success of a company by how well it meets its quarterly sales forecasts. If a company predicts robust sales in the fourth quarter but only earns half that amount, it's a sign to stockholders that not only is the company performing poorly, but management is clueless. When attracting new investors to a private company, sales forecasts can be used to predict the potential return on investment

The overall effect of accurate sales forecasting is a business that runs more efficiently, saving money on excess inventory, increasing profit and serving its customers better

Chapter – 3

THE TIME VALUE OF MONEY

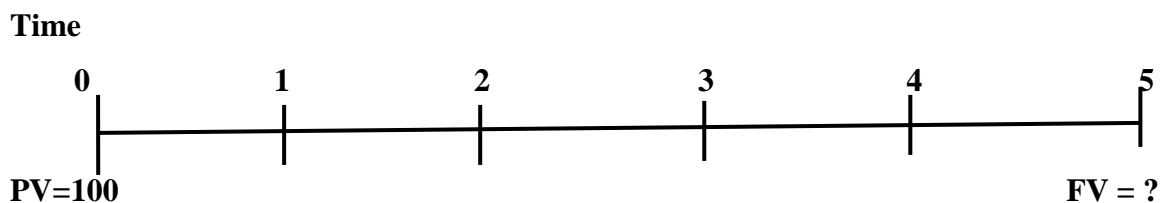
3.1. Concept of Time value of Money

One of the most important tools in time value analysis is the **cash flow time line**, which is used by analysts to help visualize what is happening in a particular problem and then to help set up the problem for solution.

Meaning of cash flow Time Line

“An important tool used in time value of money analysis; it is a graphical representation used to show the timing of cash flows.”

To illustrate the time line concept, consider the following diagram:



Cash Flow

Time 0 is today; Time 1 is one period from today, or the end of Period 1; Time 2 is two periods from today, or the end of Period 2; and so on. Thus, the numbers above the tick marks represent end-of-period values. Often the periods are years, but other time intervals such as semiannual periods, quarters, months, or even days can be used. If each period on the time line

represents a year, the interval from the tick mark corresponding to 0 to the tick mark corresponding to 1 would be Year 1, the interval from 1 to 2 would be Year 2, and so on. Note that each tick mark corresponds to the end of one period as well as the beginning of the next period. In other words, the tick mark at Time 1 represents the *end* of Year 1, and it also represents the *beginning* of Year 2 because Year 1 has just passed.

Cash flows are placed directly below the tick marks, and interest rates are shown directly above the time line. Unknown cash flows, which you are trying to find in the analysis, are indicated by question marks. Here \$ 100 is invested at Time 0, and we want to determine how much this investment will be worth in 5 years if it earns 5 percent interest each year.

3.2. The Future Value (Compounding)

A dollar in hand today is worth more than a dollar to be received in the future because, if you had it now, you could invest it, earn interest, and end up with more than one dollar in the future. The process of going from today's values, or present values (PVs), to future values (FVs) is called **compounding**.

Meaning of Compounding

“The arithmetic process of determining the final value of a cash flow or series of cash flows when compound interest is applied.”

To illustrate,

Suppose you deposit \$100 in a bank that pays 5 percent interest each year. How much would you have at the end of one year? To begin, we define the following terms:

PV = present value, or beginning amount, in your account. Here $PV = \$100$.

i = interest rate the bank pays on the account per year. The interest earned is based on the balance at the beginning of each year, and we assume that it is paid at the end of the year. Here $i = 5\%$, or, expressed as a decimal, $i = 0.05$. Throughout this chapter, we designate the interest rate as i (or I) because that symbol is used on most financial calculators.

INT = dollars of interest you earn during the year = Beginning amount $\times i$. Here $INT = \$100(0.05) = \5 .

FV $_n$ = future value, or ending amount, of your account at the end of n years. Whereas PV is the value now, or the *present value*, FV $_n$ is the value n years into the *future*, after the interest earned has been added to the account.

N = number of periods involved in the analysis. Here $n = 1$.

