ACCOUNTING FOR INVESTMENTS

VOLUME 2

FIXED INCOME SECURITIES AND INTEREST RATE DERIVATIVES A PRACTITIONER'S GUIDE

R. VENKATA SUBRAMANI

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John Wiley & Sons, (Asia) Pte. Ltd.

Published in 2011 by John Wiley & Sons (Asia) Pte. Ltd.
1 Fusionopolis Walk, #07–01, Solaris South Tower, Singapore 138628

Other Wiley Editorial Offices

John Wiley & Sons, 111 River Street, Hoboken, NJ 07030, USA
John Wiley & Sons, The Atrium, Southern Gate, Chichester, West Sussex, P019 8SQ, United Kingdom
John Wiley & Sons (Canada) Ltd., 5353 Dundas Street West, Suite 400, Toronto, Ontario, M9B 6HB, Canada
John Wiley & Sons Australia Ltd., 42 McDougall Street, Milton, Queensland 4064, Australia
Wiley-VCH, Boschstrasse 12, D-69469 Weinheim, Germany

Library of Congress Cataloging-in-Publication Data

ISBN 978–0–470–82591–4 (Hardback)
ISBN 978–0–470–82904–2 (ePDF)
ISBN 978–0–470–82903–5 (Mobi)
ISBN 978–0–470–82905–9 (ePub)

Typeset in 10/12.5pt Minion Pro by MPS Limited, a Macmillan Company, Chennai, India
Printed in Singapore by Toppan Security Printing Pte. Ltd.
10 9 8 7 6 5 4 3 2 1

This book is dedicated to my parents,
my wife and my daughter

Contents

Foreword

This is the second volume in the series of books on the subject "Accounting for Investments" authored by R. Venkata Subramani. This volume deals with the financial instruments in the nature of fixed income securities and interest rate derivatives such as interest rate swaps, caps, floors, collars, reverse collars and cross currency swaps. The comprehensiveness of the coverage is apparent from the fact that the author has meticulously dealt with the accounting treatment, presentation and disclosure aspects related to the fixed income securities and interest rate derivatives by any entity dealing with such financial instruments.

Subramani is an expert in the finance field with hands on experience in the treatment of various financial instruments for about two decades. He is also a techno-savvy professional and therefore quite conversant with the manner in which the transactions are executed in the globalised scenario. Being a Chartered Accountant who has passion to comprehend and apply Accounting Standards, he has analysed the accounting aspects in the context of the US GAAP and IFRS. Wherever considered appropriate, he has indicated the similarities and differences between the US GAAP and IFRS.

The methodical way in which the subject matter is covered with appropriate illustrations indicating the relevant entries to be passed referring to each step in the respective transactions is bound to guide and enlighten the readers practically. The lucid style adopted in authoring this book is sure to communicate the nuances and intricacies with absolute clarity. The book has systematically captured all the workings to the smallest detail as to how figures have been arrived at in each example given. The special feature of this book is that for every category of fixed income securities, the author has taken care to reflect the accounting entries to be passed at various stages in the entire trade life cycle of such instruments.

The significance of the financial instruments in the corporate world cannot be undermined. Equally important is the proper accounting, presenting and disclosing the transactions related to the financial instruments. In the present day scenario, transparency, accuracy and accountability are perceived by the stakeholders to be of paramount importance. This book will go a long way in facilitating proper accounting and reporting of financial instrument related transactions same as the Volume 1 of the same series. This Volume 2 would be a meaningful addition to the library of all the corporates, accountants, academicians and students of finance for ready reference and guidance on the contents.

T.N. Manoharan
Padmashri awardee
Former President, The Institute of Chartered Accountants of India
Chennai
March 2011

Introduction

The last decade has been one of constant changes in theory and practice in the economic sphere. The decade has also been one where significant changes in the thinking and organization of control structure in the financial sector have taken place, where regulatory functions hitherto exercised by the State have been gradually but certainly passed on to statutory supervisory bodies which have been established as independent operators. All these have brought about exciting times with new and fresh research in the financial sector leading to the adoption of new structures and products. It is the financial sector that has, in the recent years, shown phenomenal growth. This has led to very important changes in the thinking and adoption of practices in the commercial world.

Changes in accounting theory and practices have not been ignored by these developments. Globalization which has led to a breakdown in the geographical barriers has led to a free movement of resources, capital, manpower and ideas. Such measures have brought about a serious relook at aligning the accounting theory and practices to global prescriptions and practices, though there are still some areas of discussion pending even amongst the western experts on principles.

The unprecedented growth in the financial sector has called for not only an adoption of changed accounting standards and principles but also has brought about the creation and adoption of financial instruments that are continuously appraised and fine-tuned based on experiences of the accounting fraternity and also other users of these instruments. Such measures attempt to bring about accounting models that are reflective of the present day demands by plugging inherent gaps and inconsistencies in the current complex economic environment. We are still in a formative and experimental stage and one does not know for certain that what we adopt now will really stand the test of time and prove to be adequate to meet the exacting demands of the future. We are still based on the hope that future changes may not vitally affect our current practices.

It is in this background that one should view the efforts of R. Venkata Subramani in bringing out literature on the new areas that get highlighted because of a change in the perspectives. I am informed that the author would be bringing out a set of four volumes—all connected with the various types of financial products that are currently available. It is encouraging to note that this professional accountant has decided to share his scholarship and expertise with others by authoring such illuminating and scholarly treaties. The book written in a very simple, straight and candid manner presupposes a basic knowledge and awareness of the current practices prevalent in this field on the part of the reader. The efforts of the author in bringing out such a cluster of books is not only welcome but should be appreciated in a situation where such books are not that freely available.

The present book, *Accounting for Investments Volume 2—Fixed Income Securities and Interest Rate Derivatives*, covers an important area on a subject that often confuses and misleads the thinking and behavior of even tested practitioners. Subjects such as swaps, caps, floors, and collars etc., which are currently extensively popular, are dealt in the book in a very facile manner to impart education to both a novice and a professional alike.

What is very significant in the treatment of the subject in the book is that each instrument has been treated very comprehensively—its full life cycle right from its inception to its closure or redemption has been thoroughly explained and treated in a very simple, straight and lucid manner. Accounting entries that are called for at each of the stages have been fully recorded and explained in the book that makes it of great value and importance. The treatise also covers the requirements of presentation and disclosure.

I find that the author's approach to the subject and its treatment in the book is very practical. His efforts are to be lauded. This work satisfies the requirements of the modern accounting theory and practices that are assuming importance.

I have no doubt that the book will be one that will be welcomed by the experts in the field of finance and will also be ideally satisfying the needs of the academic and the profession. The author deserves our appreciation for his intellectual ability, clarity of thought, facile expression and above all simplicity that pervades the entire work. I along with all others will await the release and publication of the other two books on connected subjects to the present one to make the literature comprehensive and complete.

My sincere appreciation is to the author for a job well done.

N. Rangachary
Retired Chairman
Central Board of Direct Taxes, New Delhi,
Government of India
Insurance Regulatory and Development Authority, Hyderabad

Preface

Accounting for Investments—Fixed Income Securities and Interest Rate Derivatives is the second volume of the *Accounting for Investments* series. This volume covers the financial instruments of fixed income securities and interest rate derivatives viz. interest rate swaps, caps, floors, collars, reverse collars and cross-currency swaps. As in the first volume, this book provides an exhaustive treatment of accounting, presentation and disclosure aspects of any entity dealing with such financial instruments.

Since the break out of a severe financial crisis, which started in 2008 and virtually crippled the world economy, the regulatory authorities including the accounting standard setters have been on their toes and, thanks to their tireless efforts, a substantial addition to the knowledge of accounting has been made along with a thorough overhaul of the accounting standards relating to financial instruments. The good news is that the seat of accounting standard setting authorities on both sides of the Atlantic are now speaking in a singular voice despite some lag in the implementation timeline. This means that very soon there will be a "convergence" in spirit of the world's top two standards, although it may take a little longer before we see a single converged standard in letter.

Never in the past have we seen such rapid succession of accounting standards issued on financial instruments continuously being revised and fine-tuned, based on input received from the accounting fraternity and other users of financial statements across the globe. While these measures are an attempt to bring about a better accounting model by plugging the inherent gaps and inconsistencies in today's complex economic environment, no one can say for sure whether these changes would prevent such occurrence of financial crises in the future. Nevertheless, it is a good development and this book captures the changes that have already been announced irrespective of the actual date of implementation, and other key proposals in the exposure draft stage are also considered at the appropriate places.

This book assumes that the reader already has basic accounting knowledge. Those who are entirely new to the field of accounting should refer to some basic accounting books before attempting this one. It might be useful to have some basic orientation on accounting for investments, especially plain derivatives on equity instruments like equity futures and equity options to understand better the concepts given in this volume. However, it is not a must and the reader can easily grasp the essentials as this volume is meant to be self-sufficient in dealing with basic accounting concepts in so far as it relates to the particular financial instrument under review.

The entire trade life cycle of each financial instrument is covered in detail from the accounting perspective. For each illustration, the accounting journal entries, general ledger accounts, trial balances, income statements and balance sheets are presented to give a complete understanding of the accounting treatment. Also, for all calculated numbers the details of such calculations are given. The presentation and disclosure requirements for these financial instruments are given separately

in an exclusive chapter and are not given as part of each illustration and solution to the worked out problems in this book.

While an overview of the trade life cycle for each financial instrument is given, the readers are advised to refer other resources for a detailed treatment on the trade life cycle from the front office and middle office perspective. The trade life cycle in so far as it relates to the back office viz. the accounting aspects are covered in detail with appropriate reference to the GAAP or IFRS requirements. For each financial instrument, the relevant accounting standards that are applicable are given and wherever necessary a comparison showing the similarities and differences between the US GAAP and IFRS is also provided.

CHAPTER ARRANGEMENT

Chapter 1: Fixed Income Securities—Theory—This chapter gives some basics of fixed income securities, basics of bond markets, types of issues and special characteristics, bond coupons, bond maturity, bond pricing, yield measures, duration and certain types of bonds like municipal bonds, corporate bonds, risks of investment in bonds and so on.

Chapter 2: Fixed Income Securities—Fair Value through Profit or Loss—This chapter covers the accounting for fixed income securities held for trading purposes. After explaining the meaning and definition of fixed income securities, an overview of the categories of financial instruments is given along with the recent changes contemplated by the accounting standard IFRS 9. The explanation of fair value through profit or loss is given with the circumstances in which the designation at fair value through profit or loss on initial recognition is allowed. Fair value concepts and the measurement hierarchy of fair value as per the accounting standard are explained here.

The trade life cycle for fixed income securities held as trading securities is given with the accounting entries to be passed at various stages. Illustrations cover fixed income securities in the functional currency of USD held for trading purposes.

Distinctions between FX revaluation and FX translation are given in great detail along with the explanation of functional currency, foreign currency and presentation currency and the requirements of accounting standards in this regard. Another illustration covers bonds in AUD with the functional currency of USD explaining the FX revaluation and FX translation processes.

Chapter 3: Fixed Income Securities—Available-for-sale—This chapter covers the accounting for bonds that are held as available-for-sale. Amendments made through IFRS 9 that impacts this category is explained. FX translation on available-for-sale securities calls for some special treatment, which is explained in this chapter.

The trade life cycle for bonds classified as available-for-sale securities is given with the accounting entries to be passed at various stages. One illustration covers equity shares in the functional currency of USD held as available-for-sale; one more illustration is given in a foreign currency with FX translation into the functional currency of USD.

Chapter 4: Fixed Income Securities—Held-to-Maturity—This chapter covers the accounting for bonds that are classified as held-to-maturity. Meaning of securities classified as held-to-maturity is discussed. Tainting rules along with exceptions are given. However, tainting rules are dispensed with in light of the recent changes made to this category. Similar changes are also proposed by the FASB. The concept of effective interest rates is then explained. Impairment provisions relating to amortized cost category is covered in this chapter.

The trade life cycle for bonds classified as held-to-maturity securities is given with the accounting entries to be passed at various stages. One illustration covers equity shares in the functional currency of USD held as available-for-sale. FX revaluation and FX translation on held-to-maturity securities is explained with the help of one more illustration, which is given in foreign currency with FX translation and accounting entries in the functional currency.

Chapter 5: Presentation, Disclosure & Reclassification—This chapter covers the current accounting standards for the presentation of financial instruments in the financial reporting system, the mandatory disclosures required for these financial instruments, as well as the requirements when an entity reclassifies the financial instruments. The presentation and disclosure requirements are very important as these give quantitative and qualitative information about the financial position of the entity and provide adequate information for the reader of the financial statements to understand the nature and extent of risks undertaken by the entity. These presentation and disclosure requirements are mandatory and ought to have been provided in the illustrations and solutions to problems throughout this book. However, for the sake of convenience the requirements are all bunched and presented in this chapter only. Readers should understand that these requirements should be taken to be an inclusive component of the illustrations and solutions to the problems throughout the book.

Chapter 6: Interest Rate Derivatives—Theory—This chapter covers the theoretical aspects of interest rate derivatives. First an explanation of what is meant by derivatives in a financial instrument is explained, followed by a definition of derivatives as per US GAAP as well as IFRS accounting standards. Then the nuances of over-the-counter derivates are elaborated on comparing the same with exchange-traded derivative contracts. The benefits of interest rate derivatives are spelled out.

The following common types of interest rate derivatives are briefly explained viz. forward rate agreements, interest rate swaps, caps, floors, interest rate collars, reverse collars, swaption, and cross-currency swaps. The status of various financial instruments for hedging purposes is covered in this chapter.

Chapter 7: Interest Rate Swaps—Receive Fixed Pay Floating—This chapter covers the accounting aspects of interest rate swaps—receive fixed and pay floating. Meaning of interest rate swap—receive fixed and pay floating is explained with an illustration. The definition of a derivative as per US GAAP and as per IFRS is then given.

The trade life cycle for an interest rate swap contract is given with the accounting entries to be passed at the various stages. The trade life cycle for an interest rate swap contract viz. recording the trade; accounting for the upfront fee in the form of premium on the trade; resetting the interest rate on the floating leg; accrual of interest on the pay leg as well as the receive leg on the valuation date; accounting for the interest payable on the pay leg as well as the receive leg on the coupon date; payment or receipt of net interest; valuation entries on valuation date; and the termination of the trade and accounting for termination fee are all covered. Ane illustration covers the accounting aspects of an interest rate swap contract in the functional currency of USD.

Chapter 8: Interest Rate Swaps—Pay Fixed Receive Floating—This chapter covers the accounting aspects of interest rate swaps—pay fixed and receive floating. The meaning of an interest rate swap—pay fixed and receive floating is explained with an illustration.

The trade life cycle for an interest rate swap contract is given with the accounting entries to be passed at the various stages. The trade life cycle for an interest rate swap contract viz. recording the trade; accounting for the upfront fee in the form of premium on the trade; resetting the interest rate on the floating leg; accrual of interest on the pay leg as well as receive leg on the valuation date; accounting for the interest payable on the pay leg as well as the receive leg on the coupon date; payment or receipt of net interest; valuation entries on valuation date; and termination of the trade and accounting for termination fee are all covered. An illustration covers the accounting aspects of an interest rate swap contract in the functional currency of USD.

Chapter 9: Interest Rate Caps—This chapter covers the accounting aspects of interest rate caps. The meaning of interest rate caps is explained with an illustration, before covering the benefits of interest rate caps and the risk associated with it.

The trade life cycle for an interest rate cap contract is given with the accounting entries to be passed at the various stages. The trade life cycle for an interest rate cap contract viz. recording the trade; accounting for the upfront fee in the form of premium on the trade; receive or pay the interest

on the coupon date depending upon the actual interest rate; valuation entries on valuation date; and termination of the trade and accounting for termination fee are all covered. An illustration gives the accounting aspects of an interest rate cap contract in the functional currency. One problem as a holder of the cap instrument and another problem as a writer of the cap instrument are also given here.

Chapter 10: Interest Rate Floors—This chapter covers the accounting aspects of interest rate floors. The meaning of interest rate floors is explained with an illustration before covering the benefits of interest rate floors and the risk associated with it.

The trade life cycle for an interest rate floor contract is given with the accounting entries to be passed at various stages. The trade life cycle for an interest rate floor contract viz. recording the trade; accounting for the upfront fee in the form of premium on the trade; receiving or paying the interest on the coupon date depending upon the actual interest rate; valuation entries on valuation date; and termination of the trade and accounting for termination fee are all covered. An illustration gives the accounting aspects of an interest rate floors contract in the functional currency. One problem as a holder of the floor instrument and another problem as a writer of the floor instrument are also provided.

Chapter 11: Interest Rate Collar—This chapter covers the accounting aspects of interest rate collars and reverse collars. The meaning of an interest rate collar is explained with an illustration, before covering the benefits of an interest rate collar and the risk associated with it. An interest rate collar is an instrument that gives protection against rising rates by guaranteeing that the holder will never pay above a pre-agreed rate but at the same time sets a downside rate below the floor rate, which the holder will benefit from if interest rates do fall below the floor rate.

The trade life cycle for an interest rate collar contract is given with the accounting entries to be passed at the various stages. The trade life cycle for an interest rate collar contract *viz.* recording the trade, accounting for the upfront fee in the form of premium on the trade, receiving or paying the interest on the coupon date depending upon the actual interest rate, valuation entries on valuation date, termination of the trade and accounting for termination fee are all covered. An illustration gives the accounting aspects of an interest rate collar contract in the functional currency.

Similarly, the accounting and trade life cycle of a reverse collar are also given with suitable illustrations.

Chapter 12: Cross-Currency Swaps—This chapter covers the accounting aspects of cross-currency swaps—receive floating and pay floating in different currencies. Meaning of a cross-currency swap is explained with an illustration.

The trade life cycle for a cross-currency swap contract is given with the accounting entries to be passed at various stages. The trade life cycle for a cross-currency swap contract *viz.* recording the trade, accounting for the upfront fee in the form of premium on the trade, resetting the interest rate on the floating leg, accrual of interest on the pay leg as well as receive leg on the valuation date, accounting for the interest payable on the pay leg as well as the receive leg on the coupon date, payment or receipt of net interest, valuation entries on valuation date, termination of the trade and accounting for termination fee are all covered. FX revaluation and FX translation for a cross-currency swap contract is explained with the help of an illustration.

Acknowledgments

I would like to thank Nick Wallwork, Publisher, John Wiley & Sons (Asia) Pte. Ltd. for agreeing to publish the second volume of this series. I would like to thank Jules Yap, Joel Balbin and the entire production team at John Wiley. Without their persevering efforts and help this book might have never seen the light of the day. I want to acknowledge Grace Pundyk for her wonderful copy editing of my text.

Special thanks to Loretta Wickenden, Chief Executive Officer of Latilla LLC for her very meticulous efforts in dotting the i's and crossing the t's.

I want to express my deep gratitude to respected Sri N. Rangachary, Past Chairman of the Central Board of Direct Taxes, India and also Past Chairman of Insurance Regulatory and Development Authority, India who is also a Chartered Accountant for writing the introduction for the second volume. I take this opportunity to express my sincere thanks to my well wisher, respected Padmashri T. N. Manoharan, Past President of the Institute of Chartered Accountants of India, for writing the foreword. My sincere thanks go to all the other learned reviewers who came up with critical comments enabling me to improve this volume of the book.

I want to particularly thank my parents, S. Ramachandran and Parimala Ramachandran, who constantly motivated me to complete the second volume amidst my other commitments. Last but not the least, my heartfelt gratitude goes out to my loving wife, Dr. Rama, and my affectionate daughter, Ramya, who encouraged and motivated me constantly to pursue my goal of completing the second volume.

R. Venkata Subramani
Chennai

CHAPTER 1

Fixed Income Securities—Theory

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Fixed income securities in general
- Basics of the bond market
- Types of issues and special characteristics
- Bond coupons
- Bond maturity
- Bond pricing
- Yield measures—current yield, yield to maturity, and yield to call
- Duration
- Corporate bonds
- Municipal bonds
- Risks of investment in bonds
- Definition of financial instruments
- An overview of the categories of financial instruments
- Recent amendments to accounting standards relating to financial instruments

FIXED INCOME SECURITIES IN GENERAL

Fixed income refers to any type of investment that yields a regular (or fixed) return. A bond is a debt security. When an investor purchases a bond, the investor is actually lending money to the issuer of the bond. The issuer could be a government, municipality, corporation, federal agency or other entity. In return for the money lent, the issuer provides the investor with a certificate in which it promises to pay a specified rate of interest during the life of the bond and to repay the face value of the bond (the principal) when it matures, or comes due. This certificate is known as the "bond."

Among the types of bonds available for investment are: U.S. government securities; municipal bonds; corporate bonds; mortgage- and asset-backed securities; federal agency securities; and foreign government bonds.

BASICS OF THE BOND MARKET

Types of issues and special characteristics

Various governments issue government bonds in their own currency and sovereign bonds in foreign currencies. Local governments issue municipal bonds to finance their projects. Corporate entities also issue bonds or borrow money from a bank or from the public.

The term "fixed income security" is also applied to an investment in a bond that generates a fixed income on such investment. Fixed income securities can be distinguished from variable return securities such as stocks where there is no assurance about any fixed income from such investments. For any corporate entity to grow as a business, it must often raise money to finance the project, fund an acquisition, buy equipment or land or invest in new product development. Investors will invest in a corporate entity only if they have the confidence that they will be given something in return commensurate with the risk profile of the company.

Bond coupon

The coupon or coupon rate of a bond is the amount of interest paid per year expressed as a percentage of the face value of the bond. It is the stated interest rate that a bond issuer will pay to a bond holder.

For example, if an investor holds $100,000 nominal of a 5 percent bond then the investor will receive $5,000 in interest each year, or the same amount in two installments of $2,500 each if interest is payable on a half-yearly basis.

The word "coupon" indicates that bonds were historically issued as bearer certificates, and that the possession of the certificate was conclusive proof of ownership. Also, there used to be printed on the certificate several coupons, one for each scheduled interest payment covering a number of years. At the due date the holder (investor) would physically detach the coupon and present it for payment of the interest.

Bond maturity

The bond's maturity date refers to a future date on which the issuer pays the principal to the investor. Bond maturities usually range from one year up to 30 years or even more. But this maturity date must be seen as the last future date (except if the borrower is in default) on which the investor will receive the principal amount from the issuer. Depending on redemption features, the real reimbursement date can be very different (much shorter). These redemption features usually give the right to the investors and/or the issuer to advance the maturity date of the bond.

Call feature: This is a provision that allows the issuer to repay the bond before the maturity date. The issuer will "call" his bond if the interest rate index is lower than when the bond was originally issued. From the investor's perspective, it means that the bond gets prepaid if the bond earns too much interest compared to the prevailing market rates.

Put feature: This is a provision that gives investors the right to put the bond back to the issuer to redeem the bond before the maturity date. An investor would exercise this option when the current market rates are higher so that the investor can reinvest his money at this higher rate.

Bond pricing

The price of a bond will be determined by the market, taking into account among other things:

- The amount and date of the redemption payment at maturity;
- The amounts and dates of the coupons;
- The ability of the issuer to pay interest and repay the principal at maturity;
- The yield offered by other similar bonds in the market.

Yield measures

Current yield

To obtain the current yield, the annual coupon interest is divided by the market price. The current yield calculation takes into account only the coupon interest and no other source of return that will affect an investor's yield. The capital gain that the investor will realize when a bond is purchased at a discount, or the capital loss that the investor will realize if a bond purchased at a premium is held to maturity are not taken into consideration. The time value of money is also ignored. Hence it is considered as an incomplete and simplistic measure of yield.

Yield to maturity

The yield on any investment is the interest rate that will make the present value of the cash flows from the investment equal to the price of the investment. As a starting point an approximate value is calculated as being the average income per period divided by the average amount invested. To find a more accurate value, an iterative procedure is used. The objective is to find the interest rate that will make the present value of the cash flows equal to the price.

The yield to maturity calculation considers the current coupon income as well as the capital gain or loss the investor will realize by holding the bond until maturity. Also it takes into account the timing of the cash flows.

Yield to call

For bonds that may be called prior to the stated maturity date another yield measure commonly quoted is known as the "yield to call." To compute the yield to call, the cash flows that occur if the issue is called on its first call date are used.

Duration

The duration of a bond is a measure of the sensitivity of the bond's price to interest rate movements. It broadly corresponds to the length of time before the bond is due to be repaid. This duration is equal to the ratio of the percentage reduction in the bond's price to the percentage increase in the redemption yield of the bond. This equation is valid for small changes in those quantities only. Duration is symbolized by λ, or lambda, the Greek letter used for derivative pricing. In contrast, the absolute change in a bond's price with respect to interest rate (Δ or delta) is referred to as the dollar duration.

Corporate bonds

A corporate bond is a bond issued by a corporation. It is a bond that a corporation issues to raise money in order to expand its business. The term is usually applied to longer-term debt instruments, generally with a maturity date falling at least a year after their issue date.

Corporate bonds are often listed in major stock exchanges and they are traded in the secondary market. However, despite being listed on exchanges, the vast majority of trading volume in corporate bonds in most developed markets takes place in decentralized, dealer-based, over-the-counter markets. The bond price depends on the prevailing market interest rates during the time of trading. The bond price will go up if the mentioned coupon rate is higher than the market interest rate. During that time the bonds are quoted at a premium. On the other hand, if the mentioned coupon rate is less than the market interest rate, the price of the bonds will come down and they are quoted at a discount. The coupon rate received by the bond holder is usually taxable. Corporate bonds will have a higher risk of default when compared to government bonds.

Municipal bonds

Municipal bonds are debt obligations issued by states, cities, counties and other governmental entities, which use the money to build schools, highways, hospitals, sewer systems, and many other projects for the public good.

Not all municipal bonds offer income exempt from both federal and state taxes. There is an entirely separate market of municipal issues that are taxable at the federal level but which still offer a tax exemption on interest paid to residents of the state of issuance.

Most of this municipal bond information refers to munis, which are free of federal taxes. See the section on Taxable Municipal Bonds for more about taxable municipal issues.

Zero coupon bonds

Zero coupon bonds are bonds that do not pay interest during the life of the bond. Instead, investors buy zero coupon bonds at a deep discount from their face value, which is the amount a bond will be worth when it "matures" or comes due. When a zero coupon bond matures, the investor will receive one lump sum equal to the initial investment plus the imputed interest.

Risks of investment in bonds

Interest rate risk: When interest rates rise, bond prices fall; conversely, when interest rates decline, bond prices rise. The longer the time to a bond's maturity, the greater its interest rate risks.

Duration risk: The modified duration of a bond is a measure of its sensitivity to interest rate movements, based on the average time to maturity of its interest and principal cash flows. Duration enables investors to more easily compare bonds with different maturities and coupon rates by creating a simple rule: with every percentage change in interest rates, the bond's value will decline by its modified duration, stated as a percentage. For example, an investment with a modified duration of five years will rise 5 percent in value for every 1 percent decline in interest rates and fall 5 percent in value for every 1 percent increase in interest rates.

Reinvestment risk: When interest rates are declining, investors have to reinvest their interest income and any return of principal, whether scheduled or unscheduled, at lower prevailing rates.

Inflation risk: Inflation causes tomorrow's dollar to be worth less than today's; in other words, it reduces the purchasing power of a bond investor's future interest payments and principal, collectively known as "cash flows." Inflation also leads to higher interest rates, which in turn leads to lower bond prices. Inflation-indexed securities such as Treasury Inflation Protection Securities (TIPS) are structured to remove inflation risk.

Market risk: The risk that the bond market as a whole will decline, bringing the value of individual securities down with it regardless of their fundamental characteristics.

Timing risk: The risk that an investment performs poorly after its purchase, or better after its sale.

Legislative risk: The risk that a change in the tax code could affect the value of taxable or tax-exempt interest income.

Call risk: Some corporate, municipal, and agency bonds have a "call provision" entitling their issuers to redeem them at a specified price on a date prior to maturity. Declining interest rates may accelerate the redemption of a callable bond, causing an investor's principal to be returned sooner than expected. In that scenario, investors have to reinvest the principal at the lower interest rates. (See also "reinvestment risk.")

Liquidity risk: The risk that investors may have difficulty finding a buyer when they want to sell and may be forced to sell at a significant discount to market value. Liquidity risk is greater for thinly traded securities such as lower-rated bonds, bonds that were part of a small issue, bonds that have

recently had their credit rating downgraded or bonds sold by an infrequent issuer. Bonds are generally the most liquid during the period right after issuance when the bond typical has the highest trading volume.

Credit risk: The risk that a borrower will be unable to make interest or principal payments when they are due and therefore default. This risk is minimal for mortgage-backed securities issued by government agencies or government-sponsored enterprises.

Default risk: The possibility that a bond issuer will be unable to make interest or principal payments when they are due. If these payments are not made according to the agreements in the bond documentation, the issuer can default. This risk is minimal for mortgage-backed securities issued by government agencies or government-sponsored enterprises.

Event risk: The risk that a bond's issuer undertakes a leveraged buyout, debt restructuring, merger or recapitalization that increases its debt load, causing its bonds' values to fall, or interferes with its ability to make timely payments of interest and principal. Event risk can also occur due to natural or industrial accidents or regulatory change.

Prepayment risk: For mortgage-backed securities, the risk that declining interest rates or a strong housing market will cause mortgage holders to refinance or otherwise repay their loans sooner than expected and thereby create an early return of principal to holders of the loans.

Contraction risk: For mortgage-related securities, the risk that declining interest rates will accelerate the assumed prepayment speeds of mortgage loans, returning principal to investors sooner than expected and compelling them to reinvest at the prevailing lower rates.

Extension risk: For mortgage-related securities, the risk that rising interest rates will slow the assumed prepayment speeds of mortgage loans, delaying the return of principal to their investors and causing them to miss the opportunity to reinvest at higher yields.

Early amortization risk: Early amortization of asset-backed securities can be triggered by events including but not limited to insufficient payments by underlying borrowers and bankruptcy on the part of the sponsor or servicer. In early amortization, all principal and interest payments on the underlying assets are used to pay the investors, typically on a monthly basis, regardless of the expected schedule for return of principal.

DEFINITION OF FINANCIAL INSTRUMENTS

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity. Investments in equity shares are a form of financial asset.

Financial asset

A financial asset is defined as one of the following types of assets as per the accounting standards:

- Cash;
- Equity instrument of another entity;
- A contractual right;
- To receive cash or another financial asset from another entity;
- To exchange financial assets or financial liabilities with another entity under conditions that are potentially favorable to the entity;
- A contract that will/may be settled in the entity's own equity instruments and is:
- A non-derivative resulting in receiving a variable number of the entity's own equity instruments;
- A derivative that will/may be settled other than by the exchange of a fixed amount of cash or another financial asset for a fixed number of the entity's own equity instruments.

Financial liability

A financial liability is defined as one of the following types of liabilities as per the accounting standards:

- A contractual obligation;
- To deliver cash or another financial asset to another entity;
- To exchange financial assets or financial liabilities with another entity under conditions that are potentially unfavorable to the entity;
- A contract that will/may be settled in the entity's own equity instruments and is:
- A non-derivative resulting in delivering a variable number of the entity's own equity instruments;
- A derivative that will/may be settled other than by the exchange of a fixed amount of cash or another financial asset for a fixed number of the entity's own equity instruments.

Equity instrument

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities.

Derivative

A derivative is a financial instrument or other contract with all three of the following characteristics:

- Its value changes in response to the change in an "underlying";
- It requires no initial net investment or an initial net investment that is smaller than would be required for other types of contracts; and
- It is settled at a future date.

CATEGORIES OF FINANCIAL INSTRUMENTS—AN OVERVIEW

Financial instruments are classified into the following categories:

- Fair value through profit and loss (FVPL);
- Held-to-maturity (HTM);
- Available-for-sale (AFS);
- Loans and receivables (LAR).

Investments in debt securities are classified as either fair value through profit and loss, as available-for-sale securities, or as held-to-maturity investments.

Amendment made through IFRS 9[1]

An entity shall classify financial assets as subsequently measured at either amortized cost or fair value on the basis of both:

a) The entity's business model for managing the financial assets; and
b) The contractual cash flow characteristics of the financial asset. (IFRS 9 Para 4.1)

[1] IFRS 9 is the first part of Phase 1 of the IASB's project to replace IAS 39. Financial Instruments: Classification and Measurement, which is Phase 1, was published in July 2009 and contains proposals for both assets and liabilities within the scope of IAS 39. An entity shall apply IFRS 9 for annual periods beginning on or after 1 January 2013. Earlier application is permitted. If an entity applies this IFRS in its financial statements for a period beginning before 1 January 2013, it shall disclose that fact.

A financial asset shall be measured at amortized cost if both of the following conditions are met:

a) The asset is held within a business model whose objective is to hold assets in order to collect contractual cash flows; and
b) The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. (IFRS 9 Para 4.2)

For the purpose of this IFRS, interest is consideration for the time value of money and for the credit risk associated with the principal amount outstanding during a particular period of time. (IFRS 9 Para 4.3)

A financial asset shall be measured at fair value unless it is measured at amortized cost in accordance with paragraph 4.2. (IFRS 9 Para 4.4)

Option to designate a financial asset at fair value through profit or loss

An entity may, at initial recognition, designate a financial asset as measured at fair value through profit or loss if doing so eliminates or significantly reduces a measurement or recognition inconsistency (sometimes referred to as an "accounting mismatch") that would otherwise arise from measuring assets or liabilities or recognizing the gain and losses on them on different bases (IFRS 9 Para 4.5). The "accounting mismatch" concept is mainly applicable to hedge accounting and is not discussed in this volume because hedge accounting is not covered.

US GAAP proposals

Similar to the above-mentioned amendments, the US GAAP (Generally Accepted Accounting Principles) proposals deal with the initial measurement principle of financial instruments. Still in the exposure draft stage they state that an entity shall initially measure a financial instrument as follows:

a) A financial asset or financial liability at its fair value if all subsequent changes in the fair value of the financial asset or financial liability will be recognized in the net income.
b) A financial asset or financial liability at the transaction price if the qualifying portion of subsequent changes in fair value of the financial asset or financial liability will be recognized in other comprehensive incomes.

Fair value through profit or loss (FVPL)

A financial asset or financial liability at fair value through profit or loss is the one that meets either of the following conditions:

- It is classified as held for trading, i.e.,:
  - Acquired or incurred principally for the purpose of selling or repurchasing it in the near term;
  - Part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking; or
  - A derivative other than a financial guarantee contract or for hedging purposes.
- Upon initial recognition it is designated by the entity as at fair value through profit or loss.

Note: Investments in equity instruments that do not have a quoted market price in an active market, and whose fair value cannot be reliably measured should not be designated as at fair value through profit or loss. (Investments in equity instruments including equity futures and equity options are covered in volume 1 of the same series.)

Designation at fair value through profit or loss on initial recognition: An entity may designate a financial asset at fair value through profit or loss on initial recognition only in the following circumstances:

a) It eliminates or significantly reduces a measurement or recognition inconsistency (sometimes referred to as "an accounting mismatch") that would otherwise arise from measuring

assets or liabilities or recognizing the gains and losses on them on different bases. (IAS 39 Para 9)

b) A group of financial liabilities or financial assets and financial liabilities is managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy, and information about the group is provided internally on that basis to the entity's key management personnel, for example, the entity's board of directors and chief executive officer. (IAS 39 Para 9)

c) If a contract contains one or more embedded derivatives and the host is outside the scope of IFRS 9, an entity may designate the entire hybrid (combined) contract as a financial asset or financial liability at fair value through profit or loss unless:
   a) The embedded derivative(s) does not significantly modify the cash flows that otherwise would be required by the contract; or
   b) It is clear with little or no analysis when a similar hybrid (combined) instrument is first considered that separation of the embedded derivative(s) is prohibited, such as a prepayment option embedded in a loan that permits the holder to prepay the loan for approximately its amortized cost. (IAS 39 Para 11A)

Available-for-sale

Available-for-sale financial assets are those non-derivative financial assets that are designated as available-for-sale or are not classified as:

- Loans and receivables;
- Held-to-maturity investments; or
- Financial assets at fair value through profit or loss.