In our example, $n = 1$, so FV_n can be calculated as follows:

$$\begin{aligned} FV_n &= FV_1 = PV + INT \\ &= PV + PV(i) \\ &= PV(1 + i) \\ &= \$100(1 + 0.05) = \$100(1.05) = \$105. \end{aligned}$$

Thus, the **future value (FV)** at the end of one year, FV_1 , equals the present value multiplied by 1 plus the interest rate, so you will have \$105 after one year.

Meaning of Future Value (FV)

“The amount to which a cash flow or series of cash flows will grow over a given period of time when compounded at a given interest”

What would you end up with if you left your \$100 in the account for five years? Here is a time line set up to show the amount at the end of each year:

	0	1	2	3	4	5
		5%				
Initial Deposit	-100					
Interest Earned:		5.00	5.25	5.51	5.79	6.08
Amount at the end of						
Each period = FV_n		105.00	110.25	115.76	121.55	127.63
		$FV_1 = ?$	$FV_2 = ?$	$FV_3 = ?$	$FV_4 = ?$	$FV_5 = ?$

Note the following points:

- (1) You start by depositing \$100 in the account— this is shown as an outflow at $t = 0$.
- (2) You earn $\$100(0.05) = \5 of interest during the first year, so the amount at the end of Year 1 (or $t = 1$) is $\$100 + \$5 = \$105$.
- (3) You start the second year with \$105, earn \$5.25 on the now larger amount, and end the second year with \$110.25. Your interest during Year 2, \$5.25, is higher than the first year’s interest, \$5, because you earned $\$5(0.05) = \0.25 interest on the first year’s interest.
- (4) This process continues, and because the beginning balance is higher in each succeeding year, the annual interest earned increases.
- (5) The total interest earned, \$27.63, is reflected in the final balance at $t = 5$, \$127.63.

Note that the value at the end of Year 2, \$110.25, is equal to

$$\begin{aligned} FV_2 &= FV_1(1 + i) \\ &= PV(1 + i)(1 + i) \\ &= PV(1 + i)^2 \\ &= \$100(1.05)^2 = \$110.25. \end{aligned}$$

Continuing, the balance at the end of Year 3 is

$$\begin{aligned}
 FV_3 &= FV_2(1 + i) \\
 &= PV(1 + i)^3 \\
 &= \$100(1.05)^3 = \$115.76,
 \end{aligned}$$