Held-to-maturity (HTM)

Held-to-maturity investments are financial assets with fixed or determinable payments and fixed maturity where the entity has the positive intention and ability to hold to maturity.

The following are not held-to-maturity investments:

- Those that the entity upon initial recognition designates as FVPL.
- Those that meet the definition of loans and receivables.
- Those that the entity designates as available-for-sale.

HTM classification is not possible if the entity has, during the current financial year or during the two preceding financial years, sold or reclassified more than an insignificant amount of HTM investments before maturity.

Exceptions: Sales or reclassifications on account of:

- Being close to maturity or call date (for example, less than three months before maturity);
- Occurring after the entity has collected substantially all of the financial asset's original principal; or
- Being attributable to an isolated event beyond the entity's control, is non-recurring and could not have been reasonably anticipated by the entity.

QUESTIONS

Theory questions

1. Define a fixed income security.
2. What is meant by bond maturity and bond pricing?

3. What are the different yield measures usually identified by an investor?
4. What is meant by bond duration?
5. What is meant by corporate bond and municipal bond?
6. What are the risks associated with an investment in bonds?
7. What are financial instruments? How are those categorized as per the accounting standard?
8. What are the four categories of financial instruments? Enumerate the major changes made in the realm of financial instruments through IFRS 9.

CHAPTER 2

Fixed Income Securities—Fair Value through Profit or Loss

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Meaning and definition of fixed income securities
- Classification of debt securities as "fair value through profit or loss"
- Accounting for fixed income securities in light of relevant accounting standards
- Trade life cycle of fixed income security investments held for trading purposes
- Accounting journal entries to be recorded during the different phases of the trade life cycle
- Illustration of accounting for investments in fixed income securities held for trading purposes
- Preparation of general ledger accounts
- Preparation of income statement, balance sheet after the bond investments are made
- Disclosure requirements for investments in fixed income securities
- FX revaluation and FX translation process
- Functional currency, foreign currency and presentation currency
- Distinction between capital gain and currency gain in unrealized gain

MEANING AND DEFINITION OF FIXED INCOME SECURITIES

Fixed income security refers to any type of investment that yields a regular or fixed return. It is an investment that provides a return in the form of fixed periodic payments and the eventual return of principal at maturity. In a variable income security, payments change based on some underlying benchmark measure such as short-term interest rates. However, in this and subsequent chapters, by fixed income securities we mean debt securities that yield a regular return in the form of interest. The terms "debt securities" and "fixed income securities" are used here interchangeably.

A debt security is defined as "any security representing a creditor relationship with an enterprise. It also includes (a) preferred stock that by its terms either must be redeemed by the issuing enterprise or is redeemable at the option of the investor and (b) a collateralized mortgage obligation or such other instrument that is issued in equity form but is required to be accounted for as a non-equity instrument regardless of how that instrument is classified (that is, whether equity or debt) in the issuer's statement of financial position."[1]

As per the same definition, however, "a debt security excludes option contracts, financial futures contracts, forward contracts, and lease contracts."

[1] Accounting Standards Codification—320-10-20

The Accounting Standards Codification defines a security as "a share, participation, or other interest in property or in an enterprise of the issuer or an obligation of the issuer that

a) either is represented by an instrument issued in bearer or registered form or, if not represented by an instrument, is registered in books maintained to record transfers by or on behalf of the issuer;
b) is of a type commonly dealt in on securities exchanges or markets or, when represented by an instrument, is commonly recognized in any area in which it is issued or dealt in as a medium for investment; and
c) either is one of a class or series or by its terms is divisible into a class or series of shares, participations, interests, or obligations."

The term "debt security" includes, among other items, U.S. Treasury securities, U.S. government agency securities, municipal securities, corporate bonds, convertible debt, commercial paper, all securitized debt instruments, such as collateralized mortgage obligations (CMOs) and real estate mortgage investment conduits (REMICS), and interest-only and principal-only strips.

Trade accounts receivable arising from sales on credit by industrial or commercial enterprises and loans receivable arising from consumer, commercial, and real estate lending activities of financial institutions are examples of receivables that do not meet the definition of security and thus are not debt securities. However, if such instruments are securitized, they will meet the definition of a debt security.

CLASSIFICATION OF DEBT SECURITIES AS "FAIR VALUE THROUGH PROFIT OR LOSS"

As per US GAAP 320-1-25-1, an entity shall classify debt securities into "trading" if it is acquired with the intent of selling it within hours or days. However, at acquisition an entity is not precluded from classifying as "trading" a security it plans to hold for a longer period. Classification of a security as trading shall not be precluded simply because the entity does not intend to sell it in the near term. Investments that are classified as "trading" securities are classified under the "fair value through profit or loss" category.

Trading securities are normally held by banks and other financial institutions that engage in active buying and selling of securities with a view to making a gain on trading. The mark-to-market process values the securities at market rates, recording the unrealized gain/loss on such securities. The realized and unrealized gain/loss on those securities classified as trading securities is included in the income of the investor. Interest on such debt instruments are recognized as income periodically on the due date on which interest is payable.

A financial asset should be classified as held for trading if it is part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking. Even though the term "portfolio" is not explicitly defined in the accounting standard, the context in which it is used suggests that a portfolio is a group of financial assets that are managed as part of that group and if there is evidence of a recent actual pattern of short-term profit taking on financial instruments included in such a portfolio, those financial instruments qualify as held for trading even though an individual financial instrument may in fact be held for a longer period of time.

Fair value concept

The accounting standards cover fair value concepts at length. IAS 39 gives the following concepts on fair value:

- The best evidence of fair value is quoted prices in an active market.
- If the market for a financial instrument is not active, an entity establishes fair value by using a valuation technique.

- The objective of using a valuation technique is to establish what the transaction price would have been on the measurement date in an arm's-length exchange motivated by normal business considerations.
- Valuation techniques include using recent arm's-length market transactions between knowledgeable, willing parties, if available, reference to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models.
- If there is a valuation technique commonly used by market participants to price the instrument and that technique has been demonstrated to provide reliable estimates of prices obtained in actual market transactions, the entity uses that technique.
- The chosen valuation technique makes maximum use of market inputs and relies as little as possible on entity-specific inputs. It incorporates all factors that market participants would consider in setting a price and is consistent with accepted economic methodologies for pricing financial instruments.
- Periodically, an entity calibrates the valuation technique and tests it for validity using prices from any observable current market transactions in the same instrument (i.e., without modification or repackaging) or based on any available observable market data. (IAS 39 Para 48A)

Financial assets and financial liabilities held for trading

As per the accounting standards trading generally reflects active and frequent buying and selling, and financial instruments held for trading generally are used with the objective of generating a profit from short-term fluctuations in price or a dealer's margin.

Fixed income security as a hedged item

A hedged item is an asset, liability, firm commitment, highly probable forecast transaction or net investment in a foreign operation that (a) exposes the entity to risk of changes in fair value or future cash flows and (b) is designated as being hedged. Generally, since a fixed income security exposes an entity to risk of changes in fair value or future cash flows, it is a suitable candidate for being designated as a hedged item. However, a fixed income security treated as "trading" in nature and hence categorized under "fair value through profit or loss" is unlikely to be designated as a hedged item due to the short-term approach for this category.

ACCOUNTING FOR FIXED INCOME SECURITIES

In this chapter we will cover the accounting requirements for fixed income security investments that are classified as held for trading purposes. The accounting treatment under the US GAAP for both these categories is covered by the following topics. The relevant International Financial Reporting Standards (IFRS) are provided in Table 2.1.

Table 2.1 Relevant accounting standards

US GAAP Topics	IFRS
220—Comprehensive Income	IFRS 7—Financial Instruments: Disclosure
320—Investments—Debt and Equity Securities	IFRS 9—Financial Instruments
820—Fair Value Measurements and Disclosures	IAS 21—The Effects of Changes in Foreign Exchange Rates
825—Financial Instruments	IAS 32—Financial Instruments: Presentation
830—Foreign Currency Matters	IAS 36—Impairment of Assets
946—Financial Services—Investment Companies	IAS 39—Financial Instruments: Recognition and Measurement

TRADE LIFE CYCLE FOR FIXED INCOME SECURITIES—FAIR VALUE THROUGH PROFIT OR LOSS

- Buy the bond
- Accrued interest purchased
- Pay the contracted amount for the bond
- Coupon accrual
- Coupon receipt
- Reversal of accrued interest purchased
- Accrual of interest on valuation date
- Amortization of premium/discount on purchase
- Valuation of bond on valuation date
- Sell the bond (liquidation)
- Accrued interest on bond sold
- Receive the consideration
- Ascertain the profit/loss on the sale
- Fx revaluation entries
- Fx translation entries

Additional events in the trade life cycle

- Early redemption
- Maturity
- Write off

Let us assume the details as presented in Table 2.2 for the purpose of this illustration.

Table 2.2 Bond details

Issuer	ABC Corporation	
Face value	100.00	
Issue price	100.00	
Maturity	12-Mar-X11	
Rate of interest	6.00%	
Currency	USD	
Coupon dates (until maturity)	**Coupon date**	**Settle date**
Previous coupon	15-Sep-X7	18-Sep-X7
Coupon date-1	15-Mar-X8	18-Mar-X8
Coupon date-2	15-Sep-X8	18-Sep-X8
Coupon date-3	15-Mar-X9	18-Mar-X9
Coupon date-4	15-Sep-X9	18-Sep-X9
Coupon date-5	15-Mar-X10	18-Mar-X10
Coupon date-6	15-Sep-X10	18-Sep-X10
Coupon date-7	12-Mar-X11	15-Mar-X11

Day count	Actual/365			
Transaction details				
Particulars	**Trade date**	**Settle date**	**Quantity**	**Clean price**
Bought	01-Feb-X8	04-Feb-X8	7,000	85.00
Sold	21-Nov-X8	24-Nov-X8	4,000	92.00

Valuation dates and market value	**Date**	**Market rate**
Valuation date 1	31-Mar-X8	86.50
Valuation date 2	30-Jun-X8	87.50
Valuation date 3	30-Sep-X8	89.50
Valuation date 4	31-Dec-X8	93.50
Functional currency	USD	

Other details	**Date**	**USD**
Capital introduced	01-Jan-X6	2,000,000

Buy the bond

Bonds are either subscribed at the initial offer through the primary market route or purchased through the secondary market. In a secondary market the buy order is placed through a broker known as counter party. Most corporate bonds are traded over-the-counter. If traded through the stock exchange, the concerned stock exchange usually takes the responsibility for specific performance of the contract ensuring that both legs of the contract are fulfilled by the respective parties. When an entity places the buy order and when the broker executes the same, it becomes a binding contract between you and the stock exchange. Usually the trade date is referred to as T + 0 or simply "trade date." At this stage the asset being the bonds and the liability being the amount payable to the broker concerned is recognized in the books of accounts. The entry is the same for both exchange-traded bonds and the ones traded through the over-the-counter market.

In the example in Table 2.2, 7,000 bonds of ABC Corporation are acquired at $85 per bond from the stock exchange through the broker Peterson & Co. on February 1. The accounting entry that is recorded in the books of accounts is as shown in Table 2.3.

Table 2.3 On purchase of bonds—FVPL

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
1-Feb-X8	Investments—bonds—FVPL account	595,000.00	
	Payable to Peterson & Co. account		595,000.00
	(Being the purchase of bonds for trading purposes classified as "Bonds—FVPL account")		

Accrued interest purchased

Interest on bonds is payable by the issuer on the coupon date. The investor should account for the interest on the coupon date. However, the interest accrues on the bond on a daily basis even though it is paid periodically as per the terms of the bond. The terms of corporate bonds usually specify a semiannual or quarterly basis. Hence when the bond is purchased, the investor actually pays not merely for the value of the bond but also for the interest element from the previous coupon date until the date of the trade. This is known as accrued interest on the bond and the price that is quoted along with the accrued interest is known as a "dirty price." The accounting standard requires that the accrued interest purchased should not be capitalized along with the bond cost, but should be taken to the accrued interest purchased account. This is reversed on the date on which the investor accounts for the first interest receipt after acquiring the bonds.

In the above case the interest is payable by ABC Corp. on 15th March and 15th September every year on an Actual/365 basis. The interest element should be computed separately and accounted and paid for since the price of the bond is a "clean price" and does not include interest.

Day Count Convention

The basic 30/360 method for calculating the numerator is illustrated by the following expression:

Numerator = D days = D2 − D1 + 30 (M2 − M1) + 360 (Y2 − Y1) where M1/D1/Y1 is the first date and M2/D2/Y2 is the second date. Denominator = 360.

The following variants of this basic rule differ by making certain adjustments to D1, D2 and M2.

30/360: If D1 falls on the 31st, then change it to the 30th. If D2 falls on the 31st, then change it to the 30th only if D1 falls either on 30th or 31st.

30E/360: If D1 falls on the 31st, then change it to the 30th. If D2 falls on the 31st, then change it to the 30th. Each month (including February) is considered to have 30 days.

30E+/360: If D1 falls on the 31st, then change it to the 30th. If D2 falls on the 31st, then change it to one and increase M2 by one.

30E*/360: If D1 = 31 then D1 = 30; If D2 = 31, then D2 = 30, D1 = D1; This caters for the specific instance of 28 interest days for February.

ACT/360: Numerator = the actual number of days between two dates. Denominator = 360.

(ACT+1)/360: Numerator = the actual number of days between two dates + 1. Denominator = 360; Example—Year Fraction = n+1 / 360.

30E/365 and 30/365: Convertible bonds for Japanese market: The basic 30/365 method for calculating the numerator is illustrated by the following expression:

Numerator = D days = D2 − D1 + 30 (M2 − M1) + 360 (Y2 − Y1) where M1/D1/Y1 is the first date and M2/D2/Y2 is the second date. Denominator = 365.

The following variants of this basic rule differ by making certain adjustments to D1 and D2.

30/365: If D1 falls on the 31st, then change it to the 30th; If D2 falls on the 31st, then change it to the 30th only if D1 falls either the 30th or 31st.

Example—Between May 1st and May 31st there are 30 days.

30E/365: If D1 falls on the 31st, then change it to the 30th. If D2 falls on the 31st, then change it to the 30th. Each month (including February) is considered to have 30 days.

Example—Between May 1st and May 31st, there are 29 days. Between February 1st and the day after February 28th, there are 28 days if the day after is February 29th, 30 days if it's March 1st.

ACT/365: Also known as Actual/365 (Fixed). Numerator = the actual number of days between two dates. Denominator – 365.

(ACT+1)/365: Numerator = the actual number of days between two dates + 1. Denominator = 365; Example — Year Fraction = n+1 / 365.

ACT/365.25: Numerator = the actual number of days between two dates. Denominator = 365.25; Example— If there are 120 days between D1 and D2, the year fraction is equal to: 0.32854209 = 120 / 365.25.

ACT_ACT29: If the period between start date and end date contains February 29th, use 366. Otherwise, use 365.

The journal entry on purchase of the bond for the interest element would be as shown in Table 2.4.

Table 2.4 On recording accrued interest purchased on purchase of bond

Calculation of accrued interest purchased	**USD**
Previous coupon date	15-Sep-X7
Settlement date of bonds purchased	04-Feb-X8
Number of days (Actual/365)	142
Face value of bonds on which interest is computed	700,000
Rate of interest p.a.(%)	6.00
Accrued interest purchased	16,339.73

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
1-Feb-X8	Accrued interest purchased account	16,339.73	
	Payable to Peterson & Co. account		16,339.73
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

Pay the contracted amount for the bond

The next event in the trade life cycle is the payment of the contracted amount for the bonds purchased. Usually the receipt of the bonds and the payment for the same happens three days after the date of

the trade referred to as T + 3. However, this varies in different markets in different geographical locations. The bonds are usually delivered electronically or physically and the payment is made on the same date. During this stage the actual asset comes into the physical possession of the buyer and the liability created in the earlier stage is settled. For exchange-traded bonds the settlement automatically takes place on the settlement date through the clearing system of the exchange concerned. For over-the-counter trades the counter parties resort to their own accepted method of settlement to ensure they effectively avoid each other's counterparty risk.

Assuming that the broker is paid on T + 3 days, the accounting entry that is recorded in the book of accounts is as shown in Table 2.5.

Table 2.5 On payment of the contracted sum

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Feb-X8	Payable to Peterson & Co. account	611,339.73	
	To bank account		611,339.73
	(Being the payment made to the broker, Peterson & co. for purchase of 7,000 bonds including the accrued interest purchased)		

CORPORATE ACTION

A corporate action is, as the name implies, an action taken by the issuer of the bonds that impact the investments or earnings from such investments. Typical examples of corporate actions include interest payment by the company, calls or the issuance of new debt by the issuer that result in change of the name or number of bonds held by the investor, and so on.

Coupon accrual

One of the key activities during the trade life cycle of fixed income securities is the corporate action in the form of interest as stated on the face of the bond. The accounting event for coupon accrual is recorded on the date on which the interest becomes payable by the company. The actual receipt of the interest itself may be based on the terms of the payment, which is usually based on any of the accepted payment conventions in vogue. Usually the bond interest is payable on a semi-annual basis. Except for the first interest that is received by the investor after acquiring the bonds, the amount for which the coupon entry is recorded every six months will be more or less the same. Interest will differ based on the day count convention used.

The accounting entry that is recorded in the books of accounts is shown in Table 2.6.

Table 2.6 On accounting for interest on the coupon date

Calculation of interest on coupon date	USD
Previous coupon date	15-Sep-X7
Current coupon date	15-Mar-X8
Number of days (Actual/365)	182
Face value of bonds on which interest is computed	700,000
Rate of interest p.a.	6.00 %
Interest accounted for on coupon date	20,942.47

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Mar-X8	Interest receivable account	20,942.47	
	To Interest Income—Bonds—FVPL account		20,942.47
	(Being the interest accounted for on the coupon date)		

Reversal of accrued interest purchased

The accrued interest purchased on the date of purchase of the bond is reversed on the first date on which interest is payable by the company. This effectively reduces the interest income during the first period during which the bond is held by the investor. Ultimately the bond interest income accounted during the period would exactly match with the period for which the bond was held by the investor. In this case the bond was held by the investor for a period of 39 days (i.e., 4th February to 15th March) and interest calculated at the rate of 6 percent amounts to US$4,487.67. But the actual interest received from the company on the coupon date amounts to US$20,827.40. After recording the reversal of the accrued interest purchased amounting to US$16,339.73, the interest income will become US$4,487.67, which represents exactly the interest for the period of 39 days. The accounting entry that is recorded in the books of accounts is shown in Table 2.7.

Table 2.7 On reversal of accrued interest purchased

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Mar-X8	Interest income—bonds—FVPL account	16,339.73	
	To accrued interest purchased account		16,339.73
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bond)		

Coupon receipt

The next event in the trade life cycle is the receipt of the coupon itself. The bond interest receivable gets squared off on the date of the actual receipt of cash towards interest. If the bonds are designated in a foreign currency, on translating the entries into functional currency there would be realized currency gain or loss on the receipt of interest. The realized currency gain or loss should be reported in the income statement for the period. The accounting entry that is recorded in the books of accounts is shown in Table 2.8.

Table 2.8 On receipt of coupon interest in the bank

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Mar-X8	Bank account	20,942.47	
	To interest receivable account		20,942.47
	(Being the receipt of coupon interest in the bank)		

On accounting for interest based on amortization

For bonds that are held as trading securities and classified as fair value through profit or loss, such bonds should be carried in the books at fair market value. However, interest should be accounted for as though the bond is required to be shown on the basis of amortized cost. The premium paid or discount realized on purchase of the bond should be amortized over the remaining life of the bond on a yield-to-maturity basis. Such amortized premium or discount is added with the interest on the one hand and held separately in a mark-to-market account on the other. This mark-to-market is further adjusted for the fair market value of the security on the valuation date and the difference is accounted for as unrealized gain or loss and shown in the income statement.

In this example the bond is purchased for $85.00 and the discount of $15 should be amortized over the remaining life of the bond on a yield-to-maturity basis. This is only for the purpose of finding out the interest element to be accounted for. As per the accounting standard, the amortized component should be shown as interest. Even though the interest percentage is 6 percent p.a., the effective rate of interest after taking into account the discount component of $15 works out to 11.29 percent.

The effective interest is calculated based on an iterative process in such a way that the carrying cost is increased to the extent of the effective interest for the period the bond is held. The carrying cost at the end of the tenure of the bond should be equal to the face value of the bond. If it is more than the face value then the effective rate of interest should be reduced and the same process should be done for all the periods. After successive attempts the effective interest would be fine tuned in such a way that the end carrying cost equals the face value of the bond.

The effective interest rate is the internal rate of return (IRR) or the level yield-to-maturity. It is the rate that exactly discounts the estimated future cash flows or receipts through the expected life of the instrument, or where appropriate, a shorter period, to the net carrying amount at initial recognition.

An entity should estimate cash flows considering all contractual terms of the financial instrument including prepayment, call and similar options, when calculating the effective interest rate. The entity should not consider the future credit losses while calculating the effective interest rate. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs, and all other premiums or discounts.

Table 2.9 gives the calculation based on the effective rate of 11.29 percent.

Table 2.9 Computation of effective rate of interest & amortization

	Face Value	100.00	Qty	1
	Coupon rate	6.00	Discount/(–) Premium	15.00
	Effective rate	11.880009		
	Purchase price	85.00		

Date	No. of days	Carrying Cost at Beginning	Effective Int %	Effective Interest	Coupon Amount	Amortization	Carrying Cost End
15-Mar-X8	40	85.00	1.301918795	1.1066309753	0.6575342	0.4490967	85.4490967
31-Mar-X8	16	85.45	0.520767518	0.4449911400	0.2630137	0.1819774	85.6310742

Date	No. of days	Carrying Cost at Beginning	Effective Int %	Effective Interest	Coupon Amount	Amortization	Carrying Cost End
30-Jun-X8	91	85.63	2.961865258	2.5362770355	1.4958904	1.0403866	86.6714608
15-Sep-X8	77	86.67	2.506193679	2.1721546723	1.2657534	0.9064012	87.5778620
30-Sep-X8	15	87.58	0.488219548	0.4275722422	0.2465753	0.1809969	87.7588589
31-Dec-X8	92	87.76	2.994413227	2.6278628804	1.5123288	1.1155341	88.8743931
15-Mar-X9	74	88.87	2.40854977	2.1405839894	1.2164384	0.9241456	89.7985387
15-Sep-X9	184	89.80	5.988826455	5.3778786410	3.0246575	2.3532211	92.1517598
15-Mar-X10	181	92.15	5.891182545	5.4288283882	2.9753425	2.4534859	94.6052457
15-Sep-X10	184	94.61	5.988826455	5.6657439832	3.0246575	2.6410864	97.2463322
15-Mar-X11	181	97.25	5.891182545	5.7289589465	2.9753425	2.7536165	99.9999486
		100.00					

Note: On 24-Nov-X8, interest amortization for the ensuing period is 0.6668953 and the carrying cost is 88.4257543.

The entry to account for interest based on amortization is usually passed on a daily basis. However, certain investors decide to pass this entry during the valuation of the bond and during the sale of the bond to properly account for the realized and unrealized gain after accounting for the interest component. The entry in this case that is passed on the next valuation date of 31st March is shown in Table 2.10.

Table 2.10 On accounting for interest based on amortization

Calculation of interest based on amortization until 31-Mar-X3 per bond			USD
Period ending	**Amount/bond**	**Qty**	**Value**
15-Mar-X8	0.44909673		
31-Mar-X8	0.18197744		
Total	0.63107417	7,000	4,417.52

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Investments—Bonds—FVPL account	4,417.52	
	To Interest Income—Bonds—FVPL account		4,417.52
	(Being the amortization of discount treated as interest income as per accounting standards)		

Accrual of interest on valuation date

Since interest accrues on a day-to-day basis, the interest on bonds held by the investor from the date of the previous coupon date until the valuation date should be recorded in the books of accounts as interest income for the period. This is reversed on the next reporting day when the interest accrual for the entire period will be recorded during the next coupon date. However, the investor can also choose to record the interest on an incremental basis instead of reversing the same. In this case the

previous date on which interest is paid is 15th March and hence interest should be accrued for 16 days on an Actual/365 basis. This represents the interest accrued but not due. The accounting entry that is recorded in the books of accounts is shown in Table 2.11.

Table 2.11 On accrual of interest at end of valuation date

Calculation of interest accrued on valuation date	USD
Previous coupon date	15-Mar-X8
Current valuation date	31-Mar-X8
Number of days (Actual/365)	16
Face value of bonds on which interest is computed	700,000
Rate of interest p.a.(%)	6.00
Accrued interest on valuation date	1,841.10

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest accrued but not due account	1,841.10	
	To Interest Income—Bonds—FVPL account		1,841.10
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

Valuation of bond on valuation date

At the end of every valuation date the fair value of the bond is ascertained and the bonds are marked to market. This process is known as portfolio valuation. The market rate at the end of the period is determined from the primary stock exchange where the bonds are traded. If there is an increase in the market rate over and above the purchase rate then such increase is recognized as unrealized gain on the one hand and the corresponding amount is shown in MTM—Bonds—FVPL (Asset/Liability) account.

While accounting for the unrealized gain the following points should be carefully considered and understood:

- For bonds held in the "trading" category, the unrealized gain or losses are taken to a separate valuation account usually known as MTM—Bonds—FVPL (Asset/Liability) account. The fluctuations in the market value of the bonds are not added to the investment account itself but taken to this account.
- At the valuation date the value of the bonds held in the "trading" category are shown at the fair market value of the bonds. The unrealized gains are computed by finding out the difference between the market value of the bond and the "theoretical" amortized cost of the bond. The reason why we use the term "theoretical" is because the carrying cost of the bond is only temporarily adjusted based on the amortization of the premium/discount mainly to get the correct interest element. Such "amortized" cost is compared with the fair market value of the bond to ascertain the unrealized gain/loss.

This entry recording the unrealized gain/loss is not subsequently reversed. Instead, the same process of comparing the theoretical amortized cost with the fair market value as on the valuation date is performed and entry passed accordingly. Needless to say that the unrealized gain/loss entry

passed earlier will continue to remain part of the theoretical amortized cost along with the interest recognition. Calculation of MTM is shown in Table 2.12 and the accounting entry that is recorded in the books of accounts is as shown in Table 2.13.

Table 2.12 Calculation of MTM on 31-Mar-X8

Calculation of MTM on 31-Mar-X8	Market Rate	Quantity	Value
Market value as on date	86.50	7,000	605,500.00
Amortized cost as on date			599,417.52
Mark-to-market loss			6,082.48

Table 2.13 On valuation of the bond at the end of the valuation date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Unrealized capital gain/loss on Bonds— FVPL (P&L) account	6,082.48	
	To MTM—bonds—FVPL (Asset/Liability) account		6,082.48
	(Being the unrealized capital gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

Reversal of interest accrued

Interest accrued at the end of the valuation date is reversed and on the next valuation date the fresh interest accrual entry is passed. However, the investor can also pass the interest accrual entry on an incremental basis in which case there is no need to reverse the interest accrual entry. Some investors find it easy to reverse the interest accrual entry on the next valuation date and always pass entry for interest accrual from the previous coupon date to the date of valuation. The accounting entry that is recorded in the books of accounts is as shown in Table 2.14.

Table 2.14 On reversal of interest accrual on the next valuation date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest income—bonds—FVPL account	1,841.10	
	To interest accrued but not due account		1,841.10
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

On selling the bond (liquidation)

When the bond is sold through a broker of the exchange, accounting entries are recorded for the contracted amount to be received on such a sale. Also interest accrued on such a sale is accounted. The accounting entry that is recorded in the books of accounts is shown in Table 2.15.

Table 2.15 On sale of bonds

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Nov-X8	Receivable from Peterson & Co. account	368,000.00	
	To Investments—Bonds—FVPL account		368,000.00
	(Being the sale of bonds held for trading purposes through the broker)		

Interest on bonds sold

As mentioned earlier, interest accrues on the bond on a daily basis even though it is paid periodically, as per the terms of the bond usually on a semi-annual basis. Hence when the bond is sold, the investor actually should get not merely the value of the bond but also the interest element from the previous coupon date until the date of settlement of the trade. This is known as accrued interest on the bond and the price that is quoted along with the accrued interest is known as the "dirty price." The accounting standard requires that the accrued interest purchased should not be treated as part of the bond receipts, but should be taken to the interest income account as this represents the interest that has accrued on the bond until the date of sale.

In this case the interest is accrued on the bonds sold from the previous coupon date until the date of settlement for a total period of 70 days and the interest is calculated as shown in Tables 2.16 and 2.17.

Table 2.16 On recording accrued interest sold received on sale of bonds

Calculation of accrued interest sold	USD
Previous coupon date	15-Sep-X8
Settlement date of bonds sold	24-Nov-X8
Number of days (Actual/365)	70
Face value of bonds on which interest is computed	400,000
Rate of interest p.a.(%)	6.00
Accrued interest sold	4,602.74

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Nov-X8	Receivable from Peterson & Co. account	4,602.74	
	To accrued interest sold account		4,602.74
	(Being the accrued interest sold received on the sale of bonds calculated from the previous coupon date to the date of settlement of the bond)		

Table 2.17 Accrued interest sold taken to interest income

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Nov-X8	Accrued interest sold account	4,602.74	
	To Interest Income—Bonds—FVPL account		4,602.74
	(Being accrued interest sold taken to interest income account)		

Receive the consideration

The consideration is received on T + 3 or based on the market concerned. The consideration received is adjusted for the accrued interest sold. The accounting entry that is recorded in the books of accounts is as shown in Table 2.18.

Table 2.18 On receiving the contracted sum

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Nov-X8	Bank account	372,602.74	
	Receivable from Peterson & Co. account		372,602.74
	(Being amount received on the sale of the bond)		

Ascertain the profit/loss on the sale

The profit or loss on liquidation of the bonds is ascertained by deducting the cost of sales from the net sale consideration. Cost of sales is arrived at by following the FIFO, LIFO or weighted average method. In this case, however, the liquidation methodology followed is FIFO.

Before ascertaining the profit or loss on such a sale, the interest element until the date of sale should first be amortized and treated as income. The same should also be added to the cost of the bonds. Tables 2.19 and 2.20 show the entries that would be passed:

Table 2.19 On accounting for interest based on amortization

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X8	Investments—Bonds—FVPL account	3,346.60	
	To Interest Income—Bonds—FVPL account		3,346.60
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

Table 2.20 Profit/loss on sale of bond

Calculation of realized gain on sale of bonds	Value
a) Amount realized on sale of bonds	368,000.00
b) Amortized cost of bonds sold	353,703.02
c) Realized gain on sale (a) − (b)	**14,296.98**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Nov-X8	Investments—Bonds—FVPL account	14,296.98	
	To Realized capital gain/loss—Bonds—FVPL account		14,296.98
	(Being the gain on the sale of bond)		

FX revaluation process

For every transaction denominated and recorded in a foreign currency, a corresponding journal entry is recorded and accounted in its functional currency based on the foreign exchange rate on the date on which such a transaction is recognized. This process is known as FX revaluation. FX revaluation is performed on all the accounting entries recorded by the investor. FX revaluation of revenues, expenses, gain and losses at the exchange rate on which the transaction is recognized has the effect of freezing the amounts in the functional currency and do not undergo any change due to fluctuation in the FX rates at the valuation date.

FX translation process

The income statement and balance sheet of the investor should be prepared in the functional currency. Hence on the valuation date all the assets and liabilities of the investor that are designated in foreign currency should be converted into the functional currency based on the official FX conversion rates on the valuation date. This is achieved by the FX revaluation process. However, apart from the revaluation process, another process known as FX translation is required to be performed by the investor to adjust the FX rate differential between the transaction date and the valuation date in respect of all assets and liabilities, which can either be monetary items or non-monetary items.

All monetary items are valued at the closing exchange rate with the exchange difference being taken to the profit and loss account. All non-monetary items that are measured at historical cost are valued at the exchange rate at the date of the transaction and as such do not result in any exchange difference. However, non-monetary items that are measured at fair value are valued at the exchange rate at the date at which the fair value was determined.

Generally, debt securities are monetary assets where a fixed amount in a certain currency is receivable from the issuer. However, note that a fixed income security held other than to maturity (i.e., held either for trading purposes or as available-for-sale security) are non-monetary items. Fixed income securities held for trading purposes are valued at fair value on valuation date and the exchange difference on such valuation is recognized in the profit and loss account.

ADDITIONAL EVENTS IN THE TRADE LIFE CYCLE

Early redemption

Certain debt instruments have a call provision which grants the issuer an option to retire all or part of the issue prior to the maturity date as mentioned in the document, even though most of the new bond issues usually have some restrictions against certain types of early redemption. When the issuer exercises the call provision, then the bond gets redeemed as per the terms of the issue. Interest, however, is paid until the date of actual payment of the money by the issuer. Assuming that the bonds are to be redeemed at par whenever the call is made, and assuming that the call is made on 25-Nov-X8, the accounting entry that would be passed is as shown in Table 2.21.

Table 2.21 On early redemption

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Nov-X8	Bank account	1,000,000.00	
	To investments—bonds—FVPL account		1,000,000.00
	(Being the early redemption of the bonds by the issuer)		

Maturity

The issuer returns the money to the investor on the maturity date as given in the original offer document. Interest is paid until the date of actual payment of the money to the investor. The accounting entry passed on maturity of the bond is as shown in Table 2.22.

Table 2.22 On maturity

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Nov-X8	Bank account	1,000,000.00	
	To investments—bonds—FVPL account		1,000,000.00
	(Being the amount received from the issuer on the maturity of the bond)		

Write off

The bond might have to be written off before the maturity date mentioned in the original offer document due to impairment or inability to pay by the issuer either in full or in part to the extent not recoverable. Interest is accounted for until the date on which the bond is written off.

Assuming that 40 percent of the maturity amount of the bond is impaired and only the remaining amount is paid by the issuer, the accounting entry passed on maturity of the bond is as shown in Table 2.23.