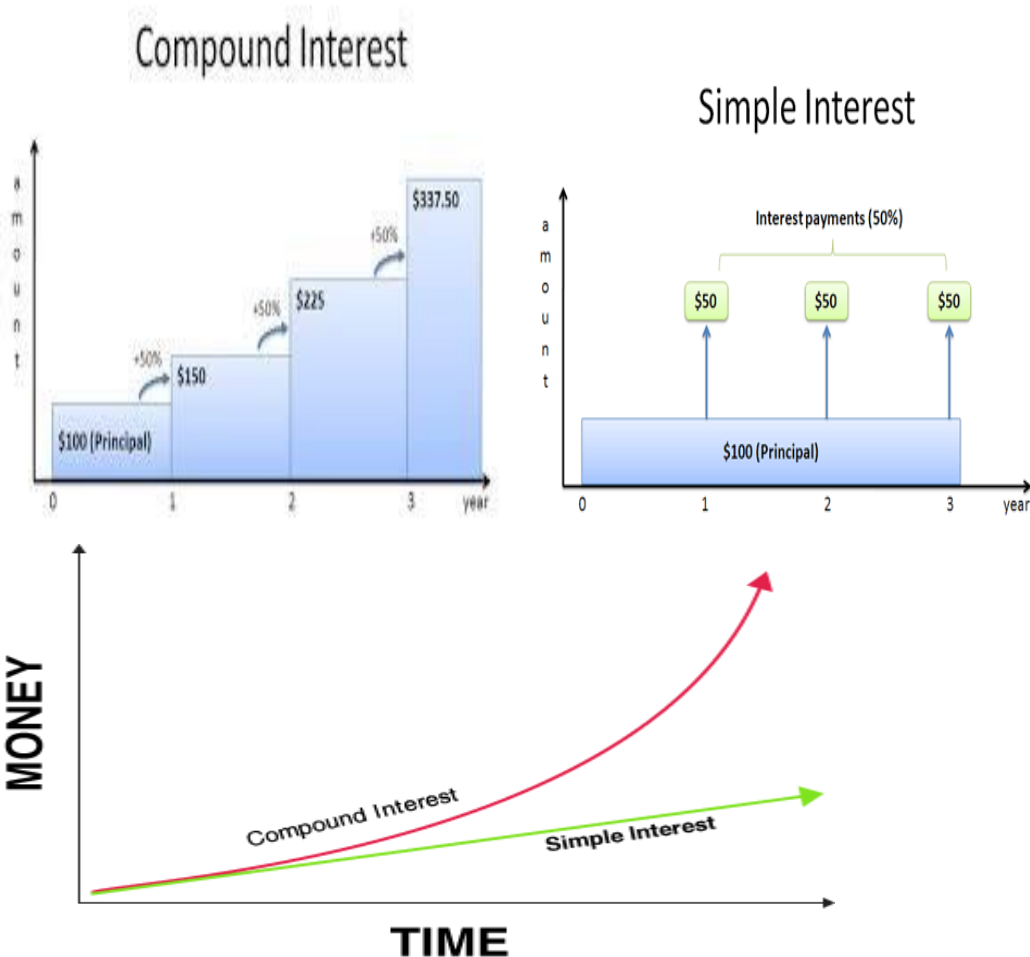
And

$$FV_5 = \$100(1.05)^5 = \$127.63.$$

In general, the future value of an initial lump sum at the end of n years can be found by applying the following Equation

$$FV_n = PV(1 + i)^n.$$

Graphic view of Compounding Principle



3.3 The present value (Discounting)

Suppose you have some extra cash, and you have a chance to buy a low-risk security that will pay \$127.63 at the end of five years. Your local bank is currently offering 5 percent interest on

five-year certificates of deposit (CDs), and you regard the security as being exactly as safe as a CD. The 5 percent rate is defined as your **opportunity cost rate**, or the rate of return you could earn on an alternative investment of similar risk.

Meaning of Opportunity Cost Rate

“The rate of return on the best available alternative investment of equal risk”

How much should you be willing to pay for the security?

From the future value example presented in the previous section, we saw that an initial amount of \$100 invested at 5 percent per year would be worth \$127.63 at the end of five years. As we will see in a moment, you should be indifferent between \$100 today and \$127.63 at the end of five years. The \$100 is defined as the **present value**, or **PV**, of \$127.63 due in five years when the opportunity cost rate is 5 percent.

Meaning of Present Value (PV)

“The value today of a future cash flow or series of cash flows.”

If the price of the security were less than \$100, you should buy it, because its price would then be less than the \$100 you would have to spend on a similar-risk alternative to end up with \$127.63 after five years. **Conversely, if the security cost more than \$100**, you should not buy it, because you would have to invest only \$100 in a similar risk alternative to end up with \$127.63 after five years. **If the price were exactly \$100**, then you should be indifferent—you could either buy the security or turn it down. Therefore, \$100 is defined as the security’s **fair, or equilibrium, value**.

Meaning of Fair (Equilibrium) Value

“The price at which investors are indifferent between buying or selling a security.”

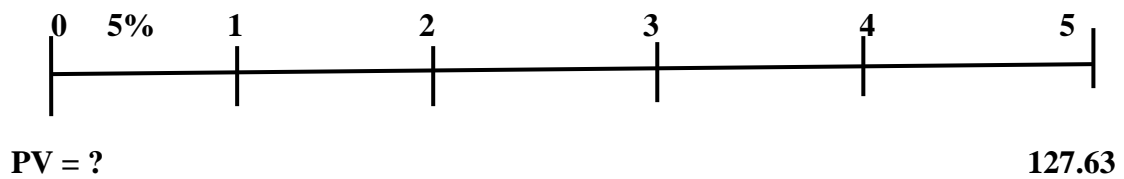
In general, *the present value of a cash flow due n years in the future is the amount which, if it were on hand today, would grow to equal the future amount.* Since \$100 would grow to \$127.63 in five years at a 5 percent interest rate, \$100 is the present value of \$127.63 due in five years when the opportunity cost rate is 5 percent.

Meaning of Discounting

“The process of finding the present value of a cash flow or a series of cash flows; discounting is the reverse of compounding.”

Finding present values is called **discounting**, and it is simply the reverse of compounding—if you know the PV, you can compound to find the FV, while if you know the FV, you can discount to find the PV. When discounting, you would follow these steps:

Time Line:



Equation:

To develop the discounting equation, we begin with the future value equation,

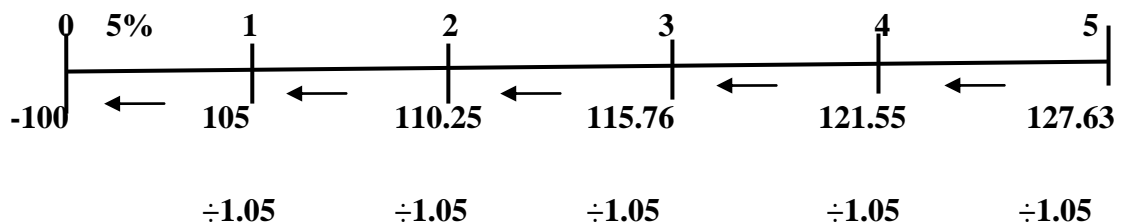
$$FV_n = PV(1 + i)^n = PV(FVIF_{i,n}).$$

Next, we solve it for PV in several equivalent forms:

$$PV = FV_n / (1 + i)^n = FV_n [1/(1+i)]^n = FV_n (PVIF_{i,n})$$

The last form of equation recognizes that the interest factor $PVIF_{i,n}$ is equal to the term in parentheses in the second version of the equation.

Numerical Solution



Divide \$127.63 by 1.05 five times, or by $(1.05)^5$, to find $PV = \$100$.

Tabular Solution

The term in parentheses in Equation is called the **Present Value Interest Factor for i and n**, or **$PVIF_{i,n}$** .

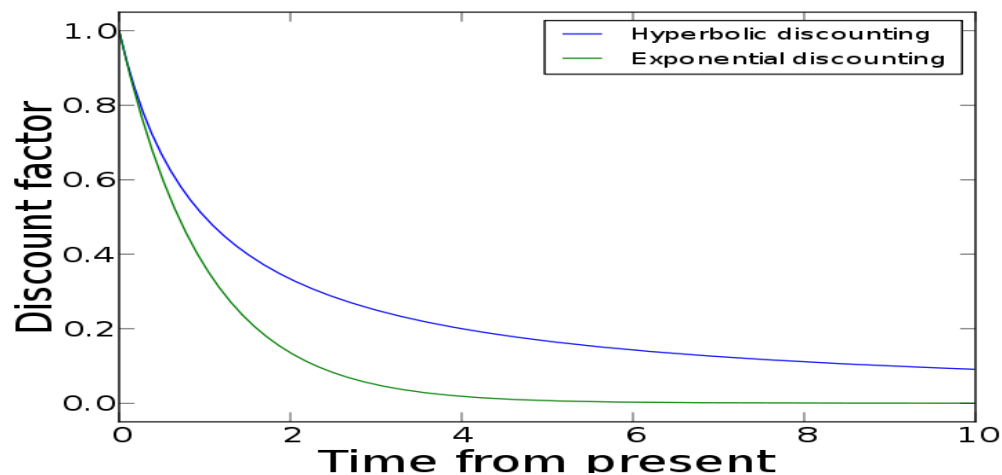
Meaning Present Value Interest Factor for i and n ($PVIF_{i,n}$)

“The present value of \$1 due n periods in the future discounted at i percent per period”.

The value of $PVIF_{i,n}$ for $i = 5\%$ and $n = 5$ is 0.7835, so the present value of \$127.63 to be received after five years when the appropriate interest rate is 5 percent is \$100:

$$PV = \$127.63(PVIF_{5\%,5}) = \$127.63(0.7835) = \$100.$$

Graphical view of Discounting Process



Hyperbolic discounting refers to the tendency for people to increasingly choose a smaller-sooner reward over a larger-later reward as the delay occurs sooner rather than later in time.