Table 2.23 On write off

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Nov-X8	Loss on investments—bonds—FVPL account	400,000.00	
	Bank account	600,000.00	
	To investments—bonds—FVPL account		1,000,000.00
	(Being the amount received from the issuer on the maturity of the bond to the extent of 60% and the balance 40% written off to profit and loss account)		

COMPLETE SOLUTION TO THE ILLUSTRATION

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Jan-X8	Bank account	2,000,000.00	
	To Share Capital account		2,000,000.00
	(Being the capital introduced)		

T-2 *On purchase of Bonds—FVPL:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Feb-X8	Investments—Bonds—FVPL account	595,000.00	
	To Payable to Peterson & Co. account		595,000.00
	(Being the purchase of bonds for trading purposes)		

T-3 *On recording accrued interest purchased on purchase of Bond:*

Calculation of accrued interest purchased	USD
Previous coupon date	15-Sep-X7
Settlement date of bonds purchased	04-Feb-X8
Number of days (Actual/365)	142
Face value of bonds on which interest is computed	700,000
Rate of interest p.a.(%)	6.00
Accrued interest purchased	16,339.73

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Feb-X8	Accrued interest purchased account	16,339.73	
	To Payable to Peterson & Co. account		16,339.73
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

T-4 *On payment of contracted sum:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Feb-X8	Payable to Peterson & Co. account	611,339.73	
	To Bank account		611,339.73
	(Being the payment made to the broker for purchased of bonds including accrued interest purchased)		

T-5 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	USD
Previous coupon date	15-Sep-X7
Current coupon date	15-Mar-X8
Number of days (Actual/365)	182
Face value of bonds on which interest is computed	700,000
Rate of interest p.a.(%)	6.00
Interest accounted for on coupon date	20,942.47

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Mar-X8	Interest receivable account	20,942.47	
	To Interest Income—Bonds—FVPL account		20,942.47
	(Being the interest accounted for on the coupon date)		

T-6 *On reversal of accrued interest purchased:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Mar-X8	Interest Income—Bonds—FVPL account	16,339.73	
	To accrued interest purchased account		16,339.73
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bond)		

T-7 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Mar-X8	Bank account	20,942.47	
	To interest receivable account		20,942.47
	(Being the receipt of coupon interest in the bank)		

T-8 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 31-Mar-X7 per bond			USD
Period ending	**Amount/bond**	**Qty**	**Value**
4-Feb-X8			
15-Mar-X8	0.44909673		
31-Mar-X8	0.18197744		
Total	0.63107417	7,000	4,417.52

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Investments—Bonds—FVPL account	4,417.52	
	To Interest Income—Bonds—FVPL account		4,417.52
	(Being the amortization of discount treated as interest expense as per accounting standards)		

T-9 *On valuation of bond at the end of valuation date:*

The market value is given in the example, $86.50 per bond as on 31-Mar-X8. The amortized cost as on date is arrived at with the carrying cost end price per bond on 31-Mar-X8 and the numbers of

bonds held. Thus, in the example as on 31-Mar-X8, 7000 bonds are held with the carrying cost of $85.6310742 per bond.

Calculation of MTM on 31-Mar-X8	Market Rate	Quantity	Value
Market value as on date	86.50	7,000	605,500.00
Amortized cost as on date			599,417.52
Mark-to-market Loss			6,082.48

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	MTM—Bonds—FVPL (Asset/Liability) account	6,082.48	
	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account		6,082.48
	(Being the unrealized capital gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-10 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	15-Mar-X8
Current valuation date	31-Mar-X8
Number of days (Actual/365)	16
Face value of bonds on which interest is computed	700,000
Rate of interest p.a.(%)	6.00
Accrued interest on valuation date	1,841.10

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest accrued but not due account	1,841.10	
	To Interest Income—Bonds—FVPL account		1,841.10
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-11 *On accounting for interest based on amortization:*

Calculation of interest based on amortization on 30-Jun-X3 per bond			USD
Period ending	Amount/bond	Qty	Value
30-Jun-X8	1.0403866		
Total	1.0403866	7,000	7,282.71

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Investments—Bonds—FVPL account	7,282.71	
	To Interest Income—Bonds—FVPL account		7,282.71
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-12 *Reversal of MTM—Bonds—FVPL (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized capital gain/loss on Bonds—FVPL (P&L) account	6,082.48	
	To MTM—Bonds—FVPL (Asset/Liability) account		6,082.48
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-13 *On valuation of bond at the end of valuation date:*

The market value is given in the example, $87.50 as on 30-Jun-X8. The amortized cost as on date is arrived with the carrying cost end price per bond on 30-Jun-X3 and the numbers of bonds held. Thus, in the example as on 30-Jun-X6, 7,000 bonds are held with the carrying cost of $86.6714608 per bond.

The market value of the bonds is compared with the amortized cost to arrive at the mark-to-market. Since the market rate at the end of the valuation date is lower than the amortized cost of acquisition, this results in mark-to-market loss, which is reflected as a decrease in the value of the asset. Since the bonds are held in the *trading* category, the losses are taken to the profit and loss account.

Calculation of MTM on 30-Jun-X8	Market Rate	Quantity	Value
Market value as on date	87.50	7,000	612,500.00
Amortized cost as on date			606,700.23
Mark-to-market Loss			5,799.77

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	MTM—Bonds—FVPL (Asset/Liability) account	5,799.77	
	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account		5,799.77
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-14 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest Income—Bonds—FVPL account	1,841.10	
	To interest accrued but not due account		1,841.10
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

T-15 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	15-Mar-X8
Current valuation date	30-Jun-X8
Number of days (Actual/365)	107
Face value of bonds on which interest is computed	700,000
Rate of interest p.a.(%)	6.00
Accrued interest on valuation date	12,312.33

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest accrued but not due account	12,312.33	
	To Interest Income—Bonds—FVPL account		12,312.33
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-16 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Sep-X8	Interest Income—Bonds—FVPL account	12,312.33	
	To interest accrued but not due account		12,312.33
	(Being the reversal of accrual of interest on bonds on the next valuation date / coupon date)		

T-17 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	USD
Previous coupon date	15-Mar-X8
Current coupon date	15-Sep-X8
Number of days (Actual/365)	184
Face value of bonds on which interest is computed	700,000
Rate of interest p.a.(%)	6.00
Interest accounted for on coupon date	21,172.60

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Sep-X8	Interest receivable account	21,172.60	
	To Interest Income—Bonds—FVPL account		21,172.60
	(Being the interest accounted for on the coupon date)		

T-18 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Sep-X8	Bank account	21,172.60	
	To interest receivable account		21,172.60
	(Being the receipt of coupon interest in the bank)		

T-19 *Reversal of MTM—Bonds—FVPL (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized capital gain/loss on Bonds—FVPL (P&L) account	5,799.77	
	To MTM—Bonds—FVPL (Asset/Liability) account		5,799.77
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-20 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	15-Sep-X8
Current valuation date	30-Sep-X8
Number of days (Actual/365)	15
Face value of bonds on which interest is computed	700,000
Rate of interest p.a.(%)	6.00
Accrued interest on valuation date	1,726.03

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest accrued but not due account	1,726.03	
	To Interest Income—Bonds—FVPL account		1,726.03
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-21 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 30-Sep-X1 per bond			USD
Period ending	**Amount/bond**	**Qty**	**Value**
15-Sep-X8	0.90640125		
30-Sep-X8	0.18099690		
Total	1.08739815	7,000	7,611.79

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Investments—Bonds—FVPL account	7,611.79	
	To Interest Income—Bonds—FVPL account		7,611.79
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-22 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 30-Sep-X8	Market Rate	Quantity	Value
Market value as on date	89.50	7,000	626,500.00
Amortized cost as on date			614,312.01
Mark-to-market gain			12,187.99

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	MTM—Bonds—FVPL (Asset/Liability) account	12,187.99	
	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account		12,187.99
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-23 *On sale of bonds:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Nov-X8	Receivable from Peterson & Co. account	368,000.00	
	To Investments—Bonds—FVPL account		368,000.00
	(Being the sale of bonds held for trading purposes through the broker)		

T-24 *On recording accrued interest sold received on sale of bonds:*

Calculation of accrued interest sold	**USD**
Previous coupon date	15-Sep-X8
Settlement date of bonds sold	24-Nov-X8
Number of days (Actual/365)	70
Face value of bonds on which interest is computed	400,000
Rate of interest p.a.(%)	6.00
Accrued interest sold	4,602.74

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
21-Nov-X8	Receivable from Peterson & Co. account	4,602.74	
	To accrued interest sold account		4,602.74
	(Being the accrued interest sold received on the sale of bonds calculated from the previous coupon date to the date of settlement of the bond)		

T-25 *Accrued interest sold taken to interest income:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
21-Nov-X8	Accrued interest sold account	4,602.74	
	To Interest Income—Bonds—FVPL account		4,602.74
	(Being accrued interest sold taken to interest income account)		

T-26 *On reversal of interest accrual on the next day:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
21-Nov-X8	Interest Income—Bonds—FVPL account	1,726.03	
	To interest accrued but not due account		1,726.03
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next day)		

T-27 *Profit/Loss on sale of bond:*

Here the amortized cost of bond is compared with the net sales realization to arrive at the realized gain on liquidation. As on 21-Nov-X8, the amortized cost as on date for the bonds sold is arrived at with the carrying cost end price per bond on 21-Nov-X8. Thus, in the example as on 21-Nov-X8, 4000 bonds are sold with the carrying cost of $88.4257543 per bond. The sale price is $92 per bond.

Calculation of realized gain on sale of bonds	Value
a) Amount realized on sale of bonds	368,000.00
b) Amortized cost of bonds sold	353,703.02
c) Realized gain on sale (a) − (b)	**14,296.98**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Nov-X8	Investments—Bonds—FVPL account	14,296.98	
	To Realized capital gain/loss—Bonds—FVPL account		14,296.98
	(Being the gain on the sale of bond)		

T-28 *On receiving the contracted sum:*

The contractual sum that is received on the sale of 4000 bonds also includes the interest accrued on such sale as calculated earlier of. Thus, the contractual sum includes the selling value of $368,000 and the interest accrual portion of $4,602.74.

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Nov-X8	Bank account	372,602.74	
	To receivable from Peterson & Co. account		372,602.74
	(Being amount received on the sale of the bond)		

T-29 *On accounting for interest based on amortization:*

Calculation of interest based on amortization on 31-Dec-X1 per bond			USD
Period ending	**Amount/bond**	**Qty**	**Value**
31-Dec-X8	1.1155341		
Total	1.1155341	3,000	3,346.60

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X8	Investments—Bonds—FVPL account	3,346.60	
	To Interest Income—Bonds—FVPL account		3,346.60
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-30 *On reversal of mark-to-market valuation on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X8	Unrealized capital gain/loss on Bonds—FVPL (P&L) account	12,187.99	
	To MTM—Bonds—FVPL (Asset/Liability) account		12,187.99
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-31 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 31-Dec-X8	Market Rate	Quantity	Value
Market value as on date	93.50	3,000	280,500.00
Amortized cost as on date			266,623.18
Mark-to-market gain			13,876.82

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X8	MTM—Bonds—FVPL (Asset/Liability) account	13,876.82	
	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account		13,876.82
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-32 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	15-Sep-X8
Current valuation date	31-Dec-X8
Number of days (Actual/365)	107
Face value of bonds on which interest is computed	300,000
Rate of interest p.a.(%)	6.00
Accrued interest on valuation date	5,276.71

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X8	Interest accrued but not due account	5,276.71	
	To Interest Income—Bonds—FVPL account		5,276.71
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

Investments—Bonds—FVPL account

Date	Particulars	Debit	Date	Particulars	Credit
1-Feb-X8	To Payable to Peterson & Co. account	595,000.00			
31-Mar-X8	To Interest Income—Bonds—FVPL account	4,417.52			
30-Jun-X8	To Interest Income—Bonds—FVPL account	7,282.71			
30-Sep-X8	To Interest Income—Bonds—FVPL account	7,611.79			
			21-Nov-X8	By receivable from Peterson & Co. account	368,000.00
21-Nov-X8	To Realized capital gain/loss—Bonds—FVPL account	14,296.98			
31-Dec-X8	To Interest Income—Bonds—FVPL account	3,346.60			
			31-Dec-X8	By balance	263,955.60
31-Dec-X8	Totals	**631,955.60**	31-Dec-X8	Totals	631,955.60
31-Dec-X8	To balance	263,955.60			

Payable to Peterson & Co. account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Feb-X8	By Investments—Bonds—FVPL account	595,000.00
			1-Feb-X8	By accrued interest purchased account	16,339.73
4-Feb-X8	To Bank account	611,339.73			
31-Dec-X8	Total	**611,339.73**	31-Dec-X8	Total	**611,339.73**

Accrued interest purchased account

Date	Particulars	Debit	Date	Particulars	Credit
1-Feb-X8	To Payable to Peterson & Co. account	16,339.73			
			15-Mar-X8	By Interest Income—Bonds—FVPL account	16,339.73
31-Dec-X8	Total	**16,339.73**	31-Dec-X8	Total	**16,339.73**

Interest receivable account

Date	Particulars	Debit	Date	Particulars	Credit
15-Mar-X8	To Interest Income—Bonds—FVPL account	20,942.47			
			18-Mar-X8	By Bank account	20,942.47
15-Sep-X8	To Interest Income—Bonds—FVPL account	21,172.60			
			18-Sep-X8	By Bank account	21,172.60
31-Dec-X8	Total	**42,115.07**	31-Dec-X8	Total	**42,115.07**

Interest Income—Bonds—FVPL account

Date	Particulars	Debit	Date	Particulars	Credit
			15-Mar-X8	By interest receivable account	20,942.47
15-Mar-X8	To accrued interest purchased account	16,339.73			
			31-Mar-X8	By Investments—Bonds—FVPL account	4,417.52
			31-Mar-X8	By interest accrued but not due account	1,841.10
			30-Jun-X8	By Investments—Bonds—FVPL account	7,282.71
30-Jun-X8	To interest accrued but not due account	1,841.10			
			30-Jun-X8	By interest accrued but not due account	12,312.33
15-Sep-X8	To interest accrued but not due account	12,312.33			
			15-Sep-X8	By interest receivable account	21,172.60
			30-Sep-X8	By interest accrued but not due account	1,726.03
			30-Sep-X8	By Investments—Bonds—FVPL account	7,611.79
			21-Nov-X8	By accrued interest sold account	4,602.74
21-Nov-X8	To interest accrued but not due account	1,726.03			
			31-Dec-X8	By Investments—Bonds—FVPL account	3,346.60
			31-Dec-X8	By interest accrued but not due account	5,276.71
31-Dec-X8	To Balance	58,313.41			
31-Dec-X8	Total	**90,532.60**	31-Dec-X8	Total	**90,532.60**
			31-Dec-X8	By Balance	58,313.41

Unrealized capital gain/loss on Bonds—FVPL (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By MTM—Bonds—FVPL (Asset/Liability) account	6,082.48
30-Jun-X8	To MTM—Bonds—FVPL (Asset/Liability) account	6,082.48			
			30-Jun-X8	By MTM—Bonds—FVPL (Asset/Liability) account	5,799.77
30-Sep-X8	To MTM—Bonds—FVPL (Asset/Liability) account	5,799.77			

Unrealized capital gain/loss on Bonds—FVPL (P&L) account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
			30-Sep-X8	By MTM—Bonds—FVPL (Asset/Liability) account	12,187.99
31-Dec-X8	To MTM—Bonds—FVPL (Asset/Liability) account	12,187.99			
			31-Dec-X8	By MTM—Bonds—FVPL (Asset/Liability) account	13,876.82
31-Dec-X8	To Balance	13,876.82			
31-Dec-X8	Total	**37,947.06**	31-Dec-X8	Total	**37,947.06**
			31-Dec-X8	By Balance	13,876.82

MTM—Bonds—FVPL (Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account	6,082.48			
			30-Jun-X8	By Unrealized capital gain/loss on Bonds—FVPL (P&L) account	6,082.48
30-Jun-X8	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account	5,799.77			
			30-Sep-X8	By Unrealized capital gain/loss on Bonds—FVPL (P&L) account	5,799.77
30-Sep-X8	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account	12,187.99			
			31-Dec-X8	By Unrealized capital gain/loss on Bonds—FVPL (P&L) account	12,187.99
31-Dec-X8	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account	13,876.82			
			31-Dec-X8	By Balance	13,876.82
31-Dec-X8	Total	**37,947.06**	31-Dec-X8	Total	**37,947.06**
31-Dec-X8	To Balance	13,876.82			

Interest accrued but not due account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest Income—Bonds—FVPL account	1,841.10			
			30-Jun-X8	By Interest Income—Bonds—FVPL account	1841.10

Date	Particulars	Debit	Date	Particulars	Credit
30-Jun-X8	To Interest Income—Bonds—FVPL account	12,312.33			
			15-Sep-X8	By Interest Income—Bonds—FVPL account	12,312.33
30-Sep-X8	To Interest Income—Bonds—FVPL account	1,726.03			
			21-Nov-X8	By Interest Income—Bonds—FVPL account	1,726.03
31-Dec-X8	To Interest Income—Bonds—FVPL account	5,276.71			
			31-Dec-X8	By Balance	5,276.71
31-Dec-X8	Total	**21,156.17**	31-Dec-X8	Total	**21,156.17**
31-Dec-X8	To Balance	5,276.71			

Receivable from Peterson & Co. account

Date	Particulars	Debit	Date	Particulars	Credit
21-Nov-X8	To Investments—Bonds—FVPL account	368,000.00			
21-Nov-X8	To accrued interest sold account	4,602.74			
			24-Nov-X8	By Bank account	372,602.74
31-Dec-X8	Total	372,602.74	31-Dec-X8	Total	372,602.74

Accrued interest sold account

Date	Particulars	Debit	Date	Particulars	Credit
			21-Nov-X8	By receivable from Peterson & Co. account	4,602.74
21-Nov-X8	To Interest Income—Bonds—FVPL account	4,602.74			
31-Dec-X8	Total	4,602.74	31-Dec-X8	Total	4,602.74

Realized capital gain/loss—Bonds—FVPL account

Date	Particulars	Debit	Date	Particulars	Credit
			21-Nov-X8	By Investments—Bonds—FVPL account	14,296.98
31-Dec-X8	To Balance	14,296.98			
31-Dec-X8	Total	**14,296.98**	31-Dec-X8	Total	**14,296.98**
			31-Dec-X8	By Balance	14,296.98

Share Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Bank account	2,000,000.00
31-Dec-X8	To Balance	2,000,000.00			
31-Dec-X8	Total	**2,000,000.00**	31-Dec-X8	Total	**2,000,000.00**
			31-Dec-X8	By Balance	2,000,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Share Capital account	2,000,000.00			
			4-Feb-X8	By Payable to Peterson & Co. account	611,339.73
18-Mar-X8	To interest receivable account	20,942.47			
18-Sep-X8	To interest receivable account	21,172.60			
24-Nov-X8	To receivable from Peterson & Co. account	372,602.74			
			31-Dec-X8	By Balance	1,803,378.08
31-Dec-X8	Total	**2,414,717.81**	31-Dec-X8	Total	**2,414,717.81**
31-Dec-X8	To Balance	1,803,378.08			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Share Capital		2,000,000.00
Current Liabilities		Nil
Investments	Nil	
Current Asset		
Investments—Bonds—FVPL account	263,955.60	
MTM—Bonds—FVPL (Asset/Liability) account	13,876.82	
Bank account	1,803,378.08	
Interest accrued but not due account	5,276.71	
Income		
Interest Income—Bonds—FVPL account		58,313.41
Unrealized capital gain/loss on Bonds—FVPL (P&L) account		13,876.82
Realized capital gain/loss—Bonds—FVPL account		14,296.98
Total	**2,086,487.21**	**2,086,487.21**

Income Statement

For the period ending 31-Dec-X8

Expenses		**Income**	
Direct Expense		**Direct Income**	
		Interest Income—Bonds—FVPL account	58,313.41
		Unrealized capital gain/loss on Bonds—FVPL (P&L) account	13,876.82
		Realized capital gain/loss—Bonds—FVPL account	14,296.98
Net profit C/o	86,487.21		
Total	**86,487.21**	Total	**86,487.21**

Balance Sheet

As at 31-Dec-X8

Liabilities		**Assets**	
Capital account			
Share Capital	2,000,000.00		
		Investments	Nil
		Current Assets	
Profit & Loss account		Bank account	1,803,378.08
Opening Balance	Nil	Interest accrued but not due account	5,276.71
Current Period	86,487.21		
		(Measured at fair value)	
		Investments—Bonds—FVPL account	263,955.60
		MTM—Bonds—FVPL (Asset/Liability) account	13,876.82
Total	**2,086,487.21**	Total	**2,086,487.21**

FX REVALUATION AND FX TRANSLATION PROCESS

Functional currency, foreign currency and presentation currency

Functional currency is the **currency of the primary economic environment** in which the entity operates. All other currencies other than the functional currency are known as foreign currencies for the entity. Presentation currency is the currency in which the financial statements are presented to the investors. The entity is free to choose any currency as its presentation currency.

Primary economic environment

Financial accounting records should be maintained in the functional currency and the entity is not free to choose the same. The primary economic environment in which an entity operates is normally the one in which it primarily generates and expends cash. The functional currency is determined separately for individual entities. There is no such thing as a "group functional

currency." The accounting standard gives the factors—primary and additional—to determine the functional currency of an entity. The functional currency is determined by applying the factors specified in the accounting standard. Once determined, it is not changed unless there is a change in those underlying circumstances.

Primary factors

Primary factors for identifying the functional currency are the currency that mainly influences sales prices for goods and services (this will often be the currency in which sales prices for its goods and services are denominated and settled); and the currency of the country whose competitive forces and regulations mainly determine the sales prices of its goods and services (the currency that mainly influences labor, material and other costs of providing goods or services). This will often be the currency in which such costs are denominated and settled.

Additional factors

If there is a conflict in primary factors, then the following additional factors should be considered for determining the functional currency. As per the additional factors, the functional currency is the currency in which funds from financing activities (i.e., issuing debt and equity instruments) are generated and the currency in which receipts from operating activities are usually retained. This is the currency in which the excess of receipts over payments is maintained and usually this would be in the local currency.

In those instances in which the indicators are mixed and the functional currency is not obvious, the management's judgment will be required to determine the functional currency that most faithfully portrays the economic results of the entity's operations and thereby best achieves the objectives of foreign currency translation. Priority is given to the primary indicators before considering the additional indicators, which are designed to provide additional supporting evidence to determine an entity's functional currency.

Additional factors for a foreign operation

A foreign operation is 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.

Degree of autonomy: If its activities are carried out as an extension of the reporting entity without significant autonomy then the currency of the reporting entity would be the functional currency of such foreign operation. If the foreign operation accumulates cash, incurs expenses, and generates income—all in local currency—then the local currency would be the functional currency of such a foreign operation.

Percentage and frequency of transactions with reporting entity: If the transactions with the reporting entity are a high proportion of its activities then the currency of the reporting entity would be the functional currency of such a foreign operation. Few inter-company transactions would mean the local currency would be the functional currency of such a foreign operation.

Effect of cash flows on the reporting entity: If the cash flows of the foreign operation directly affect the cash flows of the reporting entity and are available for remittance to it then the currency of the reporting entity would be the functional currency of such a foreign operation. If the cash flows are mainly in local currency and do not impact the reporting entity's cash flows the local currency would be the functional currency of such foreign operation.

Financing and debt servicing: If the cash flows of the foreign operation are sufficient to service debt obligations without assistance from the reporting entity then the currency of the reporting entity would be the functional currency of such a foreign operation. If the financing and servicing of debt is out of local currency surpluses then the local currency would be the functional currency of such a foreign operation.

Foreign currency transaction

A foreign currency transaction is a transaction that is denominated in a currency other than the entity's functional currency or that requires settlement in a foreign currency. "Denominated" means that the balance is fixed in terms of the number of units of a foreign currency regardless of changes in the exchange rate. For example, when a U.S. company buys fixed income securities of a company in Singapore dollars, then on purchase of the security, the number of units of SGD that is payable for such a purchase is fixed and stays the same regardless of the foreign exchange rates between USD and SGD. Hence until the time the liability is settled, the U.S. company assumes the foreign exchange risk on account of the purchase of the security. Upon payment of the liability, based on the exchange rate at that point of time, the amount in USD terms is crystallized resulting in realized currency gain/loss.

Initial recognition

An entity must convert foreign currency items into its functional currency for recording in its book of accounts. On initial recognition, foreign currency transactions are recorded in the functional currency by applying to the foreign currency amount the spot exchange rate between the functional currency and the foreign currency at the date of the transaction.

Monetary and non-monetary items

Under the relevant accounting standards foreign currency monetary items are treated differently from foreign currency non-monetary items during subsequent recognition of those items on any valuation date. The essential feature of a monetary item is the right to receive or an obligation to deliver a fixed or determinable amount of units of currency. A non-monetary item does not have this right.

Examples of monetary items:

- Trade receivables and payables
- Cash dividends recognized as a liability
- Investments in debt securities
- Deferred taxes
- Pension and other employee benefits to be paid in cash
- Provisions that are to be settled in cash

Examples of non-monetary items:

- Prepaid amounts for goods or services
- Deferred income
- Investments in equity instruments
- Inventories and other fixed assets
- Goodwill, patents, trademarks and other intangible assets

Carrying amount—non-monetary assets

When an asset is non-monetary and is measured in a foreign currency, the carrying amount is determined by comparing the cost or carrying amount, as appropriate, translated at the exchange rate at the date when that amount was determined (i.e., the rate at the date of the transaction for an item measured in terms of historical cost), and the net realizable value or recoverable amount, as appropriate, translated at the exchange rate at the date when that value was determined (e.g., the closing rate at the end of the valuation date). The effect of this comparison may be that an impairment loss is recognized in the foreign currency but would not be recognized in the functional currency, or vice versa.

Exchange differences on monetary items

Exchange differences arise from the settlement of monetary items at a subsequent date to initial recognition, and re-measuring an entity's monetary items at rates different from those at which they were initially recorded (either during the valuation date or at the previous valuation dates). Such exchange differences must be recognized as income or expenses in the period in which they arise. If the transaction is settled in a different accounting period to that of the initial recognition of the transaction, the exchange difference to be recognized in each period is determined by the change in exchange rates during that period.

Exchange differences on non-monetary items

When a gain or loss on a non-monetary item is recognized in profit or loss, any exchange component of that gain or loss is also recognized in profit or loss. When a gain or loss on a non-monetary item is recognized directly in other comprehensive income, any exchange component of that gain or loss is recognized directly in other comprehensive income. (For example, gain or loss on equity securities classified as available-for-sale.)

FX revaluation process

For every transaction denominated and recorded in a foreign currency, a corresponding journal entry is recorded and accounted in its functional currency, based on the foreign exchange rate on the date on which such transaction is recognized. This process is known as FX Revaluation. FX Revaluation is performed on all the accounting entries recorded by the investor. FX Revaluation of revenues, expenses, gain and losses at the exchange rate on which the transaction is recognized has the effect of freezing the amounts in the functional currency and do not undergo any change due to fluctuation in the FX rates at the valuation date.

FX translation process

The income statement and balance sheet of the investor should be prepared in the functional currency. Hence on the valuation date all the assets and liabilities of the investor that are designated in foreign currency should be converted into the functional currency based on the official FX conversion rates on the valuation date. This is achieved by the FX revaluation process. However, apart from the revaluation process, another process, known as FX translation, is required to be performed by the investor to adjust the FX rate differential between the transaction date and the valuation date in respect of all assets and liabilities, which can either be monetary items or non-monetary items.

All monetary items are valued at the closing exchange rate with the exchange difference being taken to the profit and loss account. All non-monetary items that are measured at historical cost are valued at the exchange rate at the date of the transaction and as such do not result in any exchange difference. However, non-monetary items that are measured at fair value are valued at the exchange rate at the date at which the fair value was determined. Table 2.24 Shows the measurement basis for monetary & non-monetary items.

Table 2.24 Measurement basis for monetary & non-monetary items

Items	Measurement Basis	Exchange Rate
Monetary items	All	Closing rate
Non-monetary items	Historical cost	Exchange rate at the date of transaction
Non-monetary items	Fair value	Exchange rate at the date at which fair value was determined

FX revaluation entries

All the entries recorded above are initially entered in the respective trade currencies. If the trade currency is foreign currency, then each and every entry recorded in the trade currency should be entered again in the functional currency by converting the entries at the respective day's FX rates. In other words, for each trade currency that the investor deals with, there will be a complete set of books representing that trade currency. This includes journal entries, general ledger postings, trial balance, income statement and balance sheet. After revaluing each and every journal entry of all the trade currencies into the functional currency, a separate set of books is prepared again comprising of all the elements mentioned above viz. journal entries, general ledger postings, trial balance, income statement and balance sheet. It should be noted that the ultimate financial reports would be prepared and presented to all the stake holders based on the financial statements prepared in the functional currency only as this will encompass all the transactions of the investor in all trade currencies used.

Some accountants follow the method of revaluing the income and expense entries in functional currency based on the average rate for the month under review, meaning all the entries would be consolidated and one entry passed for each item of income or expense at the end of the month. Whatever the method adopted, it should be followed consistently.

However, in this book all illustrations are worked out on the basis of revaluing every single journal recorded in foreign currencies at the foreign exchange rate applicable for the day of the transaction.

FX translation entries

After revaluing all the entries in the functional currency at the respective FX rates for the day concerned, another entry needs to be passed in the books of the functional currency. This is mainly to adjust the currency gain or losses due to the fluctuations in FX rates between the valuation date and the date of recording the original entries. FX translation entries are recorded only for the asset and liability accounts, which are represented as monetary and non-monetary items. For income and expense accounts the amount gets crystallized on the date of passing the FX revaluation entries in the books of the functional currency.

There are fundamentally two types of FX translation entries that are recorded in the books of the functional currency:

- The first type represents accounting for currency gain or losses that are realized or consummated. An example of this type includes the currency gain realized on the amounts payable to the broker and the amount actually paid to the broker as recorded in the functional currency. The difference between the amount payable and the actual amount paid recorded in the functional currency represents the realized currency gain or losses. Let us call this **"consummated FX translation entries."**
- The second type represents accounting for currency gain or loss that arise on the existing assets or liabilities of the investor. An example of this type includes the currency gain on the market value of the bonds as recorded in the functional currency. This type of gain or loss is temporary in nature and will be either reversed the next day or passed on an incremental basis, meaning that it is subject to change on a daily basis depending upon the FX rates prevailing at that day. Let us call this **"transient FX translation entries."**

Consummated FX translation entry

Let us assume the following facts: Ram acquires 1,000 6 percent bonds issued by ABC Ltd., at Rs 650 each on 5-Jan-X1 when the USD/INR FX rate was 42.25, through the broker Peter & Co. Let us assume there is no brokerage involved here. The settlement for the purchases is made on 7-Jan-X1 when the USD/INR FX rate was 41.90. The functional currency for Ram is USD. Let us find out the amount for which consummated FX translation entry needs to be passed.

The following entries will be passed by Ram in trade currency, which is in INR, on acquiring the bonds and for making the payment to the broker.

T-1 *On purchase of Bonds:*

Journal Entry

Date	Particulars	Debit (INR)	Credit (INR)
5-Jan-X1	6% Bonds—ABC account—Trading	650,000.00	
	To Peter & Co. account		650,000.00
	(Being the 6% ABC bonds bought @ Rs. 650 per bond through the Broker—Peter & Co.)		

T-2 *On payment of contracted sum:*

Journal Entry

Date	Particulars	Debit (INR)	Credit (INR)
7-Jan-X1	Peter & Co. account	650,000.00	
	To Bank account		650,000.00
	(Being the amount paid to Peter & Co. on purchase of 1000 6% ABC bonds)		

The following are the revaluation entries for the above in functional currency which is USD.

F-1 *On purchase of bonds:* (T-1 @ FX Rate: 42.25)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
5-Jan-X1	6% Bonds—ABC account—Trading	15,384.62	
	To Peter & Co. account		15,384.62
	(Being the 6% ABC bonds bought @ Rs. 650 per bond through the Broker—Peter & Co.)		

F-2 *On payment of contracted sum:* (T-2 @ FX Rate: 41.90)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Jan-X1	Peter & Co. account	15,513.13	
	To Bank account		15,513.13
	(Being the amount paid to Peter & Co. on purchase of 1000 6% ABC bonds)		

Consummated FX translation entry: While the broker Peter & Co. is settled in full in trade currency, the same when recorded in functional currency shows as if Peter & Co. is paid US$128.51 over and above what is actually due to him. But this is due to the fluctuation in the FX rate between the date of trade and date of settlement. Hence this amount represents realized currency loss, and the consummated FX translation entry would be as follows:

F-3 *Consummated FX translation entry to record the realized currency gain on settlement date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Jan-X1	Realized currency gain/loss account	128.51	
	To Peter & Co. account		128.51
	(Being the consummated FX translation entry passed to record the realized currency gain on settlement of the Broker—Peter & Co.)		

Transient FX translation entries

Let us assume the following facts: Ram acquires 1,000 6 percent bonds issued by ABC Ltd., at Rs. 650 each on 5-Jan-X1, when the USD/INR FX rate was 42.25. Assume that the USD/INR FX rate on 31-Jan-X1, the valuation date, is 41.50 and for the sake of this example the market rate of 6 percent ABC bonds is the same at Rs. 650 per share. Functional currency for Ram is USD. The following entries will be passed by Ram in trade currency, which is in INR on acquiring the bonds.

T-1 *On purchase of bonds*

Journal Entry

Date	Particulars	Debit (INR)	Credit (INR)
5-Jan-X1	6% Bonds—ABC account—Trading	650,000.00	
	To Peter & Co. account		650,000.00
	(Being the 6% ABC bonds bought @ Rs. 650 per bond through the Broker—Peter & Co.)		

T-2 *On valuation of bonds based on the market rate:*

No entry is required as there is no change in the value of the bonds held. It is the same as the cost of acquisition of the bonds.

The following are the revaluation entries for the above in the functional currency, which is in USD.

F-1 *On purchase of bonds:* (T-1 @ FX Rate: 42.25)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
5-Jan-X1	6% Bonds—ABC account—Trading	15,384.62	
	To Peter & Co. account		15,384.62
	(Being the 6% ABC bonds bought @ Rs. 650 per bond through the Broker—Peter & Co.)		

F-2 *On valuation of bonds based on the market rate:* (T-2 @ FX Rate: 41.50)

No entry is required as there is no change in the value of the bonds held. It is the same as the cost of acquisition of the bonds. No FX revaluation entry is necessary as there is no original entry in trade currency for mark-to-market valuation. However, in the functional currency, there is a change in the market value for which the FX translation entry is passed.

Transient FX translation entry: While the market value of the bonds bought on 5-Jan-X1 is the same as the cost of acquisition, in dollar terms the value is different and hence a "transient FX translation entry" should be recorded on 31-Jan-X1. This is called a transient entry as the entry will either be reversed the next day or on the next valuation date.

The market value of the bonds in functional currency is Rs.650,000/41.50 = US$15,662.65. Hence the difference between this market value and the cost of acquisition in USD terms viz. 15,384.62, which is US$278.04 will be recorded as an unrealized FX gain. The accounting entry is as follows:

F-3 *Transient FX translation entry to record the unrealized currency gain or loss on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Jan-X1	6% Bonds—ABC account—Trading	278.04	
	To Unrealized currency gain/loss account—Bonds		278.04
	(Being the transient FX translation entry passed to record the unrealized currency gain on valuation date)		

DISTINCTION BETWEEN CAPITAL GAIN AND CURRENCY GAIN

When an entity trades in foreign currency (i.e., where the trade currency is different from the functional currency), then the total unrealized gain or loss consists of two components—capital gain and currency gain. The US GAAP Statement of Position for investment companies pertaining to the disclosure and treatment of these two components in relation to investment companies is given below with a suitable illustration.

US GAAP—Statement Of Position (SOP 93-4) for investment companies

The change in value of an investment in respect of an asset denominated in a foreign currency on the valuation date from the original value at which it is recorded in the books of accounts in functional currency has two components viz. the capital gain/loss due to change in the market rate of the asset and currency gain/loss due to change in the foreign exchange rate. Investment companies can either choose to combine these two elements for investment transactions or disclose the currency gain/loss due to change in the FX rate separately. As per the SOP it is not mandatory to show that separately even though it indicates that such separate reporting would provide valuable information to the users of the financial statements.

A. Net unrealized gain in functional currency
   = (Market value in foreign currency × Valuation date spot rate)
   − (Cost in foreign currency × Transaction date spot rate)

B. Unrealized capital gain in functional currency:
   (Market value in foreign currency − Cost in foreign currency)
   × (Valuation date spot rate)

C. Unrealized currency gain in functional currency:
   (Cost in foreign currency × Valuation date spot rate)
   − (Cost in foreign currency × Transaction date spot rate)

A should be equal to B + C;

Example:

New Century Indian Fund acquired 1000 6 percent bonds of Tata Steel Limited @ Rs. 2,700 per bond when the USD/INR was Rs.45. The market rate of 6 percent Tata Steel Limited Bonds on valuation date was Rs. 3,000 and the exchange rate was Rs.41. Find out the capital and currency gain on valuation date.