In economics **exponential discounting** is a specific form of the **discount** function, used in the analysis of choice over time (with or without uncertainty). Formally, **exponential discounting** occurs when total utility is given by.

CHAPTER – 5 CAPITAL BUDGETING DECISIONS

Introduction

The **investment decisions** of a firm are generally known as the **capital budgeting, or capital expenditure decisions**. The firm's investment decisions would generally include **expansion, acquisition, modernisation** and **replacement** of the long-term assets. Sale of a division or business (**divestment**) is also as an investment decision.

Meaning and Features

A capital budgeting decision may be defined as the firm's decision to invest its current funds most efficiently in the long-term assets in anticipation of an expected flow of benefits over a series of years. It has the following features

1. The exchange of current funds for future benefits.
2. The funds are invested in long-term assets.
3. The future benefits will occur to the firm over a series of years.

Importance of Capital Budgeting

Investment decisions require special attention because of the following reasons.

1. They influence the firm's growth and profitability in the long run
2. They affect the risk of the firm
3. They involve commitment of large amount of funds
4. They are irreversible, or reversible at substantial loss
5. They are among the most difficult decisions to make.

Evaluation criteria in Capital Budgeting

Three steps are involved in the evaluation of an investment:

1. Estimation of cash flows
2. Estimation of the required rate of return (the opportunity cost of capital)
3. Application of a decision rule for making the choice

Investment Analysing Tools

Discounted Cash Flow (DCF) Criteria

- a. Net Present Value (NPV)
- b. Internal Rate of Return (IRR)
- c. Profitability Index (PI)

. Non-discounted Cash Flow Criteria (Traditional Methods)

- d. Payback Period (PB)
- e. Discounted payback period (DPB)
- f. Accounting Rate of Return (ARR)

Time value of Money and Capital Budgeting Tools

- The time value of money is based on the premise that the value of money changes because of investment opportunities available to investors. Hence, Rs 100 today is not same as Rs 100 after one year.
- The capital budgeting methods that are based on the time value of money are called

discounted cash flow (DCF) Criteria. They include two methods: (1) Net Present Value (NPV) and (2) Internal Rate of Return (IRR). Profitability Index (PI), a variant of NPV method, also a DCF technique.

- Non-DCF techniques are not able to differentiate between cash flows occurring in different time periods. They not focus on value, and hence, they violate the principle of the shareholder wealth maximisation.

Net Present Value Method

- Cash flows of the investment project should be forecasted based on realistic assumptions.
- Appropriate discount rate should be identified to discount the forecasted cash flows.
- Present value of cash flows should be calculated using the opportunity cost of capital as the discount rate.
- Net present value should be found out by subtracting present value of cash outflows from present value of cash inflows. The project should be accepted if NPV is positive (i.e., $NPV > 0$).

Computation of NPV

The formula for the net present value can be written as follows:

$$NPV = \left[\frac{C_1}{(1+k)} + \frac{C_2}{(1+k)^2} + \frac{C_3}{(1+k)^3} + \dots + \frac{C_n}{(1+k)^n} \right] - C_0$$

$$NPV = \sum_{t=1}^n \frac{C_t}{(1+k)^t} - C_0$$

Exercise

Assume that Project X costs Br 2,500 now and is expected to generate year-end cash inflows of Br. 900, Br 800, Br 700, Br 600 and Br 500 in years 1 through 5. The opportunity cost of the capital may be assumed to be 10 per cent.

$$\begin{aligned}
 NPV &= \frac{Rs\ 900}{(1+0.10)^1} + \frac{Rs\ 800}{(1+0.10)^2} + \frac{Rs\ 700}{(1+0.10)^3} + \frac{Rs\ 600}{(1+0.10)^4} \\
 &\quad + \frac{Rs\ 500}{(1+0.10)^5} - Rs\ 2,500 \\
 &= [Rs\ 900(PVF_{1,0.10}) + Rs\ 800(PVF_{2,0.10}) + Rs\ 700(PVF_{3,0.10}) \\
 &\quad + Rs\ 600(PVF_{4,0.10}) + Rs\ 500(PVF_{5,0.10})] - Rs\ 2,500 \\
 &= [Rs\ 900 \times 0.909 + Rs\ 800 \times 0.826 + Rs\ 700 \times 0.751 \\
 &\quad + Rs\ 600 \times 0.683 + Rs\ 500 \times 0.620] - Rs\ 2,500 \\
 &= Rs\ 2,725 - Rs\ 2,500 = +Rs\ 225
 \end{aligned}$$

Why NPV is Important?

- Positive net present value of an investment represents the maximum amount a firm would be ready to pay for purchasing the opportunity of making investment, or the amount at which the firm would be willing to sell the right to invest without being financially worse-off.
- The net present value can also be interpreted to represent the amount the firm could raise at the required rate of return, in addition to the initial cash outlay, to distribute immediately to its shareholders and by the end of the projects' life, to have paid off all the capital raised and return on it.

Acceptance Rule

- a) Accept the project when NPV is positive $NPV > 0$
- b) Reject the project when NPV is negative $NPV < 0$
- c) May accept the project when NPV is zero $NPV = 0$

The NPV method can be used to select between mutually exclusive projects; the one with the higher NPV should be selected.

Evaluation of NPV Method

NPV is most acceptable investment rule for the following reasons:

- Time value
- Measure of true profitability
- Value-additivity
- Shareholder value

Limitations of NPV Method

- Involved cash flow estimation
- Discount rate difficult to determine
- Mutually exclusive projects
- Ranking of projects

Payback Period Method

Payback is the number of years required to recover the original cash outlay invested in a project. If the project generates constant annual cash inflows, the payback period can be computed by dividing cash outlay by the annual cash inflow. That is:

$$\text{Payback} = \frac{\text{Initial Investment}}{\text{Annual Cash Inflow}} = \frac{C_0}{C}$$

For example:

Assume that a project requires an outlay of Br 50,000 and yields annual cash inflow of Br 12,500 for 7 years. The payback period for the project is:

$$\text{PB} = \frac{\text{Rs } 50,000}{\text{Rs } 12,000} = 4 \text{ years}$$

Unequal cash flows:

In case of unequal cash inflows, the payback period can be found out by adding up the cash inflows until the total is equal to the initial cash outlay.

For example:

Suppose that a project requires a cash outlay of Br 20,000, and generates cash inflows of Br 8,000; Br 7,000; Br 4,000; and Br 3,000 during the next 4 years. What is the project's payback?

$$3 \text{ years} + 12 \times (1,000/3,000) \text{ 12 months}$$

$$3 \text{ years} + 4 \text{ months}$$

Accepting Rule

- The project would be accepted if its payback period is less than the maximum or **standard payback** period set by management.
- As a ranking method, it gives highest ranking to the project, which has the shortest payback period and lowest ranking to the project with highest payback period.

Importance of Payback Period Method

1. **Simplicity.** Payback is simple to understand and easy to calculate. The business executives consider the simplicity of method as a virtue. This is evident from their heavy reliance on it for appraising investment proposals in practice.
2. **Cost effective.** Payback method costs less than most of the sophisticated techniques that require a lot of the analysts' time and the use of computers.
3. **Short-term effects.** A company can have more favourable short-run effects on earnings per share by setting up a shorter standard payback period. It should,

however, be remembered that this may not be a wise long-term policy as the company may have to sacrifice its future growth for current earnings.

4. **Risk shield.** The risk of the project can be tackled by having a shorter standard payback period as it may ensure guarantee against loss. A company has to invest in many projects where the cash inflows and life expectancies are highly uncertain. Under such circumstances, payback may become important, not so much as a measure of profitability but as a means of establishing an upper bound on the acceptable degree of risk.
5. **Liquidity:** The emphasis in payback is on the early recovery of the investment. Thus, it gives an insight into the liquidity of the project. The funds so released can be put to other uses.