A. Net unrealized gain in functional currency
= (Market value in foreign currency × Valuation date spot rate)
− (Cost in foreign currency × Transaction date spot rate)
= [3,000,000 × (100/45)] − [2,700,000 × (100/41)]
− [2,700,000 × (100/45)]
= US$66666.67 − 65853.67 = US$813 (Gain)

B. Unrealized capital gain in functional currency:
(Market value in foreign currency − Cost in foreign currency)
× (Valuation date spot rate)
= (3,000,000 − 2,700,000) × (100/41)]
= US$7317.07 (Gain)

C. Unrealized currency gain in functional currency:
(Cost in foreign currency × Valuation date spot rate)
− (Cost in foreign currency × Transaction date spot rate)
= [3,000,000 × (100/41)] − [3,000,000 × (100/45)]
= US$73170.73 − 66666.67 = US$6504.06 (Loss)

A should be equal to B + C;

Here the capital gain amounting to US$7317.07 is reduced by adverse currency movement amounting to US$6,504.06 resulting in net unrealized gain of just US$813.

ILLUSTRATION 1: INVESTMENT IN BONDS HELD FOR TRADING PURPOSES

Bond-trading—Problem 1-USD

Bond details:	
Face value	100.00
Issue Price	100.00
Maturity	10-Feb-X10
Rate of interest	5.00%
Currency	USD

Coupon dates (until maturity)	**Coupon date**	**Settle date**
Previous Coupon	10-Aug-X6	13-Aug-X6
Coupon date-1	10-Feb-X7	13-Feb-X7
Coupon date-2	10-Aug-X7	13-Aug-X7
Coupon date-3	10-Feb-X8	13-Feb-X8
Coupon date-4	10-Feb-X8	13-Feb-X8
Coupon date-5	10-Feb-X9	13-Feb-X9
Coupon date-6	10-Aug-X9	13-Aug-X9
Coupon date-7	10-Feb-X10	13-Feb-X10

Day Count	Actual/365			
Transaction details				
Particulars	**Trade date**	**Settle date**	**Quantity**	**Clean Price**
Bought	01-Feb-X7	04-Feb-X7	23,000	75.00
Sold	21-Nov-X7	24-Nov-X7	15,000	79.00

Valuation dates and market value	**Date**	**Market rate**
Valuation date 1	31-Mar-X7	76.50
Valuation date 2	30-Jun-X7	77.50
Valuation date 3	30-Sep-X7	77.75
Valuation date 4	31-Dec-X7	79.75
Functional currency	USD	

Other details	**Date**	**USD**
Capital Introduced	01-Jan-X7	2,000,000

SOLUTION TO ILLUSTRATION 1: INVESTMENT IN BONDS HELD FOR TRADING PURPOSES

Face Value	100.00	Qty	1
Coupon rate	5.00	Discount/(–) Premium	25.00
Effective rate	14.507633		
Purchase price	75.00		

Date	**No. of days**	**Carrying Cost at Beginning**	**Effective Int %**	**Effective Interest**	**Coupon Amount**	**Amortization**	**Carrying Cost End**
10-Feb-X7	6	75.00	0.238481638	0.1788612288	0.0821918	0.0966694	75.0966694
31-Mar-X7	49	75.10	1.947600047	1.4625827691	0.6712329	0.7913499	75.8880193
30-Jun-X7	91	75.89	3.616971515	2.7448480429	1.2465753	1.4982727	77.3862920
10-Aug-X7	41	77.39	1.629624529	1.2611059970	0.5616438	0.6994622	78.0857542
30-Sep-X7	51	78.09	2.027093926	1.5828715805	0.6986301	0.8842414	78.9699956
31-Dec-X7	92	78.97	3.656718455	2.8877104045	1.2602740	1.6274364	80.5974321
10-Feb-X8	184	80.60	7.31343691	5.8944423457	2.5205479	3.3738944	83.9713265
10-Aug-X8	182	83.97	7.23394303	6.0744379191	2.4931507	3.5812872	87.5526137
10-Feb-X9	184	87.55	7.31343691	6.4031051665	2.5205479	3.8825572	91.4351709
10-Aug-X9	181	91.44	7.19419609	6.5780254926	2.4794521	4.0985734	95.5337444
10-Feb-X10	184	95.53	7.31343691	6.9868001220	2.5205479	4.4662522	99.9999965
		100.00					

Note: On 24-Nov-X7, interest amortization for the ensuing period is 0.4864619 and the carrying cost is 79.4564586.

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Jan-X7	Bank account	2,000,000.00	
	To Share Capital account		2,000,000.00
	(Being the capital introduced)		

T-2 *On purchase of Bonds—FVPL:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Feb-X7	Investments—Bonds—FVPL account	1,725,000.00	
	To Payable to Auerbach & Co. account		1,725,000.00
	(Being the purchase of bonds for trading purposes)		

T-3 *On recording accrued interest purchased on purchase of Bond:*

Calculation of accrued interest purchased	USD
Previous coupon date	10-Aug-X6
Settlement date of bonds purchased	4-Feb-X7
Number of days (Actual/365)	178
Face value of bonds on which interest is computed	2,300,000
Rate of interest p.a.(%)	5.00
Accrued interest purchased	56,082.19

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Feb-X7	Accrued interest purchased account	56,082.19	
	To Payable to Auerbach & Co. account		56,082.19
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

T-4 *On payment of contracted sum:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Feb-X7	Payable to Auerbach & Co. account	1,781,082.19	
	To Bank account		1,781,082.19
	(Being the payment made to the broker for purchased of bonds including accrued interest purchased)		

T-5 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	USD
Previous coupon date	10-Aug-X6
Current coupon date	10-FebX7
Number of days (Actual/365)	184
Face value of bonds on which interest is computed	2,300,000
Rate of interest p.a.(%)	5.00
Interest accounted for on coupon date	57,972.60

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Feb-X7	Interest receivable account	57,972.60	
	To Interest Income—Bonds—FVPL account		57,972.60
	(Being the interest accounted for on the coupon date)		

T-6 *On reversal of accrued interest purchased:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Feb-X7	Interest Income—Bonds—FVPL account	56,082.19	
	To accrued interest purchased account		56,082.19
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bond)		

T-7 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Feb-X7	Bank account	57,972.60	
	To interest receivable account		57,972.60
	(Being the receipt of coupon interest in the bank)		

T-8 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 31-Mar-X7 per bond			USD
Period ending	Amount/bond	Qty	Value
10-Feb-X7	0.09666945		
31-Mar-X7	0.79134989		
Total	0.88801934	23,000	20,424.44

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Investments—Bonds—FVPL account	20,424.44	
	To Interest Income—Bonds—FVPL account		20,424.44
	(Being the amortization of discount treated as interest income as per accounting standards)		

T-9 *On valuation of bond at the end of valuation date:*

The holding is 23,000 bonds and the market value of the bonds is compared with the Amortized cost of acquisition to arrive at the mark-to-market. Since the market rate at the end of the valuation date is lower than the amortized cost of acquisition, this results in mark-to-market loss, which is reflected as a decrease in the value of the asset. Since the bonds are held in the *trading* category, the losses are taken to the profit and loss account.

The market value is given in the example, $76.50 as on 31-Mar-X7. The amortized cost as on date is arrived with the carrying cost end price per bond on 31-Mar-X7 and the numbers of bonds held. Thus, in the example as on 31-Mar-X7, 23,000 bonds are held with the carrying cost of $75.8880193 per bond. This results in a mark-to-market loss which is taken to the profit and loss account.

Calculation of MTM on 31-Mar-X7	Market Rate	Quantity	Value
Market value as on date	76.50	23,000	1,759,500.00
Amortized cost as on date			1,745,424.44
Mark-to-market loss			14,075.56

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	MTM—Bonds—FVPL (Asset/Liability) account	14,075.56	
	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account		14,075.56
	(Being the unrealized capital gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-10 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	10-Feb-X7
Current valuation date	31-Mar-X7
Number of days (Actual/365)	49
Face value of bonds on which interest is computed	2.300,000
Rate of interest p.a.(%)	5.00
Accrued interest on valuation date	15,438.36

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Interest accrued but not due account	15,438.36	
	To Interest Income—Bonds—FVPL account		15,438.36
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-11 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Investments—Bonds—FVPL account	34,460.27	
	To Interest Income—Bonds—FVPL account		34,460.27
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-12 *Reversal of MTM—Bonds—FVPL (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Unrealized capital gain/loss on Bonds—FVPL (P&L) account	14,075.56	
	To MTM—Bonds—FVPL (Asset/Liability) account		14,075.56
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-13 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 30-Jun-X7	Market Rate	Quantity	Value
Market value as on date	77.50	23,000	1,782,500.00
Amortized cost as on date			1,779,884.72
Mark-to-market loss			**2,615.28**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	MTM—Bonds—FVPL (Asset/Liability) account	2,615.28	
	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account		2,615.28
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-14 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest Income—Bonds—FVPL account	15,438.36	
	To interest accrued but not due account		15,438.36
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

T-15 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	10-Feb-X7
Current valuation date	30-Jun-X7
Number of days (Actual/365)	140
Face value of bonds on which interest is computed	2,300,000
Rate of interest p.a.(%)	5.00
Accrued interest on valuation date	44,109.59

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest accrued but not due account	44,109.59	
	To Interest Income—Bonds—FVPL account		44,109.59
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-16 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Aug-X7	Interest Income—Bonds—FVPL account	44,109.59	
	To interest accrued but not due account		44,109.59
	(Being the reversal of accrual of interest on bonds on the next valuation date / coupon date)		

T-17 *On accounting for interest on coupon date:*

Calculation of interest On coupon date	USD
Previous coupon date	10-Feb-X7
Current Coupon date	10-Aug-X7
Number of days (Actual/365)	181
Face value of bonds on which interest is computed	2,300,000
Rate of interest p.a.(%)	5.00
Interest accounted for on coupon date	57,027.40

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Aug-X7	Interest receivable account	57,027.40	
	To Interest Income—Bonds—FVPL account		57,027.40
	(Being the interest accounted for on the coupon date)		

T-18 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Aug-X7	Bank account	57,027.40	
	To interest receivable account		57,027.40
	(Being the receipt of coupon interest in the bank)		

T-19 *Reversal of MTM—Bonds—FVPL (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Unrealized capital gain/loss on Bonds—FVPL (P&L) account	2,615.28	
	To MTM—Bonds—FVPL (Asset/Liability) account		2,615.28
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-20 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	10-Aug-X7
Current valuation date	30-Sep-X7
Number of days (Actual/365)	51
Face value of bonds on which interest is computed	2,300,000
Rate of interest p.a.(%)	5.00
Accrued interest on valuation date	16,068.49

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Interest accrued but not due account	16,068.49	
	To Interest Income—Bonds—FVPL account		16,068.49
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-21 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 30-Sep-X1 per bond			USD
Period ending	**Amount/bond**	**Qty**	**Value**
10-Aug-X7	0.69946216		
30-Sep-X7	0.88424144		
Total	1.58370360	23,000	36,425.18

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Investments—Bonds—FVPL account	36,425.18	
	To Interest Income—Bonds—FVPL account		36,425.18
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-22 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 30-Sep-X7	Market Rate	Quantity	Value
Market value as on date	77.75	23,000	1,788,250.00
Amortized cost as on date			1,816,309.90
Mark-to-market loss			(28,059.90)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Unrealized capital gain/loss on Bonds—FVPL (P&L) account	28,059.90	
	To MTM—Bonds—FVPL (Asset/Liability) account		28,059.90
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-23 *On sale of bonds:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Nov-X7	Receivable from Auerbach & Co. account	1,185,000.00	
	To Investments—Bonds—FVPL account		1,185,000.00
	(Being the sale of bonds held for trading purposes through the broker)		

T-24 *On recording accrued interest sold received on sale of bonds:*

Calculation of accrued interest sold	USD
Previous coupon date	10-Aug-X7
Settlement date of bonds Sold	24-Nov-X7
Number of days (Actual/365)	106
Face value of bonds on which interest is computed	1,500,000
Rate of interest p.a.(%)	5.00
Accrued interest sold	21,780.82

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Nov-X7	Receivable from Auerbach & Co. account	21,780.82	
	To accrued interest sold account		21,780.82
	(Being the accrued interest sold received on the sale of bonds calculated from the previous coupon date to the date of settlement of the bond)		

T-25 *Accrued interest sold taken to interest income:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Nov-X7	Accrued interest sold account	21,780.82	
	To Interest Income—Bonds—FVPL account		21,780.82
	(Being accrued interest sold taken to interest income account)		

T-26 *On reversal of interest accrual on the next day:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Nov-X7	Interest Income—Bonds—FVPL account	16,068.49	
	To interest accrued but not due account		16,068.49
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next day)		

T-27 *Profit/Loss on sale of bond:*

Here the amortized cost of bond is compared with the net sales realization to arrive at the realized gain/loss on liquidation. As on 21-Nov-X7, the amortized cost is the carrying cost end price per bond on 21-Nov-X7. Thus, in the example as on 21-Nov-X7, 15,000 bonds are sold with the carrying cost of $79.4564586 per bond. The sale price is $79 per bond.

Calculation of realized gain on sale of Bonds	USD
a) Amount realized on sale of Bonds	1,185,000.00
b) Amortized cost of Bonds sold	1,191,846.86
c) Realized loss on sale (a) − (b)	(6,846.86)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Nov-X7	Realized capital gain/loss—Bonds—FVPL account	6,846.86	
	To Investments—Bonds—FVPL account		6,846.86
	(Being the loss on the sale of bond)		

T-28 *On receiving the contracted sum:*

The contractual sum that is received on the sale of 23,000 bonds also includes the interest accrued on such sale as calculated earlier of. Thus, the contractual sum includes the selling value of $1,185,000 and the interest accrual portion of $21,780.82.

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Nov-X7	Bank account	1,206,780.82	
	To receivable from Auerbach & Co. account		1,206,780.82
	(Being amount received on the sale of the bond)		

T-29 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Investments—Bonds—FVPL account	13,019.49	
	To Interest Income—Bonds—FVPL account		13,019.49
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-30 *On reversal of mark-to-market valuation on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	MTM—Bonds—FVPL (Asset/Liability) account	28,059.90	
	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account		28,059.90
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-31 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 31-Dec-X7	Market Rate	Quantity	Value
Market value as on date	79.75	8,000	638,000.00
Amortized cost as on date			644,779.46
Mark-to-market loss			(6,779.46)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Unrealized capital gain/loss on Bonds—FVPL (P&L) account	6,779.46	
	To MTM—Bonds—FVPL (Asset/Liability) account		6,779.46
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-32 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	10-Aug-X7
Current valuation date	31-Dec-X7
Number of days (Actual/365)	143
Face value of bonds on which interest is computed	800,000
Rate of interest p.a.(%)	5.00
Accrued interest on valuation date	15,671.23

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Interest accrued but not due account	15,671.23	
	To Interest Income—Bonds—FVPL account		15,671.23
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

Investments—Bonds—FVPL account

Date	Particulars	Debit	Date	Particulars	Credit
1-Feb-X7	To Payable to Auerbach & Co. account	1,725,000.00			
31-Mar-X7	To Interest Income—Bonds—FVPL account	20,424.44			
30-Jun-X7	To Interest Income—Bonds—FVPL account	34,460.27			
30-Sep-X7	To Interest Income—Bonds—FVPL account	36,425.18			
			21-Nov-X7	By receivable from Auerbach & Co. account	1,185,000.00
			21-Nov-X7	By Realized capital gain/loss—Bonds—FVPL account	6,846.86
31-Dec-X7	To Interest Income—Bonds—FVPL account	13,019.49			
			31-Dec-X7	By balance	637,482.52
31-Dec-X7	Totals	**1,829,329.38**	31-Dec-X7	Totals	**1,829,329.38**
31-Dec-X7	To balance	637,482.52			

Payable to Auerbach & Co. account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Feb-X7	By Investments—Bonds—FVPL account	1,725,000.00
			1-Feb-X7	By accrued interest purchased account	56,082.19
4-Feb-X7	To Bank account	1,781,082.19			
31-Dec-X7	Total	1,781,082.19	31-Dec-X7	Total	1,781,082.19

Accrued interest purchased account

Date	Particulars	Debit	Date	Particulars	Credit
1-Feb-X7	To Payable to Auerbach & Co. account	56,082.19			
			10-Feb-X7	By Interest Income—Bonds—FVPL account	56,082.19
31-Dec-X7	Total	56,082.19	31-Dec-X7	Total	56,082.19

Interest receivable account

Date	Particulars	Debit	Date	Particulars	Credit
10-Feb-X7	To Interest Income—Bonds—FVPL account	57,972.60			
			13-Feb-X7	By Bank account	57,972.60
10-Aug-X7	To Interest Income—Bonds—FVPL account	57,027.40			
			13-Aug-X7	By Bank account	57,027.40
31-Dec-X7	Total	115,000.00	31-Dec-X7	Total	115,000.00

Interest Income—Bonds—FVPL account

Date	Particulars	Debit	Date	Particulars	Credit
			10-Feb-X7	By interest receivable account	57,972.60
10-Feb-X7	To accrued interest purchased account	56,082.19			
			31-Mar-X7	By Investments—Bonds—FVPL account	20,424.44
			31-Mar-X7	By interest accrued but not due account	15,438.36
			30-Jun-X7	By Investments—Bonds—FVPL account	34,460.27
30-Jun-X7	To interest accrued but not due account	15,438.36			
			30-Jun-X7	By interest accrued but not due account	44,109.59

Interest Income—Bonds—FVPL account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
10-Aug-X7	To interest accrued but not due account	44,109.59			
			10-Aug-X7	By interest receivable account	57,027.40
			30-Sep-X7	By interest accrued but not due account	16,068.49
			30-Sep-X7	By Investments—Bonds—FVPL account	36,425.18
			21-Nov-X7	By accrued interest sold account	21,780.82
21-Nov-X7	To interest accrued but not due account	16,068.49			
			31-Dec-X7	By Investments—Bonds—FVPL account	13,019.49
			31-Dec-X7	By interest accrued but not due account	15,671.23
31-Dec-X7	To Balance	200,699.24			
31-Dec-X7	Total	**332,397.87**	31-Dec-X7	Total	**332,397.87**
			31-Dec-X7	By Balance	200,699.24

Unrealized capital gain/loss on Bonds—FVPL (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X7	By MTM—Bonds—FVPL (Asset/Liability) account	14,075.56
30-Jun-X7	To MTM—Bonds—FVPL (Asset/Liability) account	14,075.56			
			30-Jun-X7	By MTM—Bonds—FVPL (Asset/Liability) account	2,615.28
30-Sep-X7	To MTM—Bonds—FVPL (Asset/Liability) account	2,615.28			
30-Sep-X7	To MTM—Bonds—FVPL (Asset/Liability) account	28,059.90			
			31-Dec-X7	By MTM—Bonds—FVPL (Asset/Liability) account	28,059.90
31-Dec-X7	To MTM—Bonds—FVPL (Asset/Liability) account	6,779.47			
			31-Dec-X7	By Balance	6,779.47
31-Dec-X7	Total	**51,530.21**	31-Dec-X7	Total	**51,530.21**
31-Dec-X7	To Balance	6,779.47			

MTM—Bonds—FVPL (Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To Unrealized capital gain/ loss on Bonds—FVPL (P&L) account	14,075.56			
			30-Jun-X7	By Unrealized capital gain/loss on Bonds—FVPL (P&L) account	14,075.56
30-Jun-X7	To Unrealized capital gain/ loss on Bonds—FVPL (P&L) account	2,615.28			
			30-Sep-X7	By Unrealized capital gain/loss on Bonds—FVPL (P&L) account	2,615.28
			30-Sep-X7	By Unrealized capital gain/loss on Bonds—FVPL (P&L) account	28,059.90
31-Dec-X7	To Unrealized capital gain/ loss on Bonds—FVPL (P&L) account	28,059.90			
			31-Dec-X7	By Unrealized capital gain/loss on Bonds—FVPL (P&L) account	6,779.47
31-Dec-X7	To Balance	6,779.47			
31-Dec-X7	Total	**51,530.21**	31-Dec-X7	Total	**51,530.21**
			31-Dec- X7	By Balance	6,779.47

Interest accrued but not due account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To Interest Income—Bonds—FVPL account	15,438.36			
			30-Jun-X7	By Interest Income—Bonds—FVPL account	15,438.36
30-Jun-X7	To Interest Income—Bonds—FVPL account	44,109.59			
			10-Aug-X7	By Interest Income—Bonds—FVPL account	44,109.59
30-Sep-X7	To Interest Income—Bonds—FVPL account	16,068.49			
			21-Nov-X7	By Interest Income—Bonds—FVPL account	16,068.49
31-Dec-X7	To Interest Income—Bonds—FVPL account	15,671.23			
			31-Dec-X7	By Balance	15,671.23
31-Dec-X7	Total	**91,287.67**	31-Dec-X7	Total	**91,287.67**
31-Dec-X7	To Balance	15,671.23			

Receivable from Auerbach & Co. account

Date	Particulars	Debit	Date	Particulars	Credit
21-Nov-X7	To Investments—Bonds—FVPL account	1,185,000.00			
21-Nov-X7	To accrued interest sold account	21,780.82			
			24-Nov-X7	By Bank account	1,206,780.82
31-Dec-X7	Total	1,206,780.82	31-Dec-X7	Total	1,206,780.82

Accrued interest sold account

Date	Particulars	Debit	Date	Particulars	Credit
			21-Nov-X7	By receivable from Auerbach & Co. account	21,780.82
21-Nov-X7	To Interest Income—Bonds—FVPL account	21,780.82			
31-Dec-X7	Total	21,780.82	31-Dec-X7	Total	21,780.82

Realized capital gain/loss—Bonds—FVPL account

Date	Particulars	Debit	Date	Particulars	Credit
21-Nov-X7	To Investments—Bonds—FVPL account	6,846.86			
			31-Dec-X7	By Balance	6,846.86
31-Dec-X7	Total	**6,846.86**	31-Dec-X7	Total	**6,846.86**
31-Dec-X7	To Balance	6,846.86			

Share Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X7	By Bank account	2,000,000.00
31-Dec-X7	To Balance	2,000,000.00			
31-Dec-X7	Total	**2,000,000.00**	31-Dec-X7	Total	**2,000,000.00**
			31-Dec-X7	By Balance	2,000,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X7	To Share Capital account	2,000,000.00			
			4-Feb-X7	By Payable to Auerbach & Co. account	1,781,082.19
13-Feb-X7	To interest receivable account	57,972.60			

Date	Particulars	Debit	Date	Particulars	Credit
13-Aug-X7	To interest receivable account	57,027.40			
24-Nov-X7	To receivable from Auerbach & Co. account	1,206,780.82			
			31-Dec-X7	By Balance	1,540,698.63
31-Dec-X7	Total	**3,321,780.82**	31-Dec-X7	Total	**3,321,780.82**
31-Dec-X7	To Balance	1,540,698.63			

Trial Balance

As on 31-Dec-X7

Particulars	Debit	Credit
Capital account		
Share Capital		2,000,000.00
Current Liabilities		Nil
Investments	Nil	
Current Assets		
Bank account	1,540,698.63	
Interest accrued but not due account	15,671.23	
Investments—Bonds—FVPL account	637,482.52	
MTM—Bonds—FVPL (Asset/Liability) account		6,779.47
Income		
Interest Income—Bonds—FVPL account		200,699.24
Unrealized capital gain/loss on Bonds—FVPL (P&L) account	6,779.47	
Realized capital gain/loss—Bonds—FVPL account	6,846.86	
Total	**2,207,478.71**	**2,207,478.71**

Income Statement

For the period ending 31-Dec-X7

Expenses		Income	
Direct Expense		**Direct Income**	
		Interest Income—Bonds—FVPL account	200,699.24
Unrealized capital gain/loss on Bonds—FVPL (P&L) account	6,779.47		
Realized capital gain/loss—Bonds—FVPL account	6,846.86		
Net profit C/o	187,072.91		
Total	**200,699.24**	Total	**200,699.24**

Balance Sheet

As at 31-Dec-X7

Liabilities		**Assets**	
Capital account		**Investments**	Nil
Share Capital	2,000,000.00	**Current Assets**	
		Bank account	1,540,698.63
Profit & Loss account		Interest accrued but not due account	15,671.23
Opening Balance	Nil		
Current Period	187,072.91		
		Investments—Bonds—FVPL account	637,482.52
MTM—Bonds—FVPL (Asset/Liability) account	6,779.47		
Total	**2,193,852.38**	Total	**2,193,852.38**

PROBLEM 1: INVESTMENT IN BONDS (TRADING) IN FOREIGN CURRENCY (AUD)

Bond details:

Face value	100.00
Issue Price	100.00
Maturity	15-Mar-X10
Rate of interest	10.00
Currency	AUD

Coupon dates (until maturity)	**Coupon date**	**FX rate**	**Settle date**	**FX rate**
Previous Coupon	15-Sep-X6		18-Sep-X6	
Coupon date-1	15-Mar-X7	1.332980	18-Mar-X7	1.326700
Coupon date-2	15-Sep-X7	1.200340	18-Sep-X7	1.194170
Coupon date-3	15-Mar-X8		18-Mar-X8	
Coupon date-4	15-Sep-X8		18-Sep-X8	
Coupon date-5	15-Mar-X9		18-Mar-X9	
Coupon date-6	15-Sep-X9		18-Sep-X9	
Coupon date-7	15-Mar-X10		18-Mar-X10	

Day Count Actual/365

Transaction details

Particulars	**Trade date**	**FX rate**	**Settle date**	**FX rate**	**Quantity**	**Clean price**
Bought	06-Jan-X7	1.35	09-Jan-X7	1.344000	12,000	109.00
Sold	04-Nov-X7	1.21	07-Nov-X7	1.21000	5,000	104.50

Valuation dates and market value	Date	Market rate	FX rate
Valuation date 1	31-Mar-X7	107.00	1.27
Valuation date 2	30-Jun-X7	106.00	1.24
Valuation date 3	30-Sep-X7	105.00	1.18
Valuation date 4	31-Dec-X7	103.50	1.27
Functional currency	USD		

Other details	Date	AUD	FX Rate
Capital Introduced	01-Jan-X7	2,000,000	1.300000

Solution to Problem 1: Investment in Bonds in Foreign Currency (AUD)

Face Value	100.00	Qty	1
Coupon rate	10.00	Discount/(–) Premium	– 9.00
Effective rate	7.041781		
Purchase price	109.00		

Date	No. of days	Carrying Cost at Beginning	Effective Int %	Effective Interest	Coupon Amount	Amortization	Carrying Cost End
15-Mar-X7	65	109.00	1.254015795	1.3668772160	1.7808219	(0.4139447)	108.5860553
31-Mar-X7	16	108.59	0.308680811	0.3351843161	0.4383562	(0.1031718)	108.4828834
30-Jun-X7	91	108.48	1.755622112	1.9045494899	2.4931507	(0.5886012)	107.8942823
15-Sep-X7	77	107.89	1.485526403	1.6027980499	2.1095890	(0.5067910)	107.3874913
30-Sep-X7	15	107.39	0.28938826	0.3107667927	0.4109589	(0.1001921)	107.2872992
31-Dec-X7	92	107.29	1.774914663	1.9042580042	2.5205479	(0.6162899)	106.6710092
15-Mar-X8	182	106.67	3.511244225	3.7454796503	4.9863014	(1.2408217)	105.4301875
15-Sep-X8	184	105.43	3.549829326	3.7425917141	5.0410959	(1.2985042)	104.1316833
15-Mar-X9	181	104.13	3.491951674	3.6362280587	4.9589041	(1.3226761)	102.8090073
15-Sep-X9	184	102.81	3.549829326	3.6495442897	5.0410959	(1.3915516)	101.4174557
15-Mar-X10	181	101.42	3.491951674	3.5414485408	4.9589041	(1.4174556)	100.0000001
		100.00					

Note: On 7-Nov-X7, interest amortization for the ensuing period is (0.1286759) and the carrying cost is 107.158623.

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
1-Jan-X7	Bank account	2,000,000.00	
	To Share Capital account		2,000,000.00
	(Being the capital introduced)		

T-2 *On purchase of Bonds—FVPL:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
6-Jan-X7	Investments—Bonds—FVPL account	1,308,000.00	
	To Payable to SilverMan account		1,308,000.00
	(Being the purchase of bonds for trading purposes)		

T-3 *On recording accrued interest purchased on purchase of Bond:*

Calculation of accrued interest purchased	AUD
a) Previous coupon date	15-Sep-X6
b) Settlement date of bonds purchased	9-Jan-X7
Number of days (Actual/365)	116
Face value of bonds on which interest is computed	1,200,000
Rate of interest p.a.(%)	10.00
Accrued interest purchased	**38,136.99**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
6-Jan-X7	Accrued interest Purchase account	38,136.99	
	To Payable to SilverMan account		38,136.99
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

T-4 *On payment of contracted sum:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
9-Jan-X7	Payable to SilverMan account	1,346,136.99	
	To Bank account		1,346,136.99
	(Being the payment made to the broker for purchase of bonds along with the payment for accrued interest purchased)		

T-5 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	AUD
a) Previous coupon date	15-Sep-X6
b) Current coupon date	15-Mar-X7
Number of days (Actual/365)	181
Face value of bonds on which interest is computed	1,200,000
Rate of interest p.a.(%)	10.00
Interest accounted for on coupon date	**59,506.85**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
15-Mar-X7	Interest receivable account	59,506.85	
	To Interest Income—Bonds—FVPL account		59,506.85
	(Being the interest accounted for on the coupon date)		

T-6 *On reversal of accrued interest purchased:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
15-Mar-X7	Interest Income—Bonds—FVPL account	38,136.99	
	To accrued interest Purchase account		38,136.99
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bonds)		

T-7 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
18-Mar-X7	Bank account	59,506.85	
	To interest receivable account		59,506.85
	(Being the receipt of coupon interest in the bank)		

T-8 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 31-Mar-X7 per bond			AUD
Period ending	**Amount/bond**	**Qty**	**Value**
15-Mar-X7	(0.41394470)		
31-Mar-X7	(0.10317185)		
Total	(0.51711655)	12,000	(6,205.40)

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
31-Mar-X7	Interest Income—Bonds—FVPL account	6,205.40	
	To Investments—Bonds—FVPL account		6,205.40
	(Being the amortization of premium treated as interest expense as per accounting standards)		

T-9 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 30-Mar-X7	Market Rate	Quantity	Value
Market value as on date	107.00	12,000	1,284,000.00
Amortized cost as on date			1,301,794.60
Mark-to-market loss			**(17,794.60)**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
31-Mar-X7	Unrealized capital gain/loss on Bonds—FVPL (P&L) account	17,794.60	
	To MTM—Bonds—FVPL (Asset/Liability) account		17,794.60
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-10 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	AUD
a) Previous coupon date	15-Mar-X7
b) Current coupon date	31-Mar-X7
Number of days (Actual/365)	16
Face value of bonds on which interest is computed	1,200,000
Rate of interest p.a.(%)	10.00
Accrued interest on valuation date	**5,260.27**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
31-Mar-X7	Interest accrued but not due account	5,260.27	
	To Interest Income—Bonds—FVPL account		5,260.27
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-11 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 30-Jun-X7 per bond			AUD
Period ending	**Amount/bond**	**Qty**	**Value**
30-Jun-X7	(0.5886012)	12,000	(7,063.21)

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
30-Jun-X7	Interest Income—Bonds—FVPL account	7,063.21	
	To Investments—Bonds—FVPL account		7,063.21
	(Being the amortization of discount treated as interest expense as per accounting standards)		

T-12 *Reversal of MTM—Bonds—FVPL (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
30-Jun-X7	MTM—Bonds—FVPL (Asset/Liability) account	17,794.60	
	To Unrealized capital gain/loss on Bonds—Trading (P&L) account		17,794.60
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-13 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 30-Jun-X7	Market Rate	Quantity	Value
Market value as on date	106.00	12,000	1,272,000.00
Amortized cost as on date			1,294,731.39
Mark-to-market loss			(22,731.39)

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
30-Jun-X7	Unrealized capital gain/loss on Bonds—Trading (P&L) account	22,731.39	
	To MTM—Bonds—FVPL (Asset/Liability) account		22,731.39
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-14 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
30-Jun-X7	Interest Income—Bonds—FVPL account	5,260.27	
	To interest accrued but not due account		5,260.27
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

T-15 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	AUD
a) Previous coupon date	15-Mar-X7
b) Current coupon date	30-Jun-X7
Number of days (Actual/365)	107
Face value of bonds on which interest is computed	1,200,000
Rate of interest p.a.(%)	10.00
Accrued interest on valuation date	**35,178.08**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
30-Jun-X7	Interest accrued but not due account	35,178.08	
	To Interest Income—Bonds—FVPL account		35,178.08
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-16 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
15-Sep-X7	Interest Income—Bonds—FVPL account	35,178.08	
	To interest accrued but not due account		35,178.08
	(Being the reversal of accrual of interest on bonds on the next valuation date / coupon date)		

T-17 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	AUD
a) Previous coupon date	15-Mar-X7
b) Current coupon date	15-Sep-X7
Number of days (Actual/365)	184
Face value of bonds on which interest is computed	1,200,000
Rate of interest p.a.(%)	10.00
Interest accounted for on coupon date	**60,493.15**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
15-Sep-X7	Interest receivable account	60,493.15	
	To Interest Income—Bonds—FVPL account		60,493.15
	(Being the interest accounted for on the coupon date)		

T-18 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
18-Sep-X7	Bank account	60,493.15	
	To interest receivable account		60,493.15
	(Being the receipt of coupon interest in the bank)		

T-19 *Reversal of MTM—Bonds—FVPL (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
30-Sep-X7	MTM—Bonds—FVPL (Asset/Liability) account	22,731.39	
	To Unrealized gain on Bonds—FVPL (P&L) account		22,731.39
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-20 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	**AUD**
a) Previous coupon date	15-Sep-X7
b) Current coupon date	30-Sep-X7
Number of days (Actual/365)	15
Face value of bonds on which interest is computed	1,200,000
Rate of interest p.a.(%)	10.00
Accrued interest on valuation date	**4,931.51**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
30-Sep-X7	Interest accrued but not due account	4,931.51	
	To Interest Income—Bonds—FVPL account		4,931.51
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-21 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 30-Jun-X7 per bond			**AUD**
Period ending	**Amount/bond**	**Qty**	**Value**
15-Sep-X7	(0.50679099)		
30-Sep-X7	(0.10019211)		
Total	**(0.60698310)**	**12,000**	**(7,283.80)**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
30-Sep-X7	Interest Income—Bonds—FVPL account	7,283.80	
	To Investments—Bonds—FVPL account		7,283.80
	(Being the amortization of discount treated as interest expense as per accounting standards)		

T-22 *On valuation of bond at the end of valuation date:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
30-Sep-X7	Unrealized gain on Bonds—FVPL (P&L) account	27,447.59	
	To MTM—Bonds—FVPL (Asset/Liability) account		27,447.59
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-23 *On sale of bonds:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
4-Nov-X7	Receivable from Silver Man account	522,500.00	
	To Investments—Bonds—FVPL account		522,500.00
	(Being the sale of bonds held for trading purposes through the broker)		

T-24 *On recording accrued interest sold received on sale of bonds:*

Calculation of accrued interest sold	AUD
a) Previous coupon date	15-Sep-X7
b) Current coupon date	07-Nov-X7
Number of days (Actual/365)	53
Face value of bonds on which interest is computed	500,000
Rate of interest p.a.(%)	10.00
Accrued interest sold	**7,260.27**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
4-Nov-X7	Receivable from Silver Man account	7,260.27	
	To accrued interest sold account		7,260.27
	(Being the accrued interest sold received on the sale of bonds calculated from the previous coupon date to the date of settlement of the bond)		