Chapter – 6

Long Term of Financing

Introduction to Capital Market

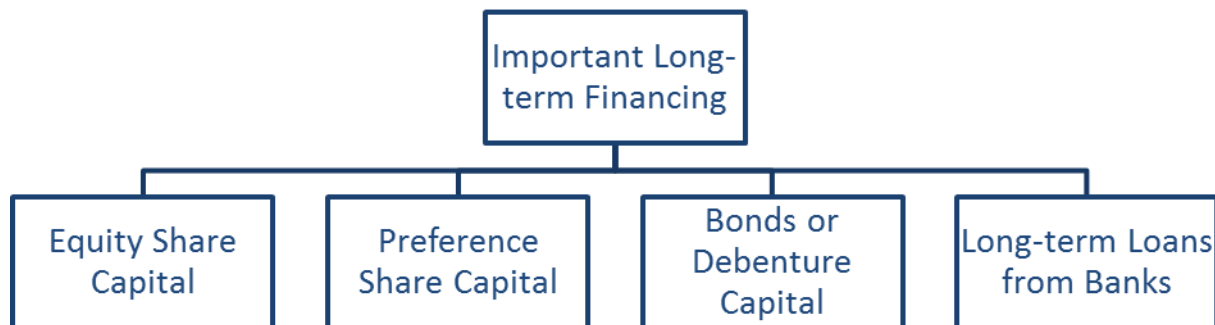
A **capital market** is a Financial Market in which long-term Debt or Equity - backed Securities are bought and sold. There are two types of market viz., primary market and secondary market. In primary markets, new stock or bond issues are sold to investors, often via a mechanism known as Underwriting. In the secondary markets, existing securities are sold and bought among investors or traders, usually on stock exchange, over-the -counter, or elsewhere.

Meaning of Public issue

In a capital market, company can borrow funds from primary market by way of public issue of shares and debentures. ...

Long term financing

The important sources of long term financing are presented in the diagram



Ordinary Shares

Ordinary shares (called common stocks in USA) are important securities used by the firms to raise funds to finance their activities. Ordinary shares provide ownership rights to ordinary shareholders. They are legal owners of the company. As a result, they have residual claims on income and assets of the company. They have the right to elect directors and maintain their proportionate ownership in the company, i.e., preemptive right.

Ordinary shares represent the ownership position in a company. The shareholders are legal owners of the company. Ordinary shares are also known as variable income securities (the rate of dividend is not fixed and not committed). It is a source of permanent capital.

Advantages of ordinary shares are as follows:

1. It is a permanent capital, as they do not have maturity date.
2. It increases the base of the firm, and thus increases its borrowing limits.
3. A company is not legally bound to pay dividend. When the profits are insufficient or firm have need of funds for investment in profitable opportunities, it can reduce or suspend payment of dividend.

Limitations of ordinary shares are as follows:

1. The control of the corporate is affected by the issuance of equity shares.
2. The exclusive use of ordinary shares as a medium of capital eliminates the advantages likely to accrue from the policy of trading on equity.
3. Individual and institutional investor cannot purchase equity shares because of choice or legal restrictions.
4. The excessive use of equity shares may result in over capitalization in future when the earning capacity of the firm fails to raise up to the desired level of equity providers.
5. Ordinary shares are riskier from investors' point of view as there is uncertainty regarding dividend and capital gains.

Residual Claim on Ordinary Shares

The ordinary shareholders have a claim to the residual income; i.e., earnings available for equity shareholders after satisfying all providers of funds. This income may be split into two parts, i.e., dividends and retained earnings. Residual income is either directly distributed in the form of dividend or indirectly in the form of capital gains (retained earnings reinvested, enhance the earnings of the firm in future). Dividends are payable based on discretion of company's board of directors. Thus, ordinary share is a risky security from the investors' point of view.

Preference Shares

Preference shares and debentures are also important securities used by firm to raise funds to finance their activities. Preference shareholders are also legal owners of the company, but they have the claim over assets of the firm before the claim of equity shares settled. They also have the right to have fixed dividend if company decides to pay, before on equity shares.

The advantages of preference shares to the company are as follows:

- 1) It provides financial leverage advantage since preference dividend is a

fixed and non-committed obligation. The non-payment of preference dividend does not threaten the life of the company.