T-25 *Accrued interest sold taken to interest income:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
4-Nov-X7	Accrued interest sold account	7,260.27	
	To Interest Income—Bonds—FVPL account		7,260.27
	(Being reversal of accrued interest sold on the date on which the first coupon is accounted for after selling the bond)		

T-26 *On reversal of interest accrual on the next day:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
4-Nov-X7	Interest Income—Bonds—FVPL account	4,931.51	
	To interest accrued but not due account		4,931.51
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next day)		

T-27 *Profit/Loss on sale of Bond:*

Calculation of realized gain on sale of Bonds	AUD
a) Amount realized on sale of Bonds	522,500.00
b) Amortized cost of Bonds sold	535,793.12
c) Realized loss on sale (a) – (b)	**(13,293.12)**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
4-Nov-X7	Realized capital gain/loss—Bonds—FVPL account	13,293.12	
	To Investments—Bonds—FVPL account		13,293.12
	(Being the loss on the sale of bond)		

T-28 *On receiving the contracted sum:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
7-Nov-X7	Bank account	529,760.27	
	To receivable from SilverMan account		529,760.27
	(Being amount received on the sale of the bond)		

T-29 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 30-Dec-X7 per bond			AUD
Period ending	**Amount/bond**	**Qty**	**Value**
31-Dec-X7	(0.6162899)		
Total	**(0.6162899)**	**7,000**	**(4,314.03)**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
31-Dec-X7	Interest Income—Bonds—FVPL account	4,314.03	
	To Investments—Bonds—FVPL account		4,314.03
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-30 *On reversal of mark-to-market valuation on the next valuation date:*

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
31-Dec-X7	MTM—Bonds—FVPL (Asset/Liability) account	27,447.59	
	To Unrealized gain on Bonds—FVPL (P&L) account		27,447.59
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-31 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 31-Dec-X7	Market Rate	Quantity	Value
Market value as on date	103.50	7,000	724,500.00
Amortized cost as on date			746,697.06
Mark-to-market loss			**(22,197.06)**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
31-Dec-X7	Unrealized gain on Bonds—FVPL (P&L) account	22,197.06	
	To MTM—Bonds—FVPL (Asset/Liability) account		22,197.06
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-32 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	AUD
a) Previous coupon date	15-Sep-X7
b) Current coupon date	31-Dec-X7
Number of days (Actual/365)	107
Face value of bonds on which interest is computed	700,000
Rate of interest p.a.(%)	10.00
Accrued interest on valuation date	**20,520.55**

Journal Entry

Date	Particulars	Debit (AUD)	Credit (AUD)
31-Dec-X7	Interest accrued but not due account	20,520.55	
	To Interest Income—Bonds—FVPL account		20,520.55
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

General Ledger accounts

Investments—Bonds—FVPL account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
6-Jan-X7	To Payable to SilverMan account	1,308,000.00			
			31-Mar-X7	By Interest Income—Bonds—FVPL account	6,205.40
			30-Jun-X7	By Interest Income—Bonds—FVPL account	7,063.21
			30-Sep-X7	By Interest Income—Bonds—FVPL account	7,283.80
			4-Nov-X7	By receivable from SilverMan account	522,500.00
			4-Nov-X7	By Realized capital gain/loss—Bonds—FVPL account	13,293.12
			31-Dec-X7	By Interest Income—Bonds—FVPL account	4,314.03
			31-Dec-X7	By Balance	747,340.44
31-Dec-X7	Total	**1,308,000.00**	31-Dec-X7	Total	**1,308,000.00**
31-Dec-X7	To Balance	747,340.44			

Payable to SilverMan account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
			6-Jan-X7	By Investments—Bonds—FVPL account	1,308,000.00
			6-Jan-X7	By accrued interest Purchase account	38,136.99
9-Jan-X7	To Bank account	1,346,136.99			
31-Dec-X7	Total	1,346,136.99	31-Dec-X7	Total	1,346,136.99

Accrued interest Purchase account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
6-Jan-X7	To Payable to SilverMan account	38,136.99			
			15-Mar-X7	By Interest Income—Bonds—FVPL account	38,136.99
31-Dec-X7	Total	38,136.99	31-Dec-X7	Total	38,136.99

Interest receivable account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
15-Mar-X7	To Interest Income—Bonds—FVPL account	59,506.85			
			18-Mar-X7	By Bank account	59,506.85
15-Sep-X7	To Interest Income—Bonds—FVPL account	60,493.15			
			18-Sep-X7	By Bank account	60,493.15
31-Dec-X7	Total	**120,000.00**	31-Dec-X7	Total	**120,000.00**

Unrealized capital gain/loss on Bonds—FVPL (P&L) account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
31-Mar-X7	To MTM—Bonds—FVPL (Asset/Liability) account	17,794.60			
			30-Jun-X7	By MTM—Bonds—FVPL (Asset/Liability) account	17,794.60
30-Jun-X7	To MTM—Bonds—FVPL (Asset/Liability) account	22,731.39			
			30-Sep-X7	By MTM—Bonds—FVPL (Asset/Liability) account	22,731.39
30-Sep-X7	To MTM—Bonds—FVPL (Asset/Liability) account	27,447.59			
			31-Dec-X7	By MTM—Bonds—FVPL (Asset/Liability) account	27,447.59
31-Dec-X7	To MTM—Bonds—FVPL (Asset/Liability) account	22,197.06			
			31-Dec-X7	By Balance account	22,197.06
31-Dec-X7	Total	**90,170.64**	31-Dec-X7	Total	**90,170.64**
31-Dec-X7	To Balance	22,197.06			

Accrued interest sold account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
			4-Nov-X7	By receivable from SilverMan account	7,260.27
4-Nov-X7	To Interest Income—Bonds—FVPL account	7,260.27			
31-Dec-X7	Total	7,260.27	31-Dec-X7	Total	7,260.27

Interest accrued but not due account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
31-Mar-X7	To Interest Income—Bonds—FVPL account	5,260.27			
			30-Jun-X7	By Interest Income—Bonds—FVPL account	5,260.27

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
30-Jun-X7	To Interest Income—Bonds—FVPL account	35,178.08			
			15-Sep-X7	By Interest Income—Bonds—FVPL account	35,178.08
30-Sep-X7	To Interest Income—Bonds—FVPL account	4,931.51			
			4-Nov-X7	By Interest Income—Bonds—FVPL account	4,931.51
31-Dec-X7	To Interest Income—Bonds—FVPL account	20,520.55			
			31-Dec-X7	By Balance	20,520.55
31-Dec-X7	Total	**65,890.41**	31-Dec-X7	Total	**65,890.41**
31-Dec-X7	To Balance	20,520.55			

Interest Income—Bonds—FVPL account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
			15-Mar-X7	By interest receivable account	59,506.85
15-Mar-X7	To accrued interest Purchase account	38,136.99			
31-Mar-X7	To Investments—Bonds—FVPL account	6,205.40			
			31-Mar-X7	By interest accrued but not due account	5,260.27
30-Jun-X7	To Investments—Bonds—FVPL account	7,063.21			
30-Jun-X7	To interest accrued but not due account	5,260.27			
			30-Jun-X7	By interest accrued but not due account	35,178.08
15-Sep-X7	To interest accrued but not due account	35,178.08			
			15-Sep-X7	By interest receivable account	60,493.15
			30-Sep-X7	By interest accrued but not due account	4,931.51
30-Sep-X7	To Investments—Bonds—FVPL account	7,283.80			
			4-Nov-X7	By accrued interest sold account	7,260.27
4-Nov-X7	To interest accrued but not due account	4,931.51			
31-Dec-X7	To Investments—Bonds—FVPL account	4,314.03			
			31-Dec-X7	By interest accrued but not due account	20,520.55
31-Dec-X7	To Balance	84,777.39			
31-Dec-X7	Total	**193,150.68**	31-Dec-X7	Total	**193,150.68**
			31-Dec-X7	By Balance	84,777.39

MTM—Bonds—FVPL (Asset/Liability) account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
			31-Mar-X7	By Unrealized gain/ loss on Bonds— FVPL (P&L) account	17,794.60
30-Jun-X7	To Unrealized gain/ loss on Bonds— FVPL (P&L) account	17,794.60			
			30-Jun-X7	By Unrealized gain/ loss on Bonds— FVPL (P&L) account	22,731.39
30-Sep-X7	To Unrealized gain/ loss on Bonds— FVPL (P&L) account	22,731.39			
			30-Sep-X7	By Unrealized gain/ loss on Bonds— FVPL (P&L) account	27,447.59
31-Dec-X7	To Unrealized gain/ loss on Bonds— FVPL (P&L) account	27,447.59			
			31-Dec-X7	By Unrealized gain/ loss on Bonds— FVPL (P&L) account	22,197.06
31-Dec-X7	To Balance	22,197.06			
31-Dec-X7	Total	**90,170.64**	31-Dec-X7	Total	**90,170.64**
			31-Dec-X7	By Balance	22,197.06

Realized capital gain/loss—Bonds—FVPL account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
4-Nov-X7	To Investments—Bonds— FVPL account	13,293.12			
			31-Dec-X7	By Balance	13,293.12
31-Dec-X7	Total	**13,293.12**	31-Dec-X7	Total	**13,293.12**
31-Dec-X7	To Balance	13,293.12			

Receivable from SilverMan account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
4-Nov-X7	To Investments—Bonds— FVPL account	522,500.00			
4-Nov-X7	To accrued interest sold account	7,260.27			
			7-Nov-X7	By Bank account	529,760.27
31-Dec-X7	Total	**529,760.27**	31-Dec-X7	Total	**529,760.27**

Share Capital account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
			1-Jan-X7	By Bank account	2,000,000.00
31-Dec-X7	By Balance	2,000,000.00			
31-Dec-X7	Total	**2,000,000.00**	31-Dec-X7	Total	**2,000,000.00**
			31-Dec-X7	By Balance	2,000,000.00

Bank account

Date	Particulars	Debit (AUD)	Date	Particulars	Credit (AUD)
1-Jan-X7	To Share Capital account	2,000,000.00			
			9-Jan-X7	By Payable to SilverMan account	1,346,136.99
18-Mar-X7	To interest receivable account	59,506.85			
18-Sep-X7	To interest receivable account	60,493.15			
7-Nov-X7	To receivable from SilverMan account	529,760.27			
			31-Dec-X7	By Balance	1,303,623.28
31-Dec-X7	Total	**2,649,760.27**	31-Dec-X7	Total	**2,649,760.27**
31-Dec-X7	To Balance	1,303,623.28			

Trial Balance

As on 31-Dec-X7 (AUD)

Particulars	Debit	Credit
Capital account		
Share Capital		2,000,000.00
Investments	Nil	
Current Assets		
Investments—Bonds—FVPL account	747,340.44	
MTM—Bonds—FVPL (Asset/Liability) account		22,197.06
Interest accrued but not due account	20,520.55	
Bank account	1,303,623.28	
Current Liabilities		Nil
Income		
Interest Income—Bonds—FVPL account		84,777.39
Realized capital gain/loss—Bonds—FVPL account	13,293.12	
Unrealized capital gain/loss on Bonds—FVPL (P&L) account	22,197.06	
Totals	2,106,974.45	2,106,974.45

Income Statement

For the period ending 31-Dec-X7

Expenses	AUD	Income	AUD
Direct Expenses		**Direct Income**	
		Interest Income—Bonds—FVPL account	84,777.39
Realized capital gain/loss—Bonds—FVPL account	13,293.12		
Unrealized capital gain/loss on Bonds—FVPL (P&L) account	22,197.06		
Net Profit C/o	49,287.21		
Total	84,777.39	Total	84,777.39

Balance Sheet

As at 31-Dec-X7

Liabilities	AUD	Assets	AUD
Capital account		**Investments**	Nil
Share Capital	2,000,000.00	**Current Assets**	
Current Liabilities	Nil	Bank account	1,303,623.28
MTM—Bonds—FVPL (Asset/Liability) account	22,197.06	Interest accrued but not due account	20,520.55
		Investments—Bonds—FVPL account	747,340.44
Profit & Loss account			
Opening Balance	Nil		
Current Period	49,287.21		
Total	**2,071,484.27**	Total	**2,071,484.27**

ACCOUNTING ENTRIES IN FUNCTIONAL CURRENCY

The following are the FX revaluation entries in the functional currency converted at the respective FX rate, which is given in the illustration. FX translation entries are clearly specified, indicating whether each is a consummated FX translation entry or a transient FX translation entry.

F-1 *On introducing cash into the fund:* (T-1 @ FX Rate: 1.30000)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Jan-X7	Bank account	1,538,461.54	
	To Share Capital account		1,538,461.54
	(Being the capital introduced into the fund)		

F-2 *On purchase of Bonds—FVPL:* (T-2 @ FX Rate: 1.34653)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
6-Jan-X7	Investments—Bonds—FVPL account	971,385.71	
	To Payable to SilverMan account		971,385.71
	(Being the purchase of bonds for trading purposes)		

F-3 *On recording accrued interest purchased on purchase of Bond:* (T-3 @ FX Rate: 1.34653)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
6-Jan-X7	Accrued interest Purchase account	28,322.42	
	To Payable to SilverMan account		28,322.42
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

F-4 *On payment of contracted sum:* (T-4 @ FX Rate: 1.34400)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
9-Jan-X7	Payable to SilverMan account	1,001,590.02	
	To Bank account		1,001,590.02
	(Being the payment made to the broker for purchase of bonds along with the payment for accrued interest purchased)		

F-5 *FX Translation on payment to broker: (Consummated FX translation entry)*

The settlement amount when converted into US$ based on the FX rate on the date of settlement results in a different amount than the contracted amount in US$ terms. This represents the currency gain or loss and is taken directly to the profit and loss account. If this FX translation entry is not passed, then the liability of the broker will continue to have a balance even though the broker is settled in full in the respective local currency.

Currency gain/loss on settlement date	AUD	USD
a) Purchase price including accrued interest purchased (1.35)	1,346,136.99	999,708.13
b) Settlement amount in USD terms		1,001,590.02
c) Realized currency loss on settlement = (a) – (b)		(1,881.89)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
9-Jan-X7	Realized currency gain/loss (P&L) account	1,881.89	
	To Payable to SilverMan account		1,881.89
	(Being the realized Realized currency gain/loss on settlement to the broker)		

F-6 *On accounting for interest on coupon date:* (T-5 @ FX Rate: 1.33298)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Mar-X7	Interest receivable account	44,641.97	
	To Interest Income—Bonds—FVPL account		44,641.97
	(Being the interest accounted for on the coupon date)		

F-7 *On reversal of accrued interest purchased:* (T-6 @ FX Rate: 1.33298)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Mar-X7	Interest Income—Bonds—FVPL account	28,610.32	
	To accrued interest purchase account		28,610.32
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bonds)		

F-8 *Fx Translation on accrued interest purchased: (Consummated FX translation entry)*

Currency gain/loss on settlement date	AUD	USD
a) Accrued interest purchased (1.35)	38,136.99	28,322.42
b) Actual interest purchased reversal in functional currency		28,610.32
c) Realized currency gain on settlement = (b) − (a)		**287.90**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Mar-X7	Accrued interest purchased account	287.90	
	To Realized currency gain/loss (P&L) account		287.90
	(Being the Realized currency gain/loss on accrued interest purchased account)		

F-9 *On receipt of coupon interest in the bank:* (T-7 @ FX Rate: 1.32670)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Mar-X7	Bank account	44,853.28	
	To interest receivable account		44,853.28
	(Being the receipt of coupon interest in the bank)		

F-X6 *FX Translation on interest receipts: (Consummated FX translation entry)*

Currency gain/loss on settlement date	AUD	USD
a) Interest receivable (1.33)	59,506.85	44,641.97
b) Actual interest received in USD terms		44,853.28
c) Realized currency gain on settlement = (b) − (a)		**211.31**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Mar-X7	Interest receivable account	211.31	
	To Realized currency gain/loss (P&L) account		211.31
	(Being the realized currency gain/loss on receipt of interest amount)		

F-11 *On accounting for interest based on amortization:* (T-8 @ FX Rate: 1.26687)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Interest Income—Bonds—FVPL account	4,898.21	
	To Investments—Bonds—FVPL account		4,898.21
	(Being the amortization of premium treated as interest expense as per accounting standards)		

F-12 *On valuation of bond at the end of valuation date:* (T-9 @ FX Rate: 1.26687)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Unrealized capital gain/loss on Bonds—FVPL (P&L) account	14,046.11	
	To MTM—Bonds—FVPL (Asset/Liability) account		14,046.11
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

F-13 *On accrual of interest at end of valuation date:* (T-10 @ FX Rate: 1.26687)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Interest accrued but not due account	4,152.18	
	To Interest Income—Bonds—FVPL account		4,152.18
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-14 *FX Translation on Investments—Bonds—FVPL account: (Transient FX translation entry)*

Currency gain/loss on settlement date	AUD	USD
a) Market value of investments (1.27)	1,284,000.00	1,013,521.51
b) Cost of acquisition (1.35)	1,308,000.00	971,385.71
c) Interest amortized—31st Dec 2006 (1.27)	(6,205.40)	(4,892.21)
d) Mark-to-market (a) – [(b) + (c)] (AUD column) (1.27)	(17,794.60)	(14,046.11)
e) Mark-to-market in USD (a) – [(b) + (c)] (USD column)		47,034.01
f) Currency gain = (d) – (e)		**61,080.12**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	MTM—Bonds—FVPL (Asset/Liability) account	61,080.12	
	To Unrealized currency gain/loss on Bonds—FVPL (P&L) account		61,080.12
	(Being the unrealized currency gain/loss on Investments—Bonds Trading account)		

F-15 *FX Translation on Bank account: (Transient FX translation entry)*

Particulars	Date	AUD	USD
Opening Balance (1.30)	1-Jan-X7	2,000,000.00	1,538,461.54
Transfer out (1.34)	9-Jan-X7	(1,346,136.99)	(1,001,590.02)
Transfer in (1.33)	18-Mar-X7	59,506.85	44,853.28
Net Balance		713,369.86	581,724.80
Net Balance at current FX rate (1.27)		713,369.86	563,096.34
FX translation on Bank account			**(18,628.46)**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Unrealized currency gain/loss (P&L) account	18,628.46	
	To Bank account		18,628.46
	(Being the unrealized currency gain/loss on Bank account)		

F-16 *On accounting for interest based on amortization:* (T-11 @ FX Rate: 1.23594)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest Income—Bonds—FVPL account	5,714.85	
	To Investments—Bonds—FVPL account		5,714.85
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

F-17 *Reversal of MTM—Bonds—FVPL (Asset/Liability) account:* (T-12 @ FX Rate: 1.26687)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	MTM—Bonds—FVPL (Asset/Liability) account	14,046.11	
	To Unrealized capital gain/loss on Bonds—Trading (P&L) account		14,046.11
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

F-18 *On valuation of bond at the end of valuation date:* (T-13 @ FX Rate: 1.23594)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Unrealized capital gain/loss on Bonds—Trading (P&L) account	18,391.98	
	To MTM—Bonds—FVPL (Asset/Liability) account		18,391.98
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

F-19 *On reversal of interest accrual on the next valuation date:* (T-14 @ FX Rate: 1.26687)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest Income—Bonds—FVPL account	4,152.18	
	To interest accrued but not due account		4,152.18
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

F-20 *On accrual of interest at end of valuation date:* (T-15 @ FX Rate: 1.23594)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest accrued but not due account	28,462.61	
	To Interest Income—Bonds—FVPL account		28,462.61
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-21 *FX Translation on Investments—Bonds—FVPL account: (Transient FX translation entry)*

Currency gain/loss on valuation date	AUD	USD
a) Market value of investments (1.24)	1,272,000.00	1,029,176.17
b) Cost of acquisition (1.35)	1,308,000.00	971,385.71
c) Interest amortized (1.27)	(6,205.40)	(4,898.21)
d) Interest amortized (1.24)	(7,063.21)	(5,714.85)
e) Mark-to-market (a) – [(b) + (c) + (d)] (AUD column) (1.24)	(22,731.39)	(18,391.99)
f) Mark-to-market in USD (a) – [(b) + (c) + (d)] (USD column)		68,403.52
g) Currency gain = (e) – (f)		86,795.51
Less: Currency gain already booked		61,080.12
Net unrealized currency gain		**25,715.39**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	MTM—Bonds—FVPL (Asset/Liability) account	25,715.39	
	To Unrealized currency gain/loss on Bonds—FVPL (P&L) account		25,715.39
	(Being the unrealized currency gain/loss on Investments—Bonds Trading account)		

F-22 *FX Translation on Bank account: (Transient FX translation entry)*

Particulars	Date	AUD	USD
Opening Balance (1.27)	31-Mar-X7	713,369.86	563,096.34
Net Balance at current FX rate (1.24)	30-Jun-X7	713,369.86	577,188.10
FX translation on Bank account			14,091.76

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Bank account	14,091.76	
	To Unrealized currency gain/loss (P&L) account		14,091.76
	(Being the unrealized currency gain/loss on Bank account)		

F-23 *On reversal of interest accrual on the next valuation date:* (T-16 @ FX Rate: 1.23594)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Sep-X7	Interest Income—Bonds—FVPL account	28,462.61	
	To interest accrued but not due account		28,462.61
	(Being the reversal of accrual of interest on bonds on the next valuation date / coupon date)		

F-24 *On accounting for interest on coupon date:* (T-17 @ FX Rate: 1.20034)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Sep-X7	Interest receivable account	50,396.68	
	To Interest Income—Bonds—FVPL account		50,396.68
	(Being the interest accounted for on the coupon date)		

F-25 *On receipt of coupon interest in the bank:* (T-18 @ FX Rate: 1.19417)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Sep-X7	Bank account	50,657.07	
	To interest receivable account		50,657.07
	(Being the receipt of coupon interest in the bank)		

F-26 *FX Translation on Investments—Bonds—FVPL account: (Consummated FX translation entry)*

Currency gain/loss on settlement date	**AUD**	**USD**
a) Interest receivable (1.20)	60,493.15	50,396.68
b) Actual interest received in USD terms		50,657.07
c) Realized currency gain on settlement = (a) − (b)		**260.39**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
18-Sep-X7	Interest receivable account	260.39	
	To Realized currency gain/loss (P&L) account		260.39
	(Being the realized currency gain/loss on receipt of interest amount)		

F-27 *Reversal of MTM—Bonds—FVPL (Asset/Liability) account:* (T-19 @ FX Rate: 1.23594)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X7	MTM—Bonds—FVPL (Asset/Liability) account	18,391.98	
	To Unrealized capital gain/loss on Bonds—FVPL (P& L) account		18,391.98
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

F-28 *On accrual of interest at end of valuation date:* (T-20 @ FX Rate: 1.17952)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X7	Interest accrued but not due account	4,180.95	
	To Interest Income—Bonds—FVPL account		4,180.95
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-29 *On accounting for interest based on amortization:* (T-21 @ FX Rate: 1.17952)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X7	Interest Income—Bonds—FVPL account	6,175.22	
	To Investments—Bonds—FVPL account		6,175.22
	(Being the amortization of discount treated as interest expense as per accounting standards)		

F-30 *On valuation of bond at the end of valuation date:* (T-22 @ FX Rate: 1.17952)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Unrealized capital gain on Bonds—FVPL (P&L) account	23,270.14	
	To MTM—Bonds—FVPL (Asset/Liability) account		23,270.14
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

F-31 *FX Translation on Investments—Bonds—FVPL account: (Transient FX translation entry)*

Currency gain/loss on valuation date	AUD	USD
a) Market value of investments (1.16)	1,260,000.00	1,068,231.14
b) Cost of acquisition (1.35)	1,308,000.00	971,385.71
c) Interest amortized—31-mar-X7 (1.27)	(6,205.40)	(4,898.21)
d) Interest amortized 30-Jun-X7 (1.24)	(7,063.21)	(5,714.85)
e) Interest amortized 30-Sep-X7 (1.18)	(7,283.80)	(6,175.22)
f) Mark-to-market (a) – [(b) + (c) + (d) + (e)] (AUD column) (1.79520)	(27,447.59)	(23,270.14)
g) Mark-to-market in USD (a) – [(b) + (c) + (d) + (e)] (USD column)		113,633.71
h) Currency gain = (f) – (g)		136,903.85
Less: currency gain booked until 30-Jun-X7		86,795.51
Net unrealized currency gain		**50,108.34**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	MTM—Bonds—FVPL (Asset/Liability) account	50,108.34	
	To Unrealized currency gain/loss on Bonds—FVPL (P&L) account		50,108.34
	(Being the unrealized currency gain/loss on Investments—Bonds Trading account)		

F-32 *FX Translation on Bank account: (Transient FX translation entry)*

Particulars	Date	AUD	USD
Opening Balance (1.24)	31-Jun-X7	713,369.86	577,188.10
Transfer in (1.19)	18-Sep-X7	60,493.15	50,657.07
Net Balance	30-Sep-X7	773,863.01	627,845.17
Net Balance at current FX rate (1.18)	30-Sep-X7	773,863.01	656,082.99
FX translation on Bank account—gain			**28,237.82**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Bank account	28,237.82	
	To Unrealized currency gain/loss (P&L) account		28,237.82
	(Being the unrealized currency gain/loss on Bank account)		

F-33 *On sale of bonds:* (T-23 @ FX Rate: 1.21374)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Nov-X7	Receivable from Silver Man account	430,487.58	
	To Investments—Bonds—FVPL account		430,487.58
	(Being the sale of bonds held for trading purposes through the broker)		

F-34 *On recording accrued interest sold received on sale of bonds:* (T-24 @ FX Rate: 1.21374)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Nov-X7	Receivable from Silver Man account	5,981.73	
	To accrued interest sold account		5,981.73
	(Being the accrued interest sold received on the sale of bonds calculated from the previous coupon date to the date of settlement of the bond)		

F-35 *Accrued interest sold taken to interest income:* (T-25 @ FX Rate: 1.21374)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Nov-X7	Accrued interest sold account	5,981.73	
	To Interest Income—Bonds—FVPL account		5,981.73
	(Being reversal of accrued interest sold on the date on which the first coupon is accounted for after selling the bond)		

F-36 *On reversal of interest accrual on the next day:* (T-26 @ FX Rate: 1.17952)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Nov-X7	Interest Income—Bonds—FVPL account	4,180.95	
	To interest accrued but not due account		4,180.95
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next day)		

F-37 *Profit/Loss on sale of Bond:* (T-27 @ FX Rate: 1.21374)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Nov-X7	Realized capital gain/loss—Bonds—FVPL account	10,952.19	
	To Investments—Bonds—FVPL account		10,952.19
	(Being the loss on the sale of bond)		

F-38 *FX Translation on Investments—Bonds—FVPL account: (Consummated FX translation entry)*

Currency gain/loss on date of sale	**AUD**	**USD**
a) Sale value (1.21)	522,500.00	430,487.58
b) Cost of acquisition (1.35)	545,000.00	404,744.05
c) Interest amortized—31-Mar-X7 (1.27)	(2,585.58)	(2,040.92)
d) Interest amortized 30-Jun-X7 (1.24)	(2,943.01)	(2,381.19)
e) Interest amortized 30-Sep-X7 (1.18)	(3,034.92)	(2,573.01)
g) Mark-to-market (a) – [(b) + (c) + (d) + (e)+(f)] (AUD column) (1.21)	(13,936.50)	(11,482.27)
h) Mark-to-market in USD (a) – [(b) + (c) + (d) + (e)+(f)] (USD column)		32,738.65
i) Currency gain = (g) − (h)		**44,220.92**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
4-Nov-X7	Investments—Bonds—FVPL account	44,220.92	
	To Realized currency gain/loss on Bonds—FVPL (P&L) account		44,220.92
	(Being the Realized currency gain/loss on Investments—Bonds Trading account)		

F-39 *On receiving the contracted sum:* (T-28 @ FX Rate: 1.20948)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
7-Nov-X7	Bank account	438,006.64	
	To receivable from SilverMan account		438,006.64
	(Being amount received on the sale of the bond)		

F-40 *FX Translation on receipt from the broker: (Consummated FX translation entry)*

Currency gain/loss on settlement date	**AUD**	**USD**
a) Purchase price including accrued interest purchased (1.21)	529,760.27	436,469.31
b) Settlement amount in USD terms		438,006.64
c) Realized currency gain on settlement = (a) – (b)		**1,537.33**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
7-Nov-X7	Receivable from SilverMan account	1,537.33	
	To Realized currency gain/loss (P&L) account		1,537.33
	(Being the Realized currency gain/loss on settlement by the broker)		

F-41 *On accounting for interest based on amortization:* (T-29 @ FX Rate: 1.12695)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Interest Income—Bonds—FVPL account	3,828.06	
	To Investments—Bonds—FVPL account		3,828.06
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

F-42 *On reversal of mark-to-market valuation on the next valuation date:* (T-30 @ FX Rate: 1.17952)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	MTM—Bonds—FVPL (Asset/Liability) account	23,270.14	
	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account		23,270.14
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

F-43 *On valuation of bond at the end of valuation date:* (T-31 @ FX Rate: 1.12695)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Unrealized capital gain/loss on Bonds—FVPL (P&L) account	19,696.58	
	To MTM—Bonds—FVPL (Asset/Liability) account		19,696.58
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

F-44 *On accrual of interest at end of valuation date:* (T-32 @ FX Rate: 1.12695)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Interest accrued but not due account	18,208.93	
	To Interest Income—Bonds—FVPL account		18,208.93
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-45 *FX Translation on Investments—Bonds—FVPL account: (Transient FX translation entry)*

Currency gain/loss on valuation date	**AUD**	**USD**
a) Market value of investments (1.26950)	724,500.00	642,885.66
b) Cost of acquisition (1.35)	763,000.00	566,641.66
c) Interest amortized—31-Mar-X7 (1.27)	(3,619.82)	(2,857.29)
d) Interest amortized 30-Jun-X7 (1.24)	(4,120.21)	(3,333.66)
e) Interest amortized 30-Sep-X7 (1.18)	(4,248.88)	(3,602.21)
f) Interest amortized 31-Dec-X7 (1.27)	(4,314.03)	(3,828.06)
g) Mark-to-market (a) – [(b) + (c) + (d) + (e)+(f)] (AUD column) (1.21)	(22,197.06)	(19,696.58)
h) Mark-to-market in USD (a) – [(b) + (c) + (d) + (e)+(f)] (USD column)		89,865.22
i) Currency gain = (g) – (h)		109,561.80
Less: currency gain booked until 30th June 2007		136,903.85
Net unrealized currency Loss		**(27,342.05)**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Dec-X7	Unrealized currency gain/loss on Bonds—FVPL (P&L) account	27,342.05	
	To MTM—Bonds—FVPL (Asset/Liability) account		27,342.05
	(Being the Realized currency gain/loss on Investments—Bonds Trading account)		

F-46 *FX Translation on Bank account: (Transient FX translation entry)*

Particulars	**Date**	**AUD**	**USD**
Opening Balance (1.18)	30-Sep-X7	773,863.01	656,082.99
Transfer in (1.21)	7-Nov-X7	529,760.27	438,006.64
Net Balance	31-Dec-X7	1,303,623.28	1,094,089.63
Net Balance at current FX rate (1.27)		1,303,623.28	1,156,771.18
FX translation on Bank account—gain			**62,681.55**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Dec-X7	Bank account	62,681.55	
	To Unrealized currency gain/loss (P&L) account		62,681.55
	(Being the unrealized currency gain/loss on Bank account)		

General Ledger accounts

Investments—Bonds—FVPL account

Date	**Particulars**	**Debit (USD)**	**Date**	**Particulars**	**Credit (USD)**
6-Jan-X7	To Payable to SilverMan account	971,385.71			
			31-Mar-X7	By Interest Income—Bonds—FVPL account	4,898.21

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			30-Jun-X7	By Interest Income—Bonds—FVPL account	5,714.85
			30-Sep-X7	By Interest Income—Bonds—FVPL account	6,175.22
			4-Nov-X7	By receivable from SilverMan account	430,487.58
			4-Nov-X7	By Realized capital gain/loss—Bonds—FVPL account	10,952.19
4-Nov-X7	To Realized currency gain/loss on Bonds—FVPL (P&L)Account	44,220.92			
			31-Dec-X7	By Interest Income—Bonds—FVPL account	3,828.06
			31-Dec-X7	By Balance	553,550.52
31-Dec-X7	Total	**1,015,606.63**	31-Dec-X7	Total	**1,015,606.63**
31-Dec-X7	To Balance	553,550.52			

Payable to SilverMan account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			6-Jan-X7	By Investments—Bonds—FVPL account	971,385.71
			6-Jan-X7	By accrued interest Purchase account	28,322.42
			9-Jan-X7	By Realized currency gain/loss (P&L) account	1,881.89
9-Jan-X7	To Bank account	1,001,590.02			
31-Dec-X7	Total	**1,001,590.02**	31-Dec-X7	Total	**1,001,590.02**

Accrued interest Purchase account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
6-Jan-X7	To Payable to SilverMan account	28,322.42			
			15-Mar-X7	By Interest Income—Bonds—FVPL account	28,610.32
15-Mar-X7	To Realized currency gain/loss (P&L) account	287.90			
31-Dec-X7	Total	**28,610.32**	31-Dec-X7	Total	**28,610.32**

Interest receivable account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
15-Mar-X7	To Interest Income—Bonds—FVPL account	44,641.97			
			18-Mar-X7	By Bank account	44,853.28

Interest receivable account (*Cont'd*)

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
18-May-X7	To Realized currency gain/loss (P&L) account	211.31			
15-Sep-X7	To Interest Income—Bonds—FVPL account	50,396.68			
			18-Sep-X7	By Bank account	50,657.07
18-Sep-X7	To Realized currency gain/loss (P&L) account	260.39			
31-Dec-X7	Total	**95,510.35**	31-Dec-X7	Total	**95,510.35**

Unrealized capital gain/loss on Bonds—FVPL (P&L) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
31-Mar-X7	To MTM—Bonds—FVPL (Asset/Liability) account	14,046.11			
			30-Jun-X7	By MTM—Bonds—FVPL (Asset/Liability) account	14,046.11
30-Jun-X7	To MTM—Bonds—FVPL (Asset/Liability) account	18,391.98			
			30-Sep-X7	By MTM—Bonds—FVPL (Asset/Liability) account	18,391.98
30-Sep-X7	To MTM—Bonds—FVPL (Asset/Liability) account	23,270.14			
			31-Dec-X7	By MTM—Bonds—FVPL (Asset/Liability) account	23,270.14
31-Dec-X7	To MTM—Bonds—FVPL (Asset/Liability) account	19,696.58			
			31-Dec-X7	By Balance account	19,696.58
31-Dec-X7	Total	**75,404.81**	31-Dec-X7	Total	**75,404.81**
31-Dec-X7	To Balance	19,696.58			

Accrued interest sold account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			4-Nov-X7	By receivable from SilverMan account	5,981.73
4-Nov-X7	To Interest Income—Bonds—FVPL account	5,981.73			
31-Dec-X7	Total	5,981.73	31-Dec-X7	Total	5,981.73

Interest accrued but not due account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
31-Mar-X7	To Interest Income—Bonds—FVPL account	4,152.18			
			30-Jun-X7	By Interest Income—Bonds—FVPL account	4,152.18
30-Jun-X7	To Interest Income—Bonds—FVPL account	28,462.61			
			15-Sep-X7	By Interest Income—Bonds—FVPL account	28,462.61
30-Sep-X7	To Interest Income—Bonds—FVPL account	4,180.95			
			4-Nov-X7	By Interest Income—Bonds—FVPL account	4,180.95
31-Dec-X7	To Interest Income—Bonds—FVPL account	18,208.93			
			31-Dec-X7	By Balance	18,208.93
31-Dec-X7	Total	**55,004.67**	31-Dec-X7	Total	**55,004.67**
31-Dec-X7	To Balance	18,208.93			

Interest Income—Bonds—FVPL account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			15-Mar-X7	By interest receivable account	44,641.97
15-Mar-X7	To accrued interest Purchase account	28,610.32			
31-Mar-X7	To Investments—Bonds—FVPL account	4,898.21			
			31-Mar-X7	By interest accrued but not due account	4,152.18
30-Jun-X7	To Investments—Bonds—FVPL account	5,714.85			
30-Jun-X7	To interest accrued but not due account	4,152.18			
			30-Jun-X7	By interest accrued but not due account	28,462.61
15-Sep-X7	To interest accrued but not due account	28,462.61			
			15-Sep-X7	By interest receivable account	50,396.68
			30-Sep-X7	By interest accrued but not due account	4,180.95
30-Sep-X7	To Investments—Bonds—FVPL account	6,175.22			
			4-Nov-X7	By accrued interest sold account	5,981.73

Interest Income—Bonds—FVPL account (*Cont'd*)

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
4-Nov-X7	To interest accrued but not due account	4,180.95			
31-Dec-X7	To Investments—Bonds—FVPL account	3,828.06			
			31-Dec-X7	By interest accrued but not due account	18,208.93
31-Dec-X7	To Balance	70,002.65			
31-Dec-X7	Total	**156,025.05**	31-Dec-X7	Total	**156,025.05**
			31-Dec-X7	By Balance	70,002.65

MTM—Bonds—FVPL (Asset/Liability) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			31-Mar-X7	By Unrealized capital gain/loss on Bonds—FVPL (P&L) account	14,046.11
31-Mar-X7	To Unrealized currency gain/loss on Bonds—FVPL (P&L) account	61,080.12			
30-Jun-X7	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account	14,046.11			
			30-Jun-X7	By Unrealized capital gain/loss on Bonds—FVPL (P&L) account	18,391.98
30-Jun-X7	To Unrealized currency gain/loss on Bonds—FVPL (P&L) account	25,715.39			
30-Sep-X7	To Unrealized capital gain/loss on Bonds—FVPL (P&L) account	18,391.98			
			30-Sep-X7	By Unrealized capital gain/loss on Bonds—FVPL (P&L) account	23,270.14
30-Sep-X7	To Unrealized currency gain/loss on Bonds—FVPL (P&L) account	50,108.34			
31-Dec-X7	To Unrealized gain/loss on Bonds—FVPL (P&L) account	23,270.14			
			31-Dec-X7	By Unrealized capital gain/loss on Bonds—FVPL (P&L) account	19,696.58
			31-Dec-X7	By Unrealized currency gain/loss on Bonds—FVPL (P&L) account	27,342.05
			31-Dec-X7	By Balance	89,865.22
31-Dec-X7	Total	**192,612.08**	31-Dec-X7	Total	**192,612.08**
31-Dec-X7	To Balance	89,865.22			

Realized currency gain/loss (P&L) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
9-Jan-X7	To Payable to SilverMan account	1,881.89			
			15-Mar-X7	By accrued interest Purchase account	287.90
			18-Mar-X7	By interest receivable account	211.31
			18-Sep-X7	By interest receivable account	260.39
			7-Nov-X7	By Receivable to SilverMan account	1,537.33
31-Dec-X7	To Balance	415.04			
31-Dec-X7	Total	**2,296.93**	31-Dec-X7	Total	**2,296.93**
			31-Dec-X7	By Balance	415.04

Unrealized currency gain/loss (P&L) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
31-Mar-X7	To Bank account	18,628.46			
			30-Jun-X7	By Bank account	14,091.76
			30-Sep-X7	By Bank account	28,237.82
			31-Dec-X7	By Bank account	62,681.55
31-Dec-X7	To Balance	86,382.67			
31-Dec-X7	Total	**105,011.13**	31-Dec-X7	Total	**105,011.13**
			31-Dec-X7	By Balance	86,382.67

Unrealized currency gain/loss on Bonds—FVPL (P&L) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			31-Mar-X7	By MTM—Bonds—FVPL (Asset/Liability) account	61,080.12
			30-Jun-X7	By MTM—Bonds—FVPL (Asset/Liability) account	25,715.39
			30-Sep-X7	By MTM—Bonds—FVPL (Asset/Liability) account	50,108.34
31-Dec-X7	To MTM—Bonds—FVPL (Asset/Liability) account	27,342.05			
31-Dec-X7	To Balance	109,561.80			
31-Dec-X7	Total	**136,903.85**	31-Dec-X7	Total	**136,903.85**
			31-Dec-X7	By Balance	109,561.80

Realized currency gain/loss on Bonds—FVPL (P&L) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			4-Nov-X7	By Investments—Bonds—FVPL account	44,220.92
31-Dec-X7	To Balance	44,220.92			
31-Dec-X7	Total	**44,220.92**	31-Dec-X7	Total	**44,220.92**
			31-Dec-X7	By Balance	44,220.92

Realized capital gain/loss—Bonds—FVPL account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
4-Nov-X7	To Investments—Bonds—FVPL account	10,952.19			
			31-Dec-X7	By Balance	10,952.19
31-Dec-X7	Total	**10,952.19**	31-Dec-X7	Total	**10,952.19**
31-Dec-X7	To Balance	10,952.19			

Receivable from SilverMan account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
4-Nov-X7	To Investments—Bonds—FVPL account	430,487.58			
4-Nov-X7	To accrued interest sold account	5,981.73			
			7-Nov-X7	By Bank account	438,006.64
7-Nov-X7	To Realized currency gain/loss (P&L) account	1,537.33			
31-Dec-X7	Total	438,006.64	31-Dec-X7	Total	438,006.64

Share Capital account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			1-Jan-X7	By Bank account	1,538,461.54
31-Dec-X7	By Balance	1,538,461.54			
31-Dec-X7	Total	**1,538,461.54**	31-Dec-X7	Total	**1,538,461.54**
			31-Dec-X7	By Balance	1,538,461.54

Bank account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
1-Jan-X7	To Share Capital account	1,538,461.54			
			9-Jan-X7	By Payable to SilverMan account	1,001,590.02

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
18-Mar-X7	To interest receivable account	44,853.28			
			31-Mar-X7	By Unrealized currency gain/loss (P&L) account	18,628.46
30-Jun-X7	To Unrealized currency gain/loss (P&L) account	14,091.76			
18-Sep-X7	To interest receivable account	50,657.07			
30-Sep-X7	To Unrealized currency gain/loss (P&L) account	28,237.82			
7-Nov-X7	To receivable from SilverMan account	438,006.64			
31-Dec-X7	To Unrealized currency gain/loss (P&L) account	62,681.55			
			31-Dec-X7	By Balance	1.156,771.18
31-Dec-X7	Total	**2,176,989.66**	31-Dec-X7	Total	**2,176,989.66**
31-Dec-X7	To Balance	1,156,771.18			

Trial Balance

As on 31-Dec-X7 (USD)

Particulars	Debit	Credit
Capital account		
Share Capital		1,538,461.54
Investments		Nil
Current Assets		
Investments—Bonds—FVPL account	553,550.52	
MTM—Bonds—FVPL (Asset/Liability) account	89,865.22	
Interest accrued but not due account	18,208.93	
Bank account	1,156,771.18	
Income		
Interest Income—Bonds—FVPL account		70,002.65
Realized capital gain/loss—Bonds—FVPL account	10,952.19	
Realized currency gain/loss—Bonds—FVPL account		44,220.92
Realized currency gain/loss (P&L) account		415.04
Unrealized currency gain/loss on Bonds—FVPL (P&L) account		109,561.80
Unrealized currency gain/loss (P&L) account		86,382.67
Unrealized capital gain/loss on Bonds—FVPL (P&L) account	19,696.58	
Total	**1,849,044.62**	**1,849,044.62**

Income Statement

For the period ending 31-Dec-X7

Expenses	USD	Income	USD
		Direct Income	
		Interest Income—Bonds—FVPL account	70,002.65
Realized capital gain/loss—Bonds—FVPL account	10,952.19		
Unrealized capital gain/loss on Bonds—FVPL (P&L) account	19,696.58		
		Realized currency gain/loss—Bonds—FVPL account	44,220.92
		Realized currency gain/loss (P&L) account	415.04
		Unrealized currency gain/loss on Bonds—FVPL (P&L) account	109,561.80
		Unrealized currency gain/loss (P&L) account	86,382.67
Net Profit C/o	279,934.31		
Total	**310,583.08**	Total	**310,583.08**

Balance Sheet

As at 31-Dec-X7

Liabilities	USD	Assets	USD
Capital account		**Investments**	Nil
		Current Assets	
Share Capital	1,538,461.54	Bank account	1,156,771.18
		Investments—Bonds—FVPL account	553,550.52
Current Liabilities	Nil	MTM—Bonds—FVPL (Asset/Liability) account	89,865.22
Profit & Loss account		Interest accrued but not due account	18,208.93
Opening Balance	Nil		
Current Period	279,934.31		
Total	**1,818,395.85**	Total	**1,818,395.85**

SUMMARY

- Fixed income security refers to any type of investment that yields a regular or fixed return. It is an investment that provides a return in the form of fixed periodic payments and the eventual return of principal at maturity. In a variable income security, payments change based on some underlying benchmark measure such as short-term interest rates. However, in this and subsequent chapters, by fixed income securities we mean debt securities that yield a

regular return in the form of interest. The terms "debt securities" and "fixed income securities" are used here interchangeably.

- A debt security is defined as "any security representing a creditor relationship with an enterprise."
- The term "**debt security"** includes, among other items, U.S. Treasury securities, U.S. government agency securities, municipal securities, corporate bonds, convertible debt, commercial paper, all securitized debt instruments, such as collateralized mortgage obligations (CMOs) and real estate mortgage investment conduits (REMICs), and interest-only and principal-only strips.
- A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity. Investments in equity shares are a form of financial asset.
- Investments in debt securities are classified as either fair value through profit and loss or as available-for-sale securities or held-to-maturity investments.
- IFRS 9 is the first part of Phase 1 of the IASB's project to replace IAS 39. Financial Instruments: Classification and Measurement, which is Phase 1, was published in July 2009 and contained proposals for both assets and liabilities within the scope of IAS 39. An entity shall apply IFRS 9 for annual periods beginning on or after 1 January 2013.
- An entity shall classify financial assets as subsequently measured at either amortized cost or fair value on the basis of both:
  a) The entity's business model for managing the financial assets; and
  b) The contractual cash flow characteristics of the financial asset. (IFRS 9 Para 4.1)
- As per US GAAP, an entity shall classify debt securities into "trading" if it is acquired with the intent of selling it within hours or days. However, at acquisition an entity is not precluded from classifying as "trading" a security it plans to hold for a longer period. Classification of a security as trading shall not be precluded simply because the entity does not intend to sell it in the near term. Investments that are classified as "trading" securities are classified under "fair value through profit or loss" category.
- Bonds are either subscribed at the initial offer through the primary market route or purchased through the secondary market. In a secondary market the buy order is placed through a broker known as a counter party. Most corporate bonds are traded over-the-counter.
- Interest on bonds is payable by the issuer on the coupon date. Investors should account for the interest on the coupon date. However, the interest accrues on the bond on a daily basis even though it is paid periodically as per the terms of the bond, usually on a semi-annual basis.
- Corporate action is, as the name implies, an action taken by the issuer of the bonds that impact the investments or earnings from such investments. Typical examples of corporate actions include interest payment by the company, calls or the issuance of new debt by the issuer that result in change of the name, or number of bonds held by the investor, and so on.
- One of the key activities during the trade life cycle of fixed income securities is the corporate action in the form of interest as stated on the face of the bond. The accounting event for coupon accrual is recorded on the date on which the interest becomes payable by the company.
- The accrued interest purchased on the date of purchase of the bond is reversed on the first date on which interest is payable by the company. This effectively reduces the interest income during the first period during which the bond is held by the investor.
- The bonds should be carried in the books at fair market value for bonds that are held as trading securities. However, interest should be accounted for as though the bond is required to be shown on the basis of amortized cost. The premium paid or discount realized on purchase of the bond should be amortized over the remaining life of the bond on a yield-to-maturity basis.

Such an amortized premium or discount is added with the interest on the one hand and held separately in a mark-to-market account on the other.

- The effective interest is calculated based on an iterative process in such a way that the carrying cost is increased to the extent of the effective interest for the period the bond is held. The carrying cost at the end of the tenure of the bond should be equal to the face value of the bond.
- Since interest accrues on a day-to-day basis, the interest on bonds held by the investor from the date of the previous coupon date until the valuation date should be recorded in the books of accounts as "Interest Income" for the period.
- At the end of every valuation date the fair value of the bond is ascertained and the bonds are mark-to-market. This process is known as "portfolio valuation." The market rate at the end of the period is determined from the primary stock exchange where the bonds are traded. If there is an increase in the market rate over and above the purchase rate then such an increase is recognized as an unrealized gain and the corresponding amount is shown in the MTM—Bonds—FVPL (Asset/Liability) account.
- Interest accrues on the bond on a daily basis even though it is paid periodically, as per the terms of the bond usually on a semiannual basis. Hence, when the bond is sold, the investor actually should get not merely the value of the bond but also the interest element from the previous coupon date until the date of settlement of the trade.
- The profit or loss on liquidation of the bonds is ascertained by deducting the cost of sales from the net sale consideration. Cost of sales is arrived at by following FIFO, LIFO or the weighted average method.
- Certain debt instruments have a call provision which grants the issuer an option to retire all or part of the issue prior to the maturity date as mentioned in the document, even though most of the new bond issues usually have some restrictions against certain types of early redemption.
- Functional is the **currency of the primary economic environment** in which the entity operates. All other currencies other than the functional currency are known as foreign currencies for the entity. Presentation currency is the currency in which the financial statements are presented to the investors. The entity is free to choose any currency as its presentation currency.
- A foreign currency transaction is a transaction that is denominated in a currency other than the entity's functional currency or requires settlement in a foreign currency. "Denominated" means that the balance is fixed in terms of the number of units of a foreign currency regardless of changes in the exchange rate.
- An entity must convert foreign currency items into its functional currency for recording in its book of accounts. On initial recognition foreign currency transactions are recorded in the functional currency by applying to the foreign currency amount the spot exchange rate between the functional currency and the foreign currency at the date of the transaction.
- Under the relevant accounting standards foreign currency monetary items are treated differently from foreign currency non-monetary items during subsequent recognition of those items on any valuation date. The essential feature of a monetary item is the right to receive or an obligation to deliver a fixed or determinable amount of units of currency.
- When an asset is non-monetary and is measured in a foreign currency, the carrying amount is determined by comparing the cost or carrying amount, as appropriate, translated at the exchange rate at the date when that amount was determined (i.e., the rate at the date of the transaction for an item measured in terms of historical cost); and the net realizable value or recoverable amount, as appropriate, translated at the exchange rate at the date

when that value was determined (e.g., the closing rate at the end of the valuation date). The effect of this comparison may be that an impairment loss is recognized in the foreign currency but would not be recognized in the functional currency, or vice versa.

- Exchange differences arise from the settlement of monetary items at a subsequent date to initial recognition, and re-measuring an entity's monetary items at rates different from those at which they were initially recorded (either during the valuation date or at the previous valuation dates). Such exchange differences must be recognized as income or expenses in the period in which they arise.
- When a gain or loss on a non-monetary item is recognized in profit or loss, any exchange component of that gain or loss is also recognized in profit or loss. When a gain or loss on a non-monetary item is recognized directly in other comprehensive income, any exchange component of that gain or loss is recognized directly in other comprehensive income.
- For every transaction denominated and recorded in a foreign currency, a corresponding journal entry is recorded and accounted for in its functional currency, based on the foreign exchange rate on the date on which such a transaction is recognized. This process is known as FX revaluation.
- FX translation is required to be performed by the investor to adjust the FX rate differential between the transaction date and the valuation date in respect of all assets and liabilities, which can either be monetary items or non-monetary items.
- When an entity trades in foreign currency (i.e., where the trade currency is different from the functional currency), then the total unrealized gain or loss consists of two components—capital gain and currency gain.

QUESTIONS

Theory questions

1. What is accrued interest on bonds purchased and how is it accounted for?
2. How do you categorize an asset as held for "fair value through profit or loss"?
3. List the major events in the trade life cycle of an investment made in a fixed income security held for trading purposes.
4. What is the amortized cost of a bond and how is it accounted for?
5. How is interest calculated based on amortization and how is it accounted for in the books?
6. What differentiates a "dirty price" from a "clean price"?
7. What is the liquidation methodology used in the sale of a bond?

Objective questions

1. For an investment in bonds, the cash interest earned in each interest period is _____
   a) The same amount regardless of whether the bond was sold at par, a discount, or a premium.
   b) Different depending upon the date of sale.
   c) Not the same amount when the contractual interest and the yield are different.
   d) Dependent on the amount of accrued interest charged to the buyer at the time of the trade.
2. If a bond having a face value of $100 was sold at S$94, the stated rate of interest would be _____
   a) Equal to the market rate on date of issuance.
   b) Not related to the market rate on date of issuance.

c) Higher than the market rate on date of issuance.
d) Lower than the market rate on date of issuance.

3. Accrued interest _____
   a) Is the difference between the dirty price and clean price.
   b) Must be paid by the buyer of the bond and remitted to the seller of the bond.
   c) Must be paid to the buyer of the bond.
   d) a) and b).

4. The actual price of a bond that a buyer would pay is equal to ____
   a) The asked price plus accrued interest.
   b) The asked price less accrued interest.
   c) The bid price plus accrued interest.
   d) The bid price less accrued interest.
   e) The bid price.

5. Classification of debt instruments under IAS 39 includes the following, except _____
   a) Fair value through profit or loss (FVPL).
   b) Available-for-sale (AFS).
   c) Held-to-maturity (HTM).
   d) Loan and receivable (LAR).
   e) Amortized cost (AC).

6. Unrealized capital gain or losses for bonds under the "trading" category are reported under _____
   a) Income/loss on the income statement.
   b) Other comprehensive income.
   c) Dividend income.
   d) Netted against realized capital gains or losses.

7. On liquidation of the bond the profit or loss is ascertained by _____
   a) Deducting the cost of sales (excluding interest) from the net sale consideration.
   b) Deducting the cost of sales (including interest) from the net sale consideration.
   c) Deducting the cost of sales (excluding interest) from the mark-to-market value.
   d) Adding the cost of sales (including interest) with the net sale consideration.

8. Under the incremental value method, the mark-to-market entry is reversed _____
   a) On T + 2 days.
   b) At the end of the accounting period.
   c) On the next valuation date.
   d) None of the above.

Journal questions

1. Bond-trading—problem—USD

Bond details:	
Face value	100.00
Issue price	100.00
Maturity	10-Mar-X4
Rate of interest	6.00%
Currency	USD

Coupon dates (until maturity)	**Coupon date**	**Settle date**
Previous coupon	10-Sep-X2	13-Sep-06
Coupon date-1	10-Mar-X3	13-Feb-X3
Coupon date-2	10-Sep-X3	13-Sep-X3
Coupon date-3	10-Mar-X4	13-Mar-X4
Coupon date-4	10-Mar-X4	13-Mar-X4

Day Count	Actual/365

Transaction details

Particulars	**Trade date**	**Settle date**	**Quantity**	**Clean price**
Bought	1-Mar-X3	4-Mar-X3	43,000	110.00
Sold	21-Dec-X3	24-Dec-X3	33,000	120.00

Valuation dates and market value	**Date**	**Market rate**
Valuation date 1	31-Mar-X3	112.50
Valuation date 2	30-Jun-X3	114.50
Valuation date 3	30-Sep-X3	116.00
Valuation date 4	31-Dec-X3	120.00
Functional currency	USD	

Other details	**Date**	**USD**
Capital introduced	01-Feb-X3	5,000,000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

2. Bond-trading—problem—GBP

Bond details:	
Face value	100.00
Issue price	100.00
Maturity	15-Feb-X4
Rate of interest	10.00
Currency	GBP

Coupon dates (until maturity)	Coupon date	FX rate	Settle date	FX rate
Previous coupon	15-Feb-X2	.64715	18-Feb-X2	.62649
Coupon date-1	15-Aug-X2	.65113	18-Aug-X2	.65501
Coupon date-2	15-Feb-X3	.61900	18-Feb-X3	.62846
Coupon date-3	15-Aug-X3	.62649	18-Aug-X3	.62861
Coupon date-4	15-Feb-X4	.53043	18-Feb-X4	.52938

Day count	Actual/365

Transaction details

Particulars	Trade date	FX rate	Settle date	FX rate	Quantity	Clean price
Bought	06-Jan-X3	.62162	09-Jan-X3	.62197	12,000	109.00
Sold	04-Nov-X3	.59508	07-Nov-X3	.59661	5,000	104.50

Valuation dates and market value	Date	Market rate	FX rate
Valuation date 1	31-Mar-X3	107.00	.63183
Valuation date 2	30-Jun-X3	106.00	.60438
Valuation date 3	30-Sep-X3	105.00	.60176
Valuation date 4	31-Dec-X3	103.50	.55997
Functional currency	USD		

Other details	Date	GBP	FX rate
Capital introduced	01-Jan-X3	2,000,000	.62735

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

3. Bond-trading—problem—JPY

Bond details:	
Face value	100.00
Issue price	100.00
Maturity	15-Feb-X4
Rate of interest	10.00
Currency	JPY

Coupon dates (until maturity)	Coupon date	FX rate	Settle date	FX rate
Previous coupon	15-Sep-X2	122.25	18-Sep-X2	121.50
Coupon date-1	15-Mar-X2	129.00	18-Mar-X2	131.33
Coupon date-2	15-Sep-X3	121.70	18-Sep-X3	121.50
Coupon date-3	15-Mar-X3	118.32	18-Mar-X3	118.87
Coupon date-4	15-Sep-X4	110.31	18-Sep-X4	106.82

Day count	Actual/365	365

Transaction details

Particulars	**Trade date**	**FX rate**	**Settle date**	**FX rate**	**Quantity**	**Clean price**
Bought	06-Aug-X2	120.77	09-Aug-X2	120.16	5,000	95.00
Written off	15-Apr-X3	120.32	18-Apr-X3	119.77	5,000	85.00

Valuation dates and market value	**Date**	**Market rate**	**FX rate**
Valuation date 1	30-Sep-X2	96.50	121.81
Valuation date 2	31-Mar-X3	90.00	118.09
Valuation date 3	30-Jun-X3	86.50	119.80
Valuation date 4	30-Sep-X3	80.00	111.49
Functional currency	USD		

Other details	**Date**	**JPY**	**FX rate**
Capital introduced	01-July-X3	5,000,000	119.43

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

CHAPTER 3

Fixed Income Securities—Available-for-Sale

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Meaning of fixed income securities held as "available-for-sale"
- Accounting for available-for-sale—fixed income securities in the light of relevant accounting standards
- Trade life cycle of fixed income security investments held as available-for-sale
- Accounting journal entries to be recorded during the different phases of the trade life cycle
- Illustration of accounting for investments in fixed income securities held as available-for-sale
- Preparation of general ledger accounts
- Preparation of income statement, balance sheet after the bond investments are made
- FX revaluation and FX translation process
- Functional currency, foreign currency and presentation currency
- Distinction between capital gains and currency gains in unrealized gains

BASIC UNDERSTANDING OF AVAILABLE-FOR-SALE (AFS)

Available-for-sale securities are debt or equity investments that are held for an indefinite period of time without any intention to resell for profit. They are not trading assets as in the case of short-term assets held for speculation nor are they acquired with an intention to hold until maturity. In the case of equity securities, there is no concept of holding until maturity and hence whatever investments in equity are acquired without any intention to resell for profit, the same is classified as "available-for-sale" securities. Thus available-for-sale securities are a hybrid. While available-for-sale securities are recorded at fair value or market value, the unrealized gains/losses on them are excluded from current earnings (P&L) and are instead recorded as an adjustment to bonds on the balance sheet.

The available-for-sale category includes all bond securities except those classified as fair value through profit or loss and under "held-until-maturity." Available-for-sale financial assets are carried at fair value subsequent to initial recognition. Usually the fair value can be readily determined for most financial assets through an active market or by a reasonable estimation process. The exception to this rule is bond securities that are not actively traded and hence do not have a quoted market price for arriving at a reliable fair value. Such instruments, however, are measured at cost instead of fair value.

For available-for-sale financial assets, unrealized gains and losses are deferred until they are realized or impairment occurs. The unrealized gains on such financial assets are shown as other comprehensive income and adjusted directly in the bond/investments (net amount) under a separate component of shareholders' equity without being routed through the income statement. When

the bonds are sold the gains/losses realized are reported in the income statement. Only interest income and dividend income, impairment losses, and certain foreign currency gains and losses are recognized in profit or loss.

ACCOUNTING FOR FIXED INCOME SECURITIES CLASSIFIED AS AVAILABLE-FOR-SALE

As per IFRS

Para 45 of IAS 39 provides for the classification of financial assets into the following categories:

- Fair value through profit and loss (FVPL);
- Held-to-maturity (HTM);
- Available-for-sale (AFS);
- Loans and receivables (LAR).

Investments in debt securities are classified as either fair value through profit and loss or as available-for-sale securities, or as held-to-maturity investments.

As per the accounting standards, available-for-sale financial assets are those non-derivative financial assets that are designated as available-for-sale or are not classified as:

- Loans and receivables;
- Held-to-maturity investments; or
- Financial assets at fair value through profit or loss.

Thus bonds that are not designated as financial assets at fair value through profit or loss are categorized as available-for-sale instruments. Also investments in bond instruments that do not have a quoted market price in an active market, and whose fair value cannot be reliably measured should not be designated as at fair value through profit or loss and such instruments are designated as available-for-sale securities.

Amendment made through IFRS 9

IFRS 9 is the first part of Phase 1 of the IASB's project to replace IAS 39. Financial Instruments: Classification and Measurement, which is Phase 1 and was published in July 2009, contained proposals for both assets and liabilities within the scope of IAS 39. An entity shall apply IFRS 9 for annual periods beginning on or after 1 January 2013. Earlier application is permitted. If an entity applies this IFRS in its financial statements for a period beginning before 1 January 2013, it shall disclose that fact.

An entity shall classify financial assets as subsequently measured at either amortized cost or fair value on the basis of both:

a) The entity's business model for managing the financial assets; and
b) The contractual cash flow characteristics of the financial asset. (IFRS 9 Para 4.1)

A financial asset shall be measured at amortized cost if both of the following conditions are met:

a) The asset is held within a business model whose objective is to hold assets in order to collect contractual cash flow; and
b) The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. (IFRS 9 Para 4.2)

For the purpose of this IFRS, interest is consideration for the time value of money and for the credit risk associated with the principal amount outstanding during a particular period of time. (IFRS 9 Para 4.3)

A financial asset shall be measured at fair value unless it is measured at amortized cost in accordance with paragraph 4.2. (IFRS 9 Para 4.4)

OPTION TO DESIGNATE A FINANCIAL ASSET AT FAIR VALUE THROUGH PROFIT OR LOSS

An entity may, at initial recognition, designate a financial asset as measured at fair value through profit or loss if doing so eliminates or significantly reduces a measurement or recognition inconsistency (sometimes referred to as an "accounting mismatch") that would otherwise arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases. (IFRS 9 Para 4.5)

Impact of IFRS 9 on available-for-sale category for debt instruments

By virtue of the amendments made through IFRS 9 to financial instruments, available-for-sale as a category will cease to exist with effect from 1st Jan 2013 or earlier if the entity so decides to adopt IFRS 9 earlier. If the investments in fixed income securities are made within a business model having an objective to hold such investments to collect interest receipts then the instruments should be classified as subsequently measured at amortized cost. Otherwise such investments should be classified as subsequently measured at fair value.

FX translation on available-for-sale securities

Fixed income securities are classified as monetary items as there exists a right to receive a fixed or determinable amount of unit of currency from the issuer on maturity of the fixed income securities. However, this is only where the securities are held-to-maturity, in which case the securities will be classified as held-to-maturity. Hence, fixed income securities classified as available-for-sale are non-monetary items and the exchange differences arising from the translation of available-for-sale securities should be taken to "other comprehensive income" only.

Exchange differences arise from the settlement of monetary items at a subsequent date to initial recognition, and re-measuring an entity's monetary items at rates different from those at which they were initially recorded (either during the reporting period or at the previous reporting periods). Such exchange differences must be recognized as income or expenses in the period in which they arise. If the transaction is settled in a different accounting period to that of the initial recognition of the transaction, the exchange difference to be recognized in each period is determined by the change in exchange rates during that period.

Fixed income security (AFS) as a hedged item

A hedged item is an asset, liability, firm commitment, highly probable forecast transaction or net investment in a foreign operation that (a) exposes the entity to risk of changes in fair value or future cash flows and (b) is designated as being hedged. Generally, since fixed income security exposes an entity to risk of changes in fair value or future cash flows, it is a suitable candidate for being designated as a hedged item.

ACCOUNTING FOR FIXED INCOME SECURITIES

In this section we will cover the accounting requirements for fixed income security investments that are classified as available-for-sale purposes. The accounting treatment under the US GAAP for both these categories is covered by the following topics. The relevant International Financial Reporting Standards, IAS (International Accounting Standard) are also given, as shown in Table 3.1.

Table 3.1 Relevant accounting standards

US GAAP Topics	IFRS
220—Comprehensive Income	IFRS 7—Financial Instruments: Disclosure
320—Investments—Debt and Equity Securities	IFRS 9—Financial Instruments
820—Fair Value Measurements and Disclosures	IAS 21—The Effects of Changes in Foreign Exchange Rates
825—Financial Instruments	IAS 32—Financial Instruments: Presentation
830—Foreign currency Matters	IAS 36—Impairment of Assets
946—Financial Services—Investment Companies	IAS 39—Financial Instruments: Recognition and Measurement

TRADE LIFE CYCLE FOR FIXED INCOME SECURITIES—AVAILABLE-FOR-SALE

- Buy the bond
- Accrued interest purchased
- Pay the contracted amount for the bond
- Coupon accrual
- Coupon receipt
- Reversal of accrued interest purchased
- Accrual of interest on valuation date
- Amortization of premium/discount on purchase
- Valuation of bond on valuation date
- Sell the bond
- Accrued interest on bond sold
- Receive the consideration
- Ascertain the profit/loss on the sale
- Fx revaluation entries
- Fx translation entries

Additional events in the trade life cycle

- Early redemption
- Maturity
- Write off

Trade and other details for the purpose of illustration

Let us assume the following details for the purpose of this illustration:

Bond details:	
Face value	100.00
Issue Price	100.00
Maturity	15-Mar-X10
Rate of interest	7.00 %
Currency	USD

Coupon dates (until maturity)	Coupon date	Settle date
Previous Coupon	15-Sep-X6	18-Sep-X6
Coupon date-1	15-Mar-X7	18-Mar-X7

Coupon date-2	15-Sep-X7	18-Sep-X7
Coupon date-3	15-Mar-X8	18-Mar-X8
Coupon date-4	15-Sep-X8	18-Sep-X8
Coupon date-5	15-Mar-X9	18-Mar-X9
Coupon date-6	15-Sep-X9	18-Sep-X9
Coupon date-7	15-Mar-X10	18-Mar-X10

Day Count	Actual/365

Transaction details

Particulars	**Trade date**	**Settle date**	**Quantity**	**Clean price**
Bought	20-Jan-X7	23-Jan-X7	5,000	85.00
Sold	07-Dec-X7	10-Dec-X7	2,000	91.00

Valuation dates and market value	**Date**	**Market rate**
Valuation date 1	31-Mar-X7	87.00
Valuation date 2	30-Jun-X7	88.50
Valuation date 3	30-Sep-X7	89.25
Valuation date 4	31-Dec-X7	91.50
Functional currency	USD	

Other details	**Date**	**USD**
Capital introduced	01-Jan-X7	1,500,000

The trade life cycle for investment in bonds that are designated as available-for-sale is the same as given for trading securities except that at the time of ascertaining the fair value at the end of the reporting period, the accounting entry that is recorded in the book of accounts is different. The event in the trade life cycle that calls for a different treatment than the one given for trading securities is given in the following section.

Ascertain the fair value at the end of valuation date

At the end of the valuation date the fair value of the bonds is ascertained and the bonds are marked to market. This process is known as portfolio valuation when the market rate at the end of the period is determined from the primary stock exchange or market where the bonds are quoted or traded. The mark-to-market process adopted here is the same as the one followed for trading bonds. However, if there is an increase in the market rate over and above the purchase rate (amortized cost) then such increase is recorded as part of the other comprehensive income (unrealized gain/loss) and not recognized as income in the current period. The other comprehensive income is shown as part of the share holders' equity in the balance sheet. The corresponding amount is shown in MTM—Bonds—AFS (Asset/Liability) account.

This accounting entry recording the unrealized gains/losses is reversed subsequently on the next valuation date. Alternatively, the accounting entry can also be recorded only for the incremental value. If the investor follows this incremental value method then there is no need to reverse any entry for mark-to-market recorded earlier. The same process of comparing the "theoretical" amortized cost with the fair market value as on the valuation date is performed and entry passed accordingly.

The exception to this general rule is when there is a permanent impairment to the value of the bonds held as available-for-sale. Such permanent impairment should be recognized in the income and as such should be part of the income statement. If the perceived permanent impairment later on recovers, such increase in the value of the investments should not be recorded in the books until the liquidation of such bonds.

While accounting for the unrealized gains the following points should be carefully considered and understood:

- For bonds held in the available-for-sale category, the unrealized gains or losses are taken to a separate valuation account usually known as the MTM—Bonds—AFS (Asset/Liability) account. The fluctuations in the market value of the securities is not added to the investment account itself but taken to this account.
- At the valuation date the value of the bonds held in the available-for-sale category is shown at the fair market value of the security. The unrealized gains are computed by finding out the difference between the market value of the security and the "theoretical" amortized cost of the security. The reason why we use the term "theoretical" is because the carrying cost of the security is only temporarily adjusted based on the amortization of premium/discount mainly to get the correct interest element. Such amortized cost is compared with the fair market value of the security to ascertain the unrealized gains/losses.
- For bonds held in the available-for-sale category, the gains are directly taken to the bond (other comprehensive income, OCI) and are *not* routed through the profit and loss account.

Let us explain the same from the illustration. The amortized cost as on date is arrived at with the carrying cost end price per bond on 31-Mar-X3. Thus, in the example as on 31-Mar-X3, 5,000 bonds are held with the carrying cost of $86.93 per bond. The market value given in the example is $87.00 as on 31-Mar-X3. This results in a mark-to-market gain of $ 329.37, which is taken to the bond account under "other comprehensive income, OCI" since the bonds are held in the "available-for-sale" category.

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	MTM—Bonds—AFS (Asset/Liability) account	6,324.48	
	To Unrealized capital gain/loss on bonds—AFS (OCI) account		6,324.48
	(Being the unrealized capital gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

On liquidation of AFS bonds

When the bonds are liquidated, the actual realized profit on such liquidation is computed and the realized gains are taken to the income statement. Of course the unrealized capital gain/loss on bonds as shown in the previous paragraph will be simply reversed. In this example, realized gains computed as follows would be accounted for with an accounting entry as given in Table 3.2.