- 2) It provides some financial flexibility to the company since company can postpone dividend payment.
- 3) The preference dividend payments are restricted to the stated amount. The preference shareholders' do not participate in excess profits of the company.
- 4) Preference shareholders do not have any voting rights except in case dividend arrears exist.

The following are the limitations of preference shares:

- 1) The preference dividend is no tax-admissible expenses as do interest on debenture. So, it is costlier than debentures.
- 2) Although preference dividend can be omitted, they may have to be paid because of their cumulative nature. Non-payments of preference dividend adversely affect the image of the company. Thus, in future, it is quite difficult for the company to raise funds.

Debentures

A debenture is a long term promissory note for raising loan capital. The purchaser of debenture is called debenture holder. Debenture holder is the creditor of the firm.

The important features of debentures are enumerated as under:

- a. It is a long term, fixed income financial security.
- b. The contractual rate of interest is fixed and known. It indicates the percentage of par value of the debentures that will be paid, non-cumulatively - annually, semi-annually or quarterly; cumulatively - along with principal on maturity.
- c. Debentures are issued for a specific period of time, and on maturity date redeemed by company.
- d. Debenture issues may include buy-back provision. Buy-back provisions enable the company to redeem debentures at specified price before maturity date.
- e. Debentures are either secured (by alien on company's specific assets) or unsecured.

- f. The yield on a debenture is related to its market price; therefore, it could be different from the coupon rate of interest. Hence,

$$\text{Yield} = \frac{\text{Annual Interest}}{\text{Market Price}}$$

- g. An indenture or debenture trust deed is a legal agreement between the company issuing debentures and the debenture trustee who represents the debenture holders.

Debenture has a number of advantages as long term sources of finance:

- 1) It involves less cost to the firm than the equity finance because investors expect lower rate of return, and interest payments are tax-deductible.
- 2) Debenture issue does not cause dilution of ownership control by company's present management.
- 3) There is a certainty of finance for specified period.
- 4) By issuing debentures company gets an opportunity to trading on equity.
- 5) The debentures may be issued out of necessity. In such a situation, it may be compelled to mortgage assets to raise funds.
- 6) During the periods of inflation, debenture issue benefits the company. Its obligation of paying interest and principal which are fixed decline in real terms.

Debentures have some limitations like.

- 1) A company with highly fluctuating earnings takes a great risk by issuing debentures which may entail a great strain on its resources, and company may face the consequences of liquidation.
- 2) It increases the financial leverage, which may be disadvantageous for firms which have fluctuating sales and earnings.
- 3) Debentures must be paid on maturity, so it involves substantial cash outflows at some point.
- 4) Debenture indenture may contain restrictive covenants which may limit the company's operating flexibility in future.

Term Loans

Term loans are loans for more than a year maturity. Generally, in India, they are available for a period of 6 to 10 years. In some cases, the maturity could be as long as 25 years. Interest on term loans is tax-deductible. Mostly, term loans are secured through an equitable mortgage on immovable assets. Term loans secured specifically by the assets acquired using the term loan funds, is called primary security. Term loans are also generally secured by the company's current and future assets. This is called secondary or collateral security. In addition to asset security, lender like financial institutions (FIs), add a number of restrictive covenants (asset related, liability related, cash flow related and/or control related) to protect itself further. FIs in India are normally insisting on the option of converting loans into equity, and specify the repayment schedule at the time of entering into loan agreement (in principle) with borrower.

Difference between Term Loan and Debentures

The term loans and debentures both represent long term debt with a maturity more than one year. Both have contractual rate of interest. Term loans are always secured by way of mortgage on assets of the firm, while the debentures may be secured or unsecured. The interest expenses are tax-deductible expense. Both provide the benefit of trading on equity to the shareholders. Debenture holders do not have voting rights; therefore; debenture issue does not cause dilution of ownership. Term loans directly do not cause dilution of ownership, but they impose some restrictive covenants on working of the firm, so the decision making freedom of board of directors reduces to that extent. Debenture and term loan both result in legal obligation of payment of interest and principal; if not paid, the lenders can force the company into liquidation. Both increase the financial leverage, which may particularly be disadvantageous to those firms which have fluctuating sales and earnings.