Table 3.2 Profit/Loss on sale of bond

Calculation of realized gains on sale of bonds	USD
a) Amount realized on sale of bonds	182,000.00
b) Amortized cost of bonds sold	177,332.75
c) Realized gain on sale (a) – (b)	**4,667.25**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Dec-X7	Investments—Bonds—AFS account	4,667.25	
	To Realized capital gain/loss—Bonds—AFS account		4,667.25
	(Being the Realized capital gain/loss on the sale of bond)		

FX TRANSLATION ON AVAILABLE-FOR-SALE SECURITIES

Under the relevant accounting standards, foreign currency monetary items are treated differently from foreign currency non-monetary items during subsequent recognition of those items on any valuation date. The essential feature of a monetary item is the right to receive or an obligation to deliver a fixed or determinable amount of units of currency. A non-monetary item does not have this right.

Exchange differences arise from the settlement of monetary items at a subsequent date to initial recognition, and re-measuring an entity's monetary items at rates different from those at which they were initially recorded (either during the reporting period or at the previous reporting periods). Such exchange differences must be recognized as income or expense in the period in which they arise. If the transaction is settled in a different accounting period to that of the initial recognition of the transaction, the exchange difference to be recognized in each period is determined by the change in exchange rates during that period.

When a gain or loss on a non-monetary item is recognized in profit or loss, any exchange component of that gain or loss is also recognized in profit or loss. When a gain or loss on a non-monetary item is recognized directly in other comprehensive income, any exchange component of that gain or loss is recognized directly in other comprehensive income.

FX revaluation process

For every transaction denominated and recorded in a foreign currency, a corresponding journal entry is recorded and accounted in its functional currency, based on the foreign exchange rate on the date on which such transaction is recognized. This process is known as FX revaluation. FX revaluation is performed on all the accounting entries recorded by the investor. FX revaluation of revenues, expenses, gains and losses at the exchange rate on which the transaction is recognized has the effect of freezing the amounts in the functional currency and does not undergo any change due to fluctuation in the FX rates at the reporting period.

FX translation process

The income statement and balance sheet of the investor should be prepared in the functional currency. Hence on the valuation date all the assets and liabilities of the investor that are designated in foreign currency should be converted into the functional currency based on the official FX conversion rates on the valuation date. This is achieved by the FX revaluation process. However, apart from the revaluation process, another process known as FX translation is required to be performed by the investor to adjust the FX rate differential between the transaction date and the valuation date in respect of all assets and liabilities which can either be monetary items or non-monetary items.

All monetary items are valued at the closing exchange rate with the exchange difference being taken to the profit and loss account. All non-monetary items that are measured at historical cost are valued

at the exchange rate at the date of the transaction and as such do not result in any exchange difference. However, non-monetary items that are measured at fair value are valued at the exchange rate at the date at which the fair value was determined.

Generally, debt securities are monetary assets as a fixed amount of currency is ultimately receivable from the issuer. However, note that fixed income securities held other than to maturity, (i.e., held either for trading purposes or as available-for-sale security) are non-monetary items. Fixed income securities classified as available-for-sale are valued at fair value on valuation date and the exchange difference on such valuation is recognized in other comprehensive income.

IMPAIRMENT OF AVAILABLE-FOR-SALE FIXED INCOME SECURITIES

In the case of impairment to the value of the bonds held as available-for-sale, it should be recognized in the income and be part of the income statement. If impairment reverses, then the increase in the value of the investments will not be recorded in the books until the liquidation of those bonds.

BONDS CLASSIFIED AS AVAILABLE-FOR-SALE—COMPLETE SOLUTION TO THE ILLUSTRATION

The following table gives the calculation based on the effective rate of 12.93 percent.

		Face value	100.00	Qty	1		
		Coupon rate	7.00	Discount/(–) Premium	15.00		
		Effective rate	12.92643363				
		Purchase price	85.00				
Date	**No. of days**	**Carrying Cost at Beginning**	**Effective Int %**	**Effective Interest**	**Coupon Amount**	**Amortization**	**Carrying Cost End**
15-Mar-X7	51	85.00	1.806159220	1.5352353366	0.9780822	0.5571531	85.5571531
31-Mar-X7	16	85.56	0.566638187	0.4847995010	0.3068493	0.1779502	85.7351033
30-Jun-X7	91	85.74	3.222754686	2.7630320600	1.7452055	1.0178266	86.7529299
15-Sep-X7	77	86.75	2.726946273	2.3657057886	1.4767123	0.8889935	87.6419234
30-Sep-X7	15	87.64	0.531223300	0.4655743174	0.2876712	0.1779031	87.8198265
31-Dec-X7	92	87.82	3.258169572	2.8613188642	1.7643836	1.0969353	88.9167618
15-Mar-X8	75	88.92	2.656116499	2.3617327797	1.4383562	0.9233766	89.8401384
15-Sep-X8	184	89.84	6.516339145	5.8542881047	3.5287671	2.3255210	92.1656594
15-Mar-X9	181	92.17	6.410094485	5.9079058474	3.4712329	2.4366730	94.6023323
15-Sep-X9	184	94.60	6.516339145	6.1646088134	3.5287671	2.6358417	97.2381740
15-Mar-X10	181	97.24	6.410094485	6.2330588299	3.4712329	2.7618260	100.0000000
		100.00					

Note: On 10-Dec-X7, interest amortization for the ensuing period is 1.0969353 and the carrying cost is 88.6663744.

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Jan-X7	Bank account	1,500,000.00	
	To Share Capital account		1,500,000.00
	(Being the capital introduced)		

T-2 *On purchase of bonds—available-for-sale*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Jan-X7	Investments—Bonds—AFS account	425,000.00	
	To Payable to Lion King Brothers account		425,000.00
	(Being the purchase of bonds held as available-for-sale)		

T-3 *On recording accrued interest purchased on purchase of Bond:*

Calculation of accrued interest purchased	USD
a) Previous coupon date	15-Sep-X6
b) Settlement date of bonds purchased	23-Jan-X7
Number of days (Actual/365)	130
Face value of bonds on which interest is computed	500,000
Rate of interest p.a.(%)	7.00
Accrued interest purchased	**12,465.75**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Jan-X7	Accrued interest purchased account	12,465.75	
	To Payable to Lion King Brothers account		12,465.75
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

T-4 *On payment of contracted sum:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Jan-X7	Payable to Lion King Brothers account	437,465.75	
	To Bank account		437,465.75
	(Being the payment made to the broker for purchased of bonds including accrued interest purchased)		

T-5 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	**USD**
a) Previous coupon date	15-Sep-X6
b) Current coupon date	15-Mar-X7
Number of days (Actual/365)	181
Face value of bonds on which interest is computed	500,000
Rate of interest p.a.(%)	7.00
Interest accounted for on coupon date	**17,356.16**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
15-Mar-X7	Interest Receivable account	17,356.16	
	To Interest Income—Bonds—AFS account		17,356.16
	(Being the interest accounted for on the coupon date)		

T-6 *On reversal of accrued interest purchased:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
15-Mar-X7	Interest Income—Bonds—AFS account	12,465.75	
	To Accrued interest purchased account		12,465.75
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bond)		

T-7 *On receipt of coupon interest in the bank:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
18-Mar-X7	Bank account	17,356.16	
	To Interest Receivable account		17,356.16
	(Being the receipt of coupon interest in the bank)		

T-8 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 31-Dec-X2 per bond			**USD**
Period ending	**Amount/bond**	**Qty**	**Value**
15-Mar-X7	0.55715314		
31-Mar-X7	0.17795019		
Total	**0.73510333**	**5,000**	**3,675.52**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Investments—Bonds—AFS account	3,675.52	
	To Interest Income—Bonds—AFS account		3,675.52
	(Being the amortization of premium treated as interest income as per accounting standards)		

T-9 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 31-Mar-X7	Market Rate	Quantity	Value
Market value as on date	87.00	5,000	435,000.00
Amortized cost as on date			428,675.52
Mark-to-market gain			**6,324.48**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	MTM—Bonds—AFS (Asset/Liability) account	6,324.48	
	To Unrealized capital gain/loss on Bonds—AFS (OCI) account		6,324.48
	(Being the unrealized capital gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-10 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
a) Previous coupon date	15-Mar-X7
b) Current coupon date	31-Mar-X7
Number of days (Actual/365)	16
Face value of bonds on which interest is computed	500,000
Rate of interest p.a.(%)	7.00
Accrued interest on valuation date	**1,534.25**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Interest accrued but not due account	1,534.25	
	To Interest Income—Bonds—AFS account		1,534.25
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-11 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Investments—Bonds—AFS account	5,089.13	
	To Interest Income—Bonds—AFS account		5,089.13
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-12 *Reversal of MTM—Bonds—AFS (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	6,324.48	
	To MTM—Bonds—AFS (Asset/Liability) account		6,324.48
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-13 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 30-Jun-X7	Market Rate	Quantity	Value
Market value as on date	88.50	5,000	442,500.00
Amortized cost as on date			433,764.65
Mark-to-market gain			**8,735.35**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	MTM—Bonds—AFS (Asset/Liability) account	8,735.35	
	To Unrealized capital gain/loss on Bonds—AFS (OCI) account		8,735.35
	(Being the unrealized gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-14 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest Income—Bonds—AFS account	1,534.25	
	To Interest accrued but not due account		1,534.25
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

T-15 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	**USD**
a) Previous coupon date	15-Mar-X7
b) Current coupon date	30-Jun-X7
Number of days (Actual/365)	107
Face value of bonds on which interest is computed	500,000
Rate of interest p.a.(%)	7.00
Accrued interest on valuation date	**10,260.27**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Jun-X7	Interest accrued but not due account	10,260.27	
	To Interest Income—Bonds—AFS account		10,260.27
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-16 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
15-Sep-X7	Interest Income—Bonds—AFS account	10,260.27	
	To Interest accrued but not due account		10,260.27
	(Being the reversal of accrual of interest on bonds on the next valuation date / coupon date)		

T-17 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	**USD**
a) Previous coupon date	15-Mar-X7
b) Current coupon date	15-Sep-X7
Number of days (Actual/365)	184
Face value of bonds on which interest is computed	500,000
Rate of interest p.a.(%)	7.00
Interest accounted for on coupon date	**17,643.84**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
15-Sep-X7	Interest Receivable account	17,643.84	
	To Interest Income—Bonds—AFS account		17,643.84
	(Being the interest accounted for on the coupon date)		

T-18 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Sep-X7	Bank account	17,643.84	
	To Interest Receivable account		17,643.84
	(Being the receipt of coupon interest in the bank)		

T-19 *Reversal of MTM—Bonds—Trading (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Unrealized Capital Gains on Bonds—AFS(OCI) account	8,735.35	
	To MTM—Bonds—AFS (Asset/Liability) account		8,735.35
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-20 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
a) Previous coupon date	15-Sep-X7
b) Current coupon date	30-Sep-X7
Number of days (Actual/365)	15
Face value of bonds on which interest is computed	500,000
Rate of interest p.a.(%)	7.00
Accrued interest on valuation date	**1,438.36**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Interest accrued but not due account	1,438.36	
	To Interest Income—Bonds—AFS account		1,438.36
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-21 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 30-Sep-X7 per bond			USD
Period ending	**Amount/bond**	**Qty**	**Value**
15-Sep-X7	0.88899346		
30-Sep-X7	0.17790308		
Total	**1.06689654**	**5,000**	**5,334.48**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	MTM – Bonds – AFS (Asset/Liability) account	5,334.48	
	To Interest Income—Bonds—AFS account		5,334.48
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-22 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 30-Sep-X7	Market Rate	Quantity	Value
Market value as on date	89.25	5,000	446,250.00
Amortized cost as on date			439,099.13
Mark-to-market gain			**7,150.87**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Investments—Bonds—AFS account	7,150.87	
	To Unrealized capital gain/loss on Bonds—AFS (OCI) account		7,150.87
	(Being the unrealized gains/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-23 *On sale of bonds:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Dec-X7	Receivable from Lion King Brothers account	182,000.00	
	To Investments—Bonds—AFS account		182,000.00
	(Being the sale of bonds held as available-for-sale through the broker)		

T-24 *On recording accrued interest sold received on sale of bonds:*

Calculation of accrued interest sold	USD
a) Previous coupon date	15-Sep-X7
b) Current coupon date	10-Dec-X7
Number of days (Actual/365)	86
Face value of bonds on which interest is computed	200,000
Rate of interest p.a.(%)	7.00
Accrued interest sold	**3,298.63**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Dec-X7	Receivable from Lion King Brothers account	3,298.63	
	To Accrued Interest Sold account		3,298.63
	(Being the accrued interest sold received on the sale of bonds calculated from the previous coupon date to the date of settlement of the bond)		

T-25 *Accrued interest sold taken to interest income:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Dec-X7	Accrued Interest Sold account	3,298.63	
	To Interest Income—Bonds—AFS account		3,298.63
	(Being accrued interest sold taken to interest income account)		

T-26 *On reversal of interest accrual on the next day:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Dec-X7	Interest Income—Bonds—AFS account	1,438.36	
	To Interest accrued but not due account		1,438.36
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next day)		

T-27 *Profit/Loss on sale of Bond:*

Calculation of realized gains on sale of Bonds	**USD**
a) Amount realized on sale of Bonds	182,000.00
b) Amortized cost of Bonds sold	177,332.75
c) Realized gain on sale (a) − (b)	**4,667.25**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Dec-X7	Investments—Bonds—AFS account	4,667.25	
	To Realized capital gain/loss—Bonds—AFS account		4,667.25
	(Being the Realized capital gain/loss on the sale of bond)		

T-28 *On receiving the contracted sum:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Dec-X7	Bank account	185,298.63	
	To Receivable from Lion King Brothers account		185,298.63
	(Being amount received on the sale of the bond)		

T-29 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Investments—Bonds—AFS account	3,290.81	
	To Interest Income—Bonds—AFS account		3,290.81
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-30 *On reversal of mark-to-market valuation on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	7,150.87	
	To MTM—Bonds—AFS (Asset/Liability) account		7,150.87
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-31 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 31-Dec-X7	Market Rate	Quantity	Value
Market value as on date	91.50	3,000	274,500.00
Amortized cost as on date			266,750.29
Mark-to-market gain			**7,749.71**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	MTM—Bonds—AFS (Asset/Liability)Account	7,749.71	
	To Unrealized capital gain/loss on Bonds—AFS (OCI) account		7,749.71
	(Being the unrealized gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-32 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	**USD**
a) Previous coupon date	15-Sep-X7
b) Current coupon date	31-Dec-X7
Number of days (Actual/365)	107
Face value of bonds on which interest is computed	300,000
Rate of interest p.a.(%)	7.00
Accrued interest on valuation date	**6,156.16**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Dec-X7	Interest accrued but not due account	6,156.16	
	To Interest Income—Bonds—AFS account		6,156.16
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

Investments—Bonds—AFS account

Date	**Particulars**	**Debit**	**Date**	**Particulars**	**Credit**
20-Jan-X7	To Payable to Lion King Brothers account	425,000.00			
31-Mar-X7	To Interest Income—Bonds—AFS account	3,675.52			
30-Jun-X7	To Interest Income—Bonds—AFS account	5,089.13			
30-Sep-X7	To Interest Income—Bonds—AFS account	5,334.48			
			7-Dec-X7	By Receivable from Lion King Brothers account	182,000.00
7-Dec-X7	To Realized capital gain/loss—Bonds—AFS account	4,667.25			
31-Dec-X7	To Interest Income—Bonds—AFS account	3,290.81			
			31-Dec-X7	By Balance	265,057.19
31-Dec-X7	Total	**447,057.19**	31-Dec-X7	Total	**447,057.19**
31-Dec-X7	To Balance	265,057.19			

Payable to Lion King Brothers account

Date	**Particulars**	**Debit**	**Date**	**Particulars**	**Credit**
			20-Jan-X7	By Investments—Bonds—AFS account	425,000.00
			20-Jan-X7	By Accrued interest purchased account	12,465.75
23-Jan-X7	To Bank account	437,465.75	31-Dec-X7		
31-Dec-X7	Total	**437,465.75**	31-Dec-X7	Total	**437,465.75**

Accrued interest purchased account

Date	Particulars	Debit	Date	Particulars	Credit
20-Jan-X7	To Payable to Lion King Brothers account	12,465.75			
			15-Mar-X7	By Interest Income—Bonds—AFS account	12,465.75
31-Dec-X7	Total	**12,465.75**	31-Dec-X7	Total	**12,465.75**

Interest Receivable account

Date	Particulars	Debit	Date	Particulars	Credit
15-Mar-X7	To Interest Income—Bonds—AFS account	17,356.16			
			18-Mar-X7	By Bank account	17,356.16
15-Sep-X7	To Interest Income—Bonds—AFS account	17,643.84			
			18-Sep-X7	By Bank account	17,643.84
31-Dec-X7	Total	**35,000.00**	31-Dec-X7	Total	**35,000.00**

Interest Income—Bonds—AFS account

Date	Particulars	Debit	Date	Particulars	Credit
			15-Mar-X7	By Interest Receivable account	17,356.16
15-Mar-X7	To Accrued interest purchased account	12,465.75			
			31-Mar-X7	By Investments—Bonds—AFS account	3,675.52
			31-Mar-X7	By Interest accrued but not due account	1,534.25
			30-Jun-X7	By Investments—Bonds—AFS account	5,089.13
30-Jun-X7	To Interest accrued but not due account	1,534.25			
			30-Sep-X7	By Interest accrued but not due account	10,260.27
15-Sep-X7	To Interest accrued but not due account	10,260.27			
			15-Sep-X7	By Interest Receivable account	17,643.84
			30-Sep-X7	By Interest accrued but not due account	1,438.36
			30-Sep-X7	By Investments—Bonds—AFS account	5,334.48
			7-Dec-X7	By Accrued Interest Sold account	3,298.63
7-Dec-X7	To Interest accrued but not due account	1,438.36			
			31-Dec-X7	By Investments—Bonds—AFS account	3,290.81

Interest Income—Bonds—AFS account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
			31-Dec-X7	By Interest accrued but not due account	6,156.16
31-Dec-X7	To Balance	49,378.98			
31-Dec-X7	Total	75,077.61	31-Dec-X7	Total	75,077.61
			31-Dec-X7	By Balance	49,378.98

Unrealized capital gain/loss on Bonds—AFS (OCI) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X7	By MTM—Bonds—AFS (Asset/Liability) account	6,324.48
30-Jun-X7	To MTM—Bonds—AFS (Asset/Liability) account	6,324.48			
			30-Jun-X7	By MTM—Bonds—AFS (Asset/Liability) account	8,735.35
30-Sep-X7	To MTM—Bonds—AFS (Asset/Liability) account	8,735.35			
			30-Sep-X7	By MTM—Bonds—AFS (Asset/Liability) account	7,150.87
31-Dec-X7	To MTM—Bonds—AFS (Asset/Liability) account	7,150.87			
			31-Dec-X7	By MTM—Bonds—AFS (Asset/Liability) account	7,749.71
31-Dec-X7	To Balance	7,749.71			
31-Dec-X7	Total	29,960.41	31-Dec-X7	Total	29,960.41
			31-Dec-X7	By Balance	7,749.71

MTM—Bonds—AFS (Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To Unrealized capital gain/loss on Bonds—AFS (OCI) account	6,324.48			
			30-Jun-X7	By Unrealized capital gain/loss on Bonds—AFS (OCI) account	6,324.48
30-Jun-X7	To Unrealized capital gain/loss on Bonds—AFS (OCI) account	8,735.35			
			30-Sep-X7	By Unrealized capital gain/loss on Bonds—AFS (OCI) account	8,735.35
30-Sep-X7	To Unrealized capital gain/loss on Bonds—AFS (OCI) account	7,150.87			
			31-Dec-X7	By Unrealized capital gain/loss on Bonds—AFS (OCI) account	7,150.87

Date	Particulars	Debit	Date	Particulars	Credit
31-Dec-X7	To Unrealized capital gain/ loss on Bonds—AFS (OCI) account	7,749.71			
			31-Dec-X7	By Balance	7,749.71
31-Dec-X7	Total	**29,960.41**	31-Dec-X7	Total	**29,960.41**
31-Dec- X7	To Balance	7,749.71			

Interest accrued but not due account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To Interest Income—Bonds—AFS account	1,534.25			
			30-Jun-X7	By Interest Income—Bonds—AFS account	1,534.25
30-Jun-X7	To Interest Income—Bonds—AFS account	10,260.27			
			15-Sep-X7	By Interest Income—Bonds—AFS account	10,260.27
30-Sep-X7	To Interest Income—Bonds—AFS account	1,438.36			
			7-Dec-X7	By Interest Income—Bonds—AFS account	1,438.36
31-Dec-X7	To Interest Income—Bonds—AFS account	6,156.16			
			31-Dec-X7	By Balance	6,156.16
31-Dec-X7	Total	**19,389.04**	31-Dec-X7	Total	**19,389.04**
31-Dec-X7	To Balance	6,156.16			

Receivable from Lion King Brothers account

Date	Particulars	Debit	Date	Particulars	Credit
7-Dec-X7	To Investments—Bonds—AFS account	182,000.00			
7-Dec-X7	To Accrued Interest Sold account	3,298.63			
			10-Dec-X7	By Bank account	185,298.63
31-Dec-X7	Total	**185,298.63**	31-Dec-X7	Total	**185,298.63**

Accrued Interest Sold account

Date	Particulars	Debit	Date	Particulars	Credit
			7-Dec-X7	By Receivable from Lion King Brothers account	3,298.63
7-Dec-X7	To Interest Income—Bonds—AFS account	3,298.63			
31-Dec-X7	Total	**3,298.63**	31-Dec-X7	Total	**3,298.63**

Realized capital gain/loss—Bonds—AFS account

Date	Particulars	Debit	Date	Particulars	Credit
			7-Dec-X7	By Investments—Bonds—AFS account	4,667.25
31-Dec-X7	To Balance	4,667.25			
31-Dec-X7	Total	**4,667.25**	31-Dec-X7	Total	**4,667.25**
			31-Dec-X7	By Balance	4,667.25

Share Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X7	By Bank account	1,500,000.00
31-Dec-X7	To Balance	1,500,000.00			
31-Dec-X7	Total	**1,500,000.00**	31-Dec-X7	Total	**1,500,000.00**
			31-Dec-X7	By Balance	1,500,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X7	To Share Capital account	1,500,000.00			
			23-Jan-X7	By Payable to Lion King Brothers account	437,465.75
18-Mar-X7	To Interest Receivable account	17,356.16			
18-Sep-X7	To Interest Receivable account	17,643.84			
10-Dec-X7	To Receivable from Lion King Brothers account	185,298.63			
			31-Dec-X7	By Balance	1,282,832.88
31-Dec-X7	Total	**1,720,298.63**	31-Dec-X7	Total	**1,720,298.63**
31-Dec-X7	To Balance	1,282,832.88			

Trial Balance

As on 31-Dec-X7

Particulars	Debit	Credit
Capital account		
Share Capital		1,500,000.00
Unrealized capital gain/loss on Bonds—AFS (OCI) account		7,749.71
Current Liabilities		Nil

Particulars	Debit	Credit
Investments		
Investments—Bonds—AFS account	265,057.19	
MTM—Bonds—AFS (Asset/Liability) account	7,749.71	
Current Asset		
Bank account	1,282,832.88	
Interest accrued but not due account	6,156.16	
Income		
Interest Income—Bonds—AFS account		49,378.98
Realized capital gain/loss—Bonds—AFS account		4,667.25
Totals	**1,561,795.94**	**1,561,795.94**

Income Statement

For the period ending 31-Dec-X7

Expenses		Income	
		Direct Income	
		Interest Income—Bonds—AFS account	49,378.98
		Realized capital gain/loss—Bonds—AFS account	4,667.25
Net profit C/o	54,046.23		
Total	**54,046.23**	Total	**54,046.23**

Balance Sheet

As at 31-Dec-X7

Liabilities		Assets	
Capital account			
Share Capital	1,500,000.00	Unrealized capital gain/loss on Bonds—AFS (OCI)	7,749.71
		Investments	
		Investments—Bonds—AFS account	265,057.19
		MTM—Bonds—AFS (Asset/Liability) account	7,749.71
		Current Assets	
		Bank account	1,282,832.88
Profit & Loss account		Interest accrued but not due account	6,156.16
Opening Balance	Nil		
Current Period	54,046.23		
Total	**1,561,795.94**	Total	**1,561,795.94**

PROBLEM 1—BONDS HELD AS AVAILABLE-FOR-SALE IN USD

Bond details:		
Face value	100.00	
Issue Price	100.00	
Maturity	10-Mar-X10	
Rate of interest	3.50	
Currency	USD	
Coupon dates (until maturity)	**Coupon date**	**Settle date**
Previous Coupon	10-Sep-X6	13-Sep-X6
Coupon date-1	10-Mar-X7	13-Mar-X7
Coupon date-2	10-Sep-X7	13-Sep-X7
Coupon date-3	10-Mar-X8	13-Mar-X8
Coupon date-4	10-Sep-X8	13-Sep-X8
Coupon date-5	10-Mar-X9	13-Mar-X9
Coupon date-6	10-Sep-X9	13-Sep-X9
Coupon date-7	10-Mar-X10	13-Mar-X10

Day Count	Actual/365

Transaction details

Particulars	**Trade date**	**Settle date**	**Quantity**	**Clean Price**
Bought	25-Jan-X7	28-Jan-X7	14,750	69.00
Sold	21-Dec-X7	24-Dec-X7	11,000	81.00

Valuation dates and market value	**Date**	**Market rate**
Valuation date 1	31-Mar-X7	71.00
Valuation date 2	30-Jun-X7	73.50
Valuation date 3	30-Sep-X7	77.50
Valuation date 4	31-Dec-X7	82.75
Functional Currency	USD	

Other details	**Date**	**USD**
Capital Introduced	01-Jan-X7	1,500,000

Solution to problem 1—Bonds held as available-for-sale in USD

Face Value	100.00	Qty	1
Coupon rate	3.50	Discount/(–) Premium	31.00
Effective rate	16.546159		
Purchase price	69.00		

Date	No. of days	Carrying Cost at Beginning	Effective Int %	Effective Interest	Coupon Amount	Amortization	Carrying Cost End
10-Mar-X7	41	69.00	1.858609675	1.2824406756	0.3931507	0.8892900	69.8892900
31-Mar-X7	21	69.89	0.951970809	0.6653256394	0.2013699	0.4639558	70.3532458
30-Jun-X7	91	70.35	4.125206839	2.9022169060	0.8726027	2.0296142	72.3828599
10-Sep-X7	72	72.38	3.263899917	2.3625041051	0.6904110	1.6720931	74.0549531
30-Sep-X7	20	74.05	0.906638866	0.6714109866	0.1917808	0.4796302	74.5345832
31-Dec-X7	92	74.53	4.170538782	3.1084937005	0.8821918	2.2263019	76.7608852
10-Sep-X8	184	78.53	8.341077565	6.5498692226	1.7643836	4.7854857	83.3109420
10-Mar-X9	181	83.31	8.205081735	6.8357308864	1.7356164	5.1001144	88.4110565
10-Sep-X9	184	88.41	8.341077565	7.3744347954	1.7643836	5.6100512	94.0211077
10-Mar-X10	181	94.02	8.205081735	7.7145087346	1.7356164	5.9788923	100.000000
		100.00					

Note: On 24-Dec-X7, interest amortization for the ensuing period is 2.056909382 and the carrying cost is 76.5914926.

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Jan-X7	Bank account	1,500,000.00	
	To Share Capital account		1,500,000.00
	(Being the capital introduced)		

T-2 *On purchase of Bonds—available-for-sale:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Jan-X7	Investments—Bonds—AFS account	1,017,750.00	
	To Payable to Mathew & Sons account		1,017,750.00
	(Being the purchase of bonds held as available-for-sale)		

T-3 *On recording accrued interest purchased on purchase of Bond:*

Calculation of accrued interest purchased	USD
Previous coupon date	10-Sep-X6
Settlement date of bonds purchased	28-Jan-X7
Number of days (Actual/365)	140
Face value of bonds on which interest is computed	1,475,000
Rate of interest p.a.(%)	3.50
Accrued interest purchased	19,801.37

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Jan-X7	Accrued interest purchased account	19,801.37	
	To Payable to Mathew & Sons account		19,801.37
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

T-4 *On payment of contracted sum:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
28-Jan-X7	Payable to Mathew & Sons account	1,037,551.37	
	To Bank account		1,037,551.37
	(Being the payment made to the broker for purchased of bonds including accrued interest purchased)		

T-5 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	USD
Previous coupon date	10-Sep-X6
Current coupon date	10-Mar-X7
Number of days (Actual/365)	181
Face value of bonds on which interest is computed	1,475,000
Rate of interest p.a.(%)	3.50
Interest accounted for on coupon date	25,600.34

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Mar-X7	Interest Receivable account	25,600.34	
	To Interest Income—Bonds—AFS account		25,600.34
	(Being the interest accounted for on the coupon date)		

T-6 *On reversal of accrued interest purchased:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Mar-X7	Interest Income—Bonds—AFS account	19,801.37	
	To Accrued interest purchased account		19,801.37
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bond)		

T-7 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Mar-X7	Bank account	25,600.34	
	To Interest Receivable account		25,600.34
	(Being the receipt of coupon interest in the bank)		

T-8 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 31-Mar-X7 per bond			USD
Period ending	**Amount/bond**	**Qty**	**Value**
10-Mar-X7	0.88928999		
31-Mar-X7	0.46395578		
Total	1.35324577	14,750	19,960.38

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Investments—Bonds—AFS account	19,960.38	
	To Interest Income—Bonds—AFS account		19,960.38
	(Being the amortization of premium treated as interest income as per accounting standards)		

T-9 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 31-Mar-X7	Market Rate	Quantity	Value
Market value as on date	71.00	14,750	1,047,250.00
Amortized cost as on date			1,037,710.38
Mark-to-market loss			9,539.62

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	MTM—Bonds—AFS (Asset/Liability) account	9,539.62	
	To Unrealized capital gain/loss on Bonds—AFS (OCI) account		9,539.62
	(Being the unrealized capital gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-10 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	10-Mar-X7
Current valuation date	31-Mar-X7
Number of days (Actual/365)	21
Face value of bonds on which interest is computed	1,475,000
Rate of interest p.a.(%)	3.50
Accrued interest on valuation date	2,970.21

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Interest accrued but not due account	2,970.21	
	To Interest Income—Bonds—AFS account		2,970.21
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-11 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Investments—Bonds—AFS account	29,936.81	
	To Interest Income—Bonds—AFS account		29,936.81
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-12 *Reversal of MTM—Bonds—AFS (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	9,539.62	
	To MTM—Bonds—AFS (Asset/Liability) account		9,539.62
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-13 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 30-Jun-X7	Market Rate	Quantity	Value
Market value as on date	73.50	14,750	1,084,125.00
Amortized cost as on date			1,067,647.18
Mark-to-market loss			16,477.82

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	MTM—Bonds—AFS (Asset/Liability) account	16,477.82	
	To Unrealized capital gain/loss on Bonds—AFS (OCI) account		16,477.82
	(Being the unrealized gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-14 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest Income—Bonds—AFS account	2,970.21	
	To Interest accrued but not due account		2,970.21
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

T-15 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	10-Mar-X7
Current valuation date	30-Jun-X7
Number of days (Actual/365)	112
Face value of bonds on which interest is computed	1,475,000
Rate of interest p.a.(%)	3.50
Accrued interest on valuation date	15,841.10

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest accrued but not due account	15,841.10	
	To Interest Income—Bonds—AFS account		15,841.10
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-16 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Sep-X7	Interest Income—Bonds—AFS account	15,841.10	
	To Interest accrued but not due account		15,841.10
	(Being the reversal of accrual of interest on bonds on the next valuation date/coupon date)		

T-17 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	USD
Previous coupon date	10-Mar-X7
Current coupon date	10-Sep-X7
Number of days (Actual/365)	184
Face value of bonds on which interest is computed	1,475,000
Rate of interest p.a.(%)	3.50
Interest accounted for on coupon date	26,024.66

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Sep-X7	Interest Receivable account	26,024.66	
	To Interest Income—Bonds—AFS account		26,024.66
	(Being the interest accounted for on the coupon date)		

T-18 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Sep-X7	Bank account	26,024.66	
	To Interest Receivable account		26,024.66
	(Being the receipt of coupon interest in the bank)		

T-19 *Reversal of MTM—Bonds—AFS (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	16,477.82	
	To MTM—Bonds—AFS (Asset/Liability) account		16,477.82
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-20 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	10-Sep-X7
Current valuation date	30-Sep-X7
Number of days (Actual/365)	20

Calculation of interest accrued on valuation date	**USD**
Face value of bonds on which interest is computed	1,475,000
Rate of interest p.a.(%)	3.50
Accrued interest on valuation date	2,828.77

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X7	Interest accrued but not due account	2,828.77	
	To Interest Income—Bonds—AFS account		2,828.77
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-21 *On amortization of discount:*

Calculation of interest based on amortization until 30-Sep-X7 per bond			**USD**
Period ending	**Amount/bond**	**Qty**	**Value**
10-Sep-X7	1.67209315		
30-Sep-X7	0.47963016		
Total	2.15172331	14,750	31,737.92

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X7	Investments—Bonds—AFS account	31,737.92	
	To Interest Income—Bonds—AFS account		31,737.92
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-22 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 30-Sep-X7	**Market Rate**	**Quantity**	**Value**
Market value as on date	77.50	14,750	1,143,125.00
Amortized cost as on date			1,099,385.10
Mark-to-market gain			43,739.90

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X7	MTM—Bonds—AFS (Asset/Liability) account	43,739.90	
	To Unrealized capital gain/loss on Bonds—AFS (OCI) account		43,739.90
	(Being the unrealized gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-23 *On sale of bonds:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Dec-X7	Receivable from Mathew & Sons account	891,000.00	
	To Investments—Bonds—AFS account		891,000.00
	(Being the sale of bonds held held as available-for-sale through the broker)		

T-24 *On recording accrued interest sold received on sale of bonds:*

Calculation of accrued interest sold	USD
Previous coupon date	10-Sep-X7
Settlement date of bonds sold	24-Dec-X7
Number of days (Actual/365)	105
Face value of bonds on which interest is computed	1,100,000
Rate of interest p.a.(%)	3.50
Accrued interest purchased	11,075.34

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Dec-X7	Receivable from Mathew & Sons account	11,075.34	
	To Accrued Interest Sold account		11,075.34
	(Being the accrued interest sold received on the sale of bonds calculated from the previous coupon date to the date of settlement of the bond)		

T-25 *Accrued interest sold taken to interest income:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Dec-X7	Accrued Interest Sold account	11,075.34	
	To Interest Income—Bonds—AFS account		11,075.34
	(Being accrued interest sold taken to interest income account)		

T-26 *On reversal of interest accrual on the next day:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Dec-X7	Interest Income—Bonds—AFS account	2,828.77	
	To Interest accrued but not due account		2,828.77
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next day)		

T-27 *Profit/Loss on sale of Bond:*

Calculation of realized gains on sale of Bonds	**USD**
a) Amount realized on sale of Bonds	891,000.00
b) Amortized cost of Bonds sold	842,506.42
c) Realized loss on sale (a) − (b)	48,493.58

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
21-Dec-X7	Investments—Bonds—AFS account	48,493.58	
	To Realized capital gain/loss—Bonds—AFS account		48,493.58
	(Being the Realized capital gain/loss on the sale of bond)		

T-28 *On receiving the contracted sum:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
24-Dec-X7	Bank account	902,075.34	
	To Receivable from Mathew & Sons account		902,075.34
	(Being amount received on the sale of the bond)		

T-29 *On accounting for interest based on amortization:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Dec-X7	Investments—Bonds—AFS account	8,348.63	
	To Interest Income—Bonds—AFS account		8,348.63
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-30 *On reversal of mark-to-market valuation on the next valuation date:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Dec-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	43,739.90	
	To MTM—Bonds—AFS (Asset/Liability) account		43,739.90
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-31 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 31-Dec-X7	Market Rate	Quantity	Value
Market value as on date	82.75	3,750	310,312.50
Amortized cost as on date			287,853.32
Mark-to-market gain			22,459.18

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	MTM—Bonds—AFS (Asset/Liability) account	22,459.18	
	To Unrealized capital gain/loss on Bonds—AFS (OCI) account		22,459.18
	(Being the unrealized gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-32 *On recording accrued interest sold received on sale of bonds:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	10-Sep-X7
Current valuation date	31-Dec-X7
Number of days (Actual/365)	112
Face value of bonds on which interest is computed	375,000
Rate of interest p.a.(%)	3.50
Accrued interest on valuation date	4,027.40

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Interest accrued but not due account	4,027.40	
	To Interest Income—Bonds—AFS account		4,027.40
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

Investments—Bonds—AFS account

Date	Particulars	Debit	Date	Particulars	Credit
25-Jan-X7	To Payable to Mathew & Sons account	1,017,750.00			
31-Mar-X7	To Interest Income—Bonds—AFS account	19,960.38			

Date	Particulars	Debit	Date	Particulars	Credit
30-Jun-X7	To Interest Income—Bonds—AFS account	29,936.81			
30-Sep-X7	To Interest Income—Bonds—AFS account	31,737.92			
			21-Dec-X7	By Receivable from Mathew & Sons account	891,000.00
21-Dec-X7	To Realized capital gain/loss—Bonds—AFS account	48,493.58			
31-Dec-X7	To Interest Income—Bonds—AFS account	8,348.63			
			31-Dec-X7	By Balance	265,227.32
31-Dec-X7	Total	**1,156,227.32**	31-Dec-X7	Total	**1,156,227.32**
31-Dec-X7	To Balance	265,227.32			

Payable to Mathew & Sons account

Date	Particulars	Debit	Date	Particulars	Credit
			25-Jan-X7	By Investments—Bonds—AFS account	1,017,750.00
			25-Jan-X7	By Accrued interest purchased account	19,801.37
28-Jan-X7	To Bank account	1,037,551.37			
31-Dec-X7	Total	1,037,551.37	31-Dec-X7	Total	1,037,551.37

Accrued interest purchased account

Date	Particulars	Debit	Date	Particulars	Credit
25-Jan-X7	To Payable to Mathew & Sons account	19,801.37			
			10-Mar-X7	By Interest Income—Bonds—AFS account	19,801.37
31-Dec-X7	Total	19,801.37	31-Dec-X7	Total	19,801.37

Interest Receivable account

Date	Particulars	Debit	Date	Particulars	Credit
10-Mar-X7	To Interest Income—Bonds—AFS account	25,600.34			
			13-Mar-X7	By Bank account	25,600.34
10-Sep-X7	To Interest Income—Bonds—AFS account	26,024.66			
			13-Sep-X7	By Bank account	26,024.66
31-Dec-X7	Total	51,625.00	31-Dec-X7	Total	51,625.00

Interest Income—Bonds—AFS account

Date	Particulars	Debit	Date	Particulars	Credit
			10-Mar-X7	By Interest Receivable account	25,600.34
10-Mar-X7	To Accrued interest purchased account	19,801.37			
			31-Mar-X7	By Investments—Bonds—AFS account	19,960.38
			31-Mar-X7	By Interest accrued but not due account	2,970.21
			30-Jun-X7	By Investments—Bonds—AFS account	29,936.81
30-Jun-X7	To Interest accrued but not due account	2,970.21			
			30-Jun-X7	By Interest accrued but not due account	15,841.10
10-Sep-X7	To Interest accrued but not due account	15,841.10			
			10-Sep-X7	By Interest Receivable account	26,024.66
			30-Sep-X7	By Interest accrued but not due account	2,828.77
			30-Sep-X7	By Investments—Bonds—AFS account	31,737.92
			21-Dec-X7	By Accrued Interest Sold account	11,075.34
21-Dec-X7	To Interest accrued but not due account	2,828.77			
			31-Dec-X7	By Investments—Bonds—AFS account	8,348.63
			31-Dec-X7	By Interest accrued but not due account	4,027.40
31-Dec-X7	To Balance	136,910.11			
31-Dec-X7	Total	**178,351.56**	31-Dec-X7	Total	**178,351.56**
			31-Dec-X7	By Balance	136,910.11

Unrealized capital gain/loss on Bonds—AFS (OCI) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X7	By MTM—Bonds—AFS (Asset/Liability) account	9,539.62
30-Jun-X7	To MTM—Bonds—AFS (Asset/Liability) account	9,539.62			
			30-Jun-X7	By MTM—Bonds—AFS (Asset/Liability) account	16,477.82
30-Sep-X7	To MTM—Bonds—AFS (Asset/Liability) account	16,477.82			
			30-Sep-X7	By MTM—Bonds—AFS (Asset/Liability) account	43,739.90
31-Dec-X7	To MTM—Bonds—AFS (Asset/Liability) account	43,739.90			
			31-Dec-X7	By MTM—Bonds—AFS (Asset/Liability) account	22,459.18

Date	Particulars	Debit	Date	Particulars	Credit
31-Dec-X7	To Balance	22,459.18			
31-Dec-X7	Total	**92,216.52**	31-Dec-X7	Total	**92,216.52**
			31-Dec-X7	By Balance	22,459.18

MTM—Bonds—AFS (Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To Unrealized capital gain/ loss on Bonds—AFS (OCI) account	9,539.62			
			30-Jun-X7	By Unrealized capital gain/ loss on Bonds—AFS (OCI) account	9,539.62
30-Jun-X7	To Unrealized capital gain/ loss on Bonds—AFS (OCI) account	16,477.82			
			30-Sep-X7	By Unrealized capital gain/ loss on Bonds—AFS (OCI) account	16,477.82
30-Sep-X7	To Unrealized capital gain/ loss on Bonds—AFS (OCI) account	43,739.90			
			31-Dec-X7	By Unrealized capital gain/ loss on Bonds—AFS (OCI) account	43,739.90
31-Dec-X7	To Unrealized capital gain/ loss on Bonds—AFS (OCI) account	22,459.18			
			31-Dec-X7	By Balance	22,459.18
31-Dec-X7	Total	**92,216.52**	31-Dec-X7	Total	**92,216.52**
31-Dec-X7	To Balance	22,459.18			

Interest accrued but not due account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To Interest Income—Bonds—AFS account	2,970.21			
			30-Jun-X7	By Interest Income—Bonds—AFS account	2,970.21
30-Jun-X7	To Interest Income—Bonds—AFS account	15,841.10			
			10-Sep-X7	By Interest Income—Bonds—AFS account	15,841.10
30-Sep-X7	To Interest Income—Bonds—AFS account	2,828.77			
			21-Dec-X7	By Interest Income—Bonds—AFS account	2,828.77
31-Dec-X7	To Interest Income—Bonds—AFS account	4,027.40			
			31-Dec-X7	By Balance	4,027.40
31-Dec-X7	Total	**25,667.48**	31-Dec-X7	Total	**25,667.48**
31-Dec-X7	To Balance	4,027.40			

Receivable from Mathew & Sons account

Date	Particulars	Debit	Date	Particulars	Credit
21-Dec-X7	To Investments—Bonds—AFS account	891,000.00			
21-Dec-X7	To Accrued Interest Sold account	11,075.34			
			24-Dec-X7	By Bank account	902,075.34
31-Dec-X7	Total	**902,075.34**	31-Dec-X7	Total	**902,075.34**

Accrued Interest Sold account

Date	Particulars	Debit	Date	Particulars	Credit
			21-Dec-X7	By Receivable from Mathew & Sons account	11,075.34
21-Dec-X7	To Interest Income—Bonds—AFS account	11,075.34			
31-Dec-X7	Total	11,075.34	31-Dec-X7	Total	11,075.34

Realized capital gain/loss—Bonds—AFS account

Date	Particulars	Debit	Date	Particulars	Credit
			21-Dec-X7	By Investments—Bonds—AFS account	48,493.58
31-Dec-X7	To Balance	48,493.58			
31-Dec-X7	Total	**48,493.58**	31-Dec-X7	Total	**48,493.58**
			31-Dec-X7	By Balance	48,493.58

Share Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X7	By Bank account	1,500,000.00
31-Dec-X7	To Balance	1,500,000.00			
31-Dec-X7	Total	**1,500,000.00**	31-Dec-X7	Total	**1,500,000.00**
			31-Dec-X7	By Balance	1,500,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X7	To Share Capital account	1,500,000.00			
			28-Jan-X7	By Payable to Mathew & Sons account	1,037,551.37

Date	Particulars	Debit	Date	Particulars	Credit
13-Mar-X7	To Interest Receivable account	25,600.34			
13-Sep-X7	To Interest Receivable account	26,024.66			
24-Dec-X7	To Receivable from Mathew & Sons account	902,075.34			
			31-Dec-X7	By Balance	1,416,148.97
31-Dec-X7	Total	**2,453,700.34**	31-Dec-X7	Total	**2,453,700.34**
31-Dec-X7	To Balance	1,416,148.97			

Trial Balance

As on 31-Dec-X7

Particulars	Debit	Credit
Capital account		
Share Capital		1,500,000.00
Unrealized capital gain/loss on Bonds—AFS (OCI) account		22,459.18
Current Liabilities		Nil
Investments		
Investments—Bonds—AFS account	265,227.32	
MTM—Bonds—AFS (Asset/Liability) account	22,459.18	
Current Asset		
Bank account	1,416,148.97	
Interest Accrued but not Due account	4,027.40	
Income		
Interest Income—Bonds—AFS account		136,910.11
Realized capital gain/loss—Bonds—AFS account		48,493.58
Totals	**1,730,488.86**	**1,730,488.86**

Income Statement

For the period ending 31-Dec-X7

Expenses		Income	
		Direct Income	
		Interest Income—Bonds—AFS account	136,910.11
		Realized capital gain/loss—Bonds—AFS account	48,493.58
Net profit C/o	185,403.69		
Total	**185,403.69**	Total	**185,403.69**

Balance Sheet

As at 31-Dec-X7

Liabilities		Assets	
Capital account			
Share Capital	1,500,000.00		
Unrealized capital gain/loss on Bonds—AFS (OCI) account	22,459.18	**Investments**	
		Investments—Bonds—AFS account	265,227.32
		MTM—Bonds—AFS (Asset/ Liability) account	22,459.18
		Current Assets	
		Bank account	1,416,148.97
Profit & Loss account		Interest accrued but not due account	4,027.40
Opening Balance	Nil		
Current Period	185,403.69		
Total	**1,707,862.87**	Total	**1,707,862.87**

FX REVALUATION AND FX TRANSLATION PROCESS

(For a detailed explanation of this see the chapter on fixed income securities—Fair Value through Profit or Loss, pages 43 to 50)

Problem 2—Bonds held as available-for-sale in SGD (foreign currency)

Bond details:	Face value	Issue price	Maturity	Rate of interest	Currency	Day count
Face value	100.00	100.00	20-Mar-X10	9.00	SGD	Actual/365
Coupon dates	20-Sep & 20-Mar					

Coupon dates	**Coupon date**	**FX rate**	**Settle date**	**FX rate**
Previous coupon	20-Sep-X6		23-Sep-X6	
Coupon date-1	20-Mar-X7	1.526150	23-Mar-X7	1.518650
Coupon date-2	20-Sep-X7	1.508110	23-Sep-X7	1.505840

Transaction details

Particulars	**Trade date**	**FX rate**	**Settle date**	**FX rate**	**Quantity**	**Clean price**
Bought	10-Feb-X7	1.533220	13-Feb-X7	1.536640	21,000	112.00
Sold	14-Oct-X7	1.463730	17-Oct-X7	1.467400	7,000	108.50

Valuation dates and market value	**Date**	**Market rate**	**FX rate**
Valuation date 1	31-Mar-X7	111.00	1.517480
Valuation date 2	30-Jun-X7	110.00	1.532090

Valuation date 3	30-Sep-X7	109.00	1.458760
Valuation date 4	31-Dec-X7	106.00	1.451820
Functional Currency	USD		

Other details	**Date**	**SGD**	**FX rate**
Capital Introduced	01-Jan-X7	2,500,000	1.534600

Face Value	100.00	Qty	1
Coupon rate	9.00	Discount/(–) Premium	−12.00
Effective rate	4.79568387		
Purchase price	112.00		

Date	No. of days	Carrying cost at beginning	Effective interest %	Effective interest	Coupon amount	Amortization	Carrying cost end
20-Mar-07	35	112.00	0.459860097	0.5150433088	0.8630137	(0.3479704)	111.6520296
31-Mar-07	11	111.65	0.144527459	0.1613678414	0.2712329	(0.1098650)	111.5421646
30-Jun-07	91	111.54	1.195636253	1.3336385565	2.2438356	(0.9101971)	110.6319675
20-Sep-07	82	110.63	1.077386513	1.1919338974	2.0219178	(0.8299839)	109.8019836
30-Sep-07	10	109.80	0.131388599	0.1442672881	0.2465753	(0.1023081)	109.6996755
31-Dec-07	92	109.70	1.208775112	1.3260223765	2.2684932	(0.9424708)	108.7572048
20-Mar-08	80	108.76	1.051108793	1.1431565429	1.9726027	(0.8294462)	107.9277586
20-Sep-08	184	107.93	2.417550225	2.6092077702	4.5369863	(1.9277785)	105.9999800
20-Mar-09	181	106.00	2.378133645	2.5208211893	4.4630137	(1.9421925)	104.0577875
20-Sep-09	184	104.06	2.417550225	2.5156492766	4.5369863	(2.0213370)	102.0364505
20-Mar-10	181	102.04	2.378133645	2.4265631600	4.4630137	(2.0364505)	100.0000000
		100.00					

Note: On 17-Oct-07, interest amortization for the ensuing period is (0.17415221) and the carrying cost is 109.5255233.

Solution to Problem 2—SGD

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
1-Jan-X7	Bank account	2,500,000.00	
	To Share Capital account		2,500,000.00
	(Being the capital introduced)		

T-2 *On purchase of Bonds—Trading:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
10-Feb-X7	Investments—Bonds—AFS account	2,352,000.00	
	To Payable to Richards & Brothers account		2,352,000.00
	(Being the purchase of bonds for trading purposes)		

T-3 *On recording accrued interest purchased on purchase of Bond:*

Calculation of accrued interest purchased	SGD
a) Previous coupon date	20-Sep-X6
b) Settlement date of bonds purchased	13-Feb-X7
Number of days (Actual/365)	146
Face value of bonds on which interest is computed	2,100,000
Rate of interest p.a.(%)	9.00
Accrued interest purchased	75,600.00

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
10-Feb-X7	Accrued interest purchased account	75,600.00	
	To Payable to Richards & Brothers account		75,600.00
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

T-4 *On payment of contracted sum:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
13-Feb-X7	Payable to Richards & Brothers account	2,427,600.00	
	To Bank account		2,427,600.00
	(Being the payment made to the broker for purchase of bonds along with the payment for accrued interest purchased)		

T-5 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	SGD
a) Previous coupon date	20-Sep-X6
b) Current coupon date	20-Mar-X7
Number of days (Actual/365)	181
Face value of bonds on which interest is computed	2,100,000
Rate of interest p.a.(%)	9.00
Interest accounted for on coupon date	**93,723.29**

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
20-Mar-X7	Interest Receivable account	93,723.29	
	To Interest Income—Bonds—AFS account		93,723.29
	(Being the interest accounted for on the coupon date)		

T-6 *On reversal of accrued interest purchased:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
20-Mar-X7	Interest Income—Bonds—AFS account	75,600.00	
	To Accrued interest purchased account		75,600.00
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bonds)		

T-7 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
23-Mar-X7	Bank account	93,723.29	
	To Interest Receivable account		93,723.29
	(Being the receipt of coupon interest in the bank)		

T-8 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 31-Dec-X2 per bond			SGD
Period ending	**Amount/bond**	**Qty**	**Value**
20-Mar-X7	(0.34797039)		
31-Mar-X7	(0.10986504)		
Total	**(0.45783543)**	**21,000**	**(9,614.54)**

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
31-Mar-X7	Interest Income—Bonds—AFS account	9,614.54	
	To Investments—Bonds—AFS account		9,614.54
	(Being the amortization of premium treated as interest expense as per accounting standards)		

T-9 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 31-Mar-X7	Market Rate	Quantity	Value
Market value as on date	111.00	21,000	2,331,000.00
Amortized cost as on date			2,342,385.46
Mark-to-market loss			(11,385.46)

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
31-Mar-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	11,385.46	
	To MTM—Bonds—AFS (Asset/Liability) account		11,385.46
	(Being the unrealized gains/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-10 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	SGD
a) Previous coupon date	20-Mar-X7
b) Current coupon date	31-Mar-X7
Number of days (Actual/365)	11
Face value of bonds on which interest is computed	2,100,000
Rate of interest p.a.(%)	9.00
Accrued interest on valuation date	**5,695.89**

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
31-Mar-X7	Interest accrued but not due account	5,695.89	
	To Interest Income—Bonds—AFS account		5,695.89
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-11 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
30-Jun-X7	Interest Income—Bonds—AFS account	19,114.14	
	To Investments—Bonds—AFS account		19,114.14
	(Being the amortization of discount treated as interest expense as per accounting standards)		

T-12 *Reversal of MTM—Bonds—Trading (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
30-Jun-X7	MTM—Bonds—AFS (Asset/Liability) account	11,385.46	
	To Unrealized capital gain/loss on Bonds —AFS (OCI) account		11,385.46
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-13 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 30-Jun-X7	**Market Rate**	**Quantity**	**Value**
Market value as on date	110.00	21,000	2,310,000.00
Amortized cost as on date			2,323,271.32
Mark-to-market loss			**(13,271.32)**

Journal Entry

Date	**Particulars**	**Debit (SGD)**	**Credit (SGD)**
30-Jun-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	13,271.32	
	To MTM—Bonds—AFS (Asset/Liability) account		13,271.32
	(Being the unrealized gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-14 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	**Particulars**	**Debit (SGD)**	**Credit (SGD)**
30-Jun-X7	Interest Income—Bonds—AFS account	5,695.89	
	To Interest accrued but not due account		5,695.89
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

T-15 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	**SGD**
a) Previous coupon date	20-Mar-X7
b) Current valuation date	30-Jun-X7
Number of days (Actual/365)	102
Face value of bonds on which interest is computed	2,100,000
Rate of interest p.a.(%)	9.00
Accrued interest on valuation date	**52,816.44**

Journal Entry

Date	**Particulars**	**Debit (SGD)**	**Credit (SGD)**
30-Jun-X7	Interest accrued but not due account	52,816.44	
	To Interest Income—Bonds—AFS account		52,816.44
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-16 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
20-Sep-X7	Interest Income—Bonds—AFS account	52,816.44	
	To Interest accrued but not due account		52,816.44
	(Being the reversal of accrual of interest on bonds on the next valuation date/coupon date)		

T-17 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	**SGD**
a) Previous coupon date	20-Mar-X7
b) Current coupon date	20-Sep-X7
Number of days (Actual/365)	184
Face value of bonds on which interest is computed	2,100,000
Rate of interest p.a.(%)	9.00
Interest accounted for on coupon date	**95,276.71**

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
20-Sep-X7	Interest Receivable account	95,276.71	
	To Interest Income—Bonds—AFS account		95,276.71
	(Being the interest accounted for on the coupon date)		

T-18 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
23-Sep-X7	Bank account	95,276.71	
	To Interest Receivable account		95,276.71
	(Being the receipt of coupon interest in the bank)		

T-19 *Reversal of MTM—Bonds—Trading (Asset/Liability) account:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
30-Sep-X7	MTM—Bonds—AFS (Asset/Liability) account	13,271.32	
	To Unrealized Capital Gains on Bonds—AFS (OCI) account		13,271.32
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-20 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	**SGD**
a) Previous coupon date	20-Sep-X7
b) Current coupon date	30-Sep-X7
Number of days (Actual/365)	10
Face value of bonds on which interest is computed	2,100,000
Rate of interest p.a.(%)	9.00
Accrued interest on valuation date	**5,178.08**

Journal Entry

Date	**Particulars**	**Debit (SGD)**	**Credit (SGD)**
30-Sep-X7	Interest accrued but not due account	5,178.08	
	To Interest Income—Bonds—AFS account		5,178.08
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-21 *On accounting for interest based on amortization:*

Calculation of interest based on amortization until 30-Jun-X7 per bond			**SGD**
Period ending	**Amount/bond**	**Qty**	**Value**
20-Sep-X7	(0.82998391)		
30-Sep-X7	(0.10230805)		
Total	**(0.93229196)**	**21,000**	**(19,578.13)**

Journal Entry

Date	**Particulars**	**Debit (SGD)**	**Credit (SGD)**
30-Sep-X7	Interest Income—Bonds—AFS account	19,578.13	
	To Investments—Bonds—AFS account		19,578.13
	(Being the amortization of discount treated as interest expense as per accounting standards)		

T-22 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 30-Sep-X7	**Market Rate**	**Quantity**	**Value**
Market value as on date	109.00	21,000	2,289,000.00
Amortized cost as on date			2,303,693.19
Mark-to-market loss			**(14,693.19)**

Journal Entry

Date	**Particulars**	**Debit (SGD)**	**Credit (SGD)**
30-Sep-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	14,693.19	

Journal Entry (*Cont'd*)

Date	Particulars	Debit (SGD)	Credit (SGD)
	To MTM—Bonds—AFS (Asset/Liability) account		14,693.19
	(Being the unrealized gains/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-23 *On sale of bonds:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
14-Oct-X7	Receivable from Richards & Brothers account	759,500.00	
	To Investments—Bonds—AFS account		759,500.00
	(Being the sale of bonds held for trading purposes through the broker)		

T-24 *On recording accrued interest sold received on sale of bonds:*

Calculation of accrued interest sold	SGD
a) Previous coupon date	20-Sep-X7
b) Current coupon date	17-Oct-X7
Number of days (Actual/365)	27
Face value of bonds on which interest is computed	700,000
Rate of interest p.a.(%)	9.00
Accrued interest sold	4,660.27

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
14-Oct-X7	Receivable from Richards & Brothers account	4,660.27	
	To Accrued Interest Sold account		4,660.27
	(Being the accrued interest sold received on the sale of bonds calculated from the previous coupon date to the date of settlement of the bond)		

T-25 *Accrued interest sold taken to interest income:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
14-Oct-X7	Accrued Interest Sold account	4,660.27	
	To Interest Income—Bonds—AFS account		4,660.27
	(Being accrued interest sold taken to interest income account)		

T-26 *On reversal of interest accrual on the next day:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
14-Oct-X7	Interest Income—Bonds—AFS account	5,178.08	
	To Interest accrued but not due account		5,178.08
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next day)		

T-27 *Profit/Loss on sale of Bond:*

Calculation of realized gains on sale of Bonds	**SGD**
a) Amount realized on sale of Bonds	759,500.00
b) Amortized cost of Bonds sold	766,678.66
c) Realized loss on sale (a) – (b)	**(7,178.66)**

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
14-Oct-X7	Realized capital gain/loss—Bonds—AFS account	7,178.66	
	To Investments—Bonds—AFS account		7,178.66
	(Being the loss on the sale of bond)		

T-28 *On receiving the contracted sum:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
17-Oct-X7	Bank account	764,160.27	
	To Receivable from Richards & Brothers account		764,160.27
	(Being amount received on the sale of the bond)		

T-29 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
31-Dec-X7	Interest Income—Bonds—AFS account	13,194.59	
	To Investments—Bonds—AFS account		13,194.59
	(Being the amortization of discount treated as interest expense as per accounting standards)		

T-30 *On reversal of mark-to-market valuation on the next valuation date:*

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
31-Dec-X7	MTM—Bonds—AFS (Asset/Liability) account	14,693.19	

Journal Entry (*Cont'd*)

Date	Particulars	Debit (SGD)	Credit (SGD)
	To Unrealized capital gain/loss on Bonds—AFS (OCI) account		14,693.19
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

T-31 *On valuation of bond at the end of valuation date:*

Calculation of MTM on 31-Dec-X7	Market Rate	Quantity	Value
Market value as on date	106.00	14,000	1,484,000.00
Amortized cost as on date			1,522,600.87
Mark-to-market loss			**(38,600.87)**

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
31-Dec-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	38,600.87	
	To MTM—Bonds—AFS (Asset/Liability) account		38,600.87
	(Being the unrealized gain/loss on bonds held for trading as on valuation date. This is calculated as the market value less the amortized cost as on date)		

T-32 *On accrual of interest at end of valuation date:*

Calculation of interest accrued on valuation date	SGD
a) Previous coupon date	20-Sep-X7
b) Current valuation date	31-Dec-X7
Number of days (Actual/365)	102
Face value of bonds on which interest is computed	1,400,000
Rate of interest p.a.(%)	9.00
Accrued interest on valuation date	**35,210.96**

Journal Entry

Date	Particulars	Debit (SGD)	Credit (SGD)
31-Dec-X7	Interest accrued but not due account	35,210.96	
	To Interest Income—Bonds—AFS account		35,210.96
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

General Ledger accounts

Investments—Bonds—AFS account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
10-Feb-X7	To Payable to Richards & Brothers account	2,352,000.00			
			31-Mar-X7	By Interest Income—Bonds—AFS account	9,614.54
			30-Jun-X7	By Interest Income—Bonds—AFS account	19,114.14
			30-Sep-X7	By Interest Income—Bonds—AFS account	19,578.13
			14-Oct-X7	By Receivable From Richards & Brothers account	759,500.00
			14-Oct-X7	By Realized Capital Gain/Loss—bonds AFS account	7,178.66
			31-Dec-X7	By Interest Income—Bonds—AFS account	13,194.59
			31-Dec-X7	By Balance	1,523,819.94
31-Dec-X7	Total	**2,352,000.00**	31-Dec-X7	Total	**2,352,000.00**
31-Dec-X7	To Balance	1,523,819.94			

Payable to Richards & Brothers account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
			10-Feb-X7	By Investments—Bonds—AFS account	2,352,000.00
			10-Feb-X7	By Accrued interest purchased account	75,600.00
13-Feb-X7	To Bank account	2,427,600.00			
31-Dec-X7	Total	2,427,600.00	31-Dec-X7	Total	2,427,600.00

Accrued interest purchased account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
10-Feb-X7	To Payable to Richards & Brothers account	75,600.00			
			20-Mar-X7	By Interest Income—Bonds—AFS account	75,600.00
31-Dec-X7	Total	75,600.00	31-Dec-X7	Total	75,600.00

Interest Receivable account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
20-Mar-X7	To Interest Income—Bonds—AFS account	93,723.29			
			23-Mar-X7	By Bank account	93,723.29

Interest Receivable account (*Cont'd*)

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
20-Sep-X7	To Interest Income—Bonds—AFS account	95,276.71			
			23-Sep-X7	By Bank account	**95,276.71**
31-Dec-X7	Total	**189,000.00**	31-Dec-X7	Total	**189,000.00**

Unrealized Capital Gains/ Loss on Bonds—AFS (OCI) account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
31-Mar-X7	To MTM—Bonds—AFS (Asset/Liability) account	11,385.46			
			30-Jun-X7	By MTM—Bonds—AFS (Asset/Liability) account	11,385.46
30-Jun-X7	To MTM—Bonds- AFS (Asset/Liability) account	13,271.32			
			30-Sep-X7	By MTM—Bonds—AFS (Asset/Liability) account	13,271.32
30-Sep-X7	To MTM—Bonds—AFS (Asset/Liability) account	14,693.19			
			31-Dec-X7	By MTM—Bonds—AFS (Asset/Liability) account	14,693.19
31-Dec-X7	To MTM—Bonds—AFS (Asset/Liability) account	38,600.87			
			31-Dec-X7	By Balance	38,600.87
31-Dec-X7	Total	**77,950.84**	31-Dec-X7	Total	**77,950.84**
31-Dec-X7	To Balance	38,600.87			

Accrued Interest Sold account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
			14-Oct-X7	By Receivable from Richards & Brothers account	4,660.27
14-Oct-X7	To Interest Income—bonds—AFS account	4,660.27			
31-Dec-X7	Total	**4,660.27**	31-Dec-X7	Total	**4,660.27**

Interest accrued but not due account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
31-Mar-X7	To Interest Income—Bonds—AFS account	5,695.89			
			30-Jun-X7	By Interest Income—Bonds—AFS account	5,695.89
30-Jun-X7	To Interest Income—Bonds—AFS account	52,816.44			
			20-Sep-X7	By Interest Income—Bonds—AFS account	52,816.44

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
30-Sep-X7	To Interest Income—Bonds—AFS account	5,178.08			
			14-Oct-X7	By Interest Income—Bonds—AFS account	5,178.08
31-Dec-X7	To Interest Income—Bonds—AFS account	35,210.96			
			31-Dec-X7	By Balance	35,210.96
31-Dec-X7	Total	**98,901.37**	31-Dec-X7	Total	**98,901.37**
31-Dec-X7	To Balance	35,210.96			

Interest Income—Bonds—AFS account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
			20-Mar-X7	By Interest Receivable account	93,723.29
20-Mar-X7	To Accrued interest purchased account	75,600.00			
31-Mar-X7	To Investments—Bonds—AFS account	9,614.54			
			31-Mar-X7	By Interest accrued but not due account	5,695.89
30-Jun-X7	To Investments—Bonds—AFS account	19,114.14			
30-Jun-X7	To Interest accrued but not due account	5,695.89			
			30-Jun-X7	By Interest accrued but not due account	52,816.44
20-Sep-X7	To Interest accrued but not due account	52,816.44			
			20-Sep-X7	By Interest Receivable account	95,276.71
			30-Sep-X7	By Interest accrued but not due account	5,178.08
30-Sep-X7	To Investments—Bonds—AFS account	19,578.13			
14-Oct-X7	To Interest accrued but not due account	5,178.08			
			14-Oct-X7	By Accrued Interest Sold account	4,660.27
31-Dec-X7	To Investments—Bonds—AFS account	13,194.59			
			31-Dec-X7	By Interest accrued but not due account	35,210.96
31-Dec-X7	To Balance	91,769.83			
31-Dec-X7	Total	**292,561.64**	31-Dec-X7	Total	**292,561.64**
			31-Dec-X7	By Balance	91,769.83

MTM—Bonds—AFS (Asset/Liability) account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
			31-Mar-X7	By Unrealized capital gain/ loss on bonds—AFS (OCI) account	11,385.46
30-Jun-X7	To Unrealized capital gain/ loss on bonds—AFS (OCI) account	11,385.46			
			30-Jun-X7	By Unrealized capital gain/ loss on bonds—AFS (OCI) account	13,271.32
30-Sep-X7	To Unrealized capital gain/ loss on bonds—AFS (OCI) account	13,271.32			
			30-Sep-X7	By Unrealized Capital Gains on Bonds—AFS (OCI) account	14,693.19
31-Dec-X7	To Unrealized capital Gains on Bonds—AFS (OCI) account	14,693.19			
			31-Dec-X7	By Unrealized Capital Gains on Bonds—AFS (OCI) account	38,600.87
31-Dec-X7	To Balance	38,600.87			
31-Dec-X7	Total	**77,950.84**	31-Dec-X7	Total	**77,950.84**
			31-Dec-X7	By Balance	38,600.87

Realized capital gain/loss—Bonds—AFS account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
14-Oct-X7	To Investments Bonds—AFS account	7,178.66			
			31-Dec-X7	By Balance	7,178.66
31-Dec-X7	Totals	**7,178.66**	31-Dec-X7	Totals	**7,178.66**
31-Dec-X7	To Balance	7,178.66			

Receivable from Richards & Brothers account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
14-Oct-X7	To Investments—Bonds—AFS account	759,500.00			
14-Oct-X7	To Accrued Interest Sold account	4,660.27			
			17-Oct-X7	By Bank account	764,160.27
31-Dec-X7	Total	**764,160.27**	31-Dec-X7	Total	**764,160.27**

Share Capital account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
			1-Jan-X7	By Bank account	2,500,000.00
31-Dec-X7	To Balance	2,500,000.00			

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
31-Dec-X7	Total	**2,500,000.00**	31-Dec-X7	Total	**2,500,000.00**
			31-Dec-X7	By Balance	2,500,000.00

Bank account

Date	Particulars	Debit (SGD)	Date	Particulars	Credit (SGD)
1-Jan-X7	To share Capital account	2,500,000.00			
			13-Feb-X7	By Payable to Richards & Brothers account	2,427,600.00
23-Mar-X7	To Interest Receivable account	93,723.29			
23-Sep-X7	To Interest Receivable account	95,276.71			
17-Oct-X7	To Receivable from Richards & Brothers account	764,160.27			
			31-Dec-X7	By Balance	1,025,560.27
31-Dec-X7	Total	**3,453,160.27**	31-Dec-X7	Total	**3,453,160.27**
31-Dec-X7	To Balance	1,025,560.27			

Trial Balance

As on 31-Dec-X7 (SGD)

Particulars	Debit	Credit
Capital account		
Share capital		2,500,000.00
Unrealized Gains on Bonds—AFS (OCI) account	38,600.87	
Current Liabilities		
Investments		
Investments—Bonds—AFS account	1,523,819.94	
MTM—Bonds—AFS (Asset/Liability) account		38,600.87
Current Assets		
Bank account	1,025,560.27	
Interest accrued but not due account	35,210.96	
Income		
Interest Income—Bonds—AFS account		91,769.83
Realized Capital Gains—Bonds—AFS account	7,178.66	
Totals	**2,630,370.70**	**2,630,370.70**

Income Statement

For the period ending 31-Dec-X7

Expenses	SGD	Income	SGD
		Direct Income	
		Interest Income—Bonds—AFS account	91,769.83
Realized Capital Gains—Bonds—Trading account	7,178.66		
Net Profit C/o	84,591.17		
Total	**91,769.83**	Total	**91,769.83**

Balance Sheet

As at 31-Dec-X7

Liabilities	SGD	Assets	SGD
Capital account		**Investments**	
Share capital	2,500,000.00	Investments—Bonds—AFS account	1,523,819.94
Unrealized Gains on Bonds—AFS (OCI) account	(38,600.87)		
Current Liabilities		**Current Assets**	
MTM—Bonds—AFS (Asset/Liability) account	38,600.87	Bank account	1,025,560.27
Profit & Loss account		Interest accrued but not due account	35,210.96
Opening Balance	Nil		
Current Period	84,591.17		
Total	**2,584,591.17**	Total	**2,584,591.17**

ACCOUNTING ENTRIES IN FUNCTIONAL CURRENCY—USD

F-1 *On introducing cash into the fund:* (T-1 @ FX Rate: 1.53)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Jan-X7	Bank account	1,629,089.01	
	To Share Capital account		1,629,089.01
	(Being the capital introduced)		

F-2 *On purchase of Bonds—available-for-sale:* (T-2 @ FX Rate: 1.53)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Feb-X7	Investments—Bonds—AFS account	1,534,026.43	
	To Payable to Richards & Brothers account		1,534,026.43
	(Being the purchase of bonds held as available-for-sale)		

F-3 *On recording accrued interest purchased on purchase of Bond:* (T-3 @ FX Rate: 1.53)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Feb-X7	Accrued interest purchased account	49,307.99	
	To Payable to Richards & Brothers account		49,307.99
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

F-4 *On payment of contracted sum:* (T-4 @ FX Rate: 1.54)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Feb-X7	Payable to Richards & Brothers account	1,579,810.50	
	To Bank account		1,579,810.50
	(Being the payment made to the broker for purchase of bonds along with the payment for accrued interest purchased)		

F-5 *FX Translation on payment to broker:*

The settlement amount when converted is the USD based on the FX rate on the date of the settlement results in a different amount than the contracted amount in USD terms. This represents the currency gain or loss and is taken directly to the profit and loss account. If this FX translation entry is not passed, then the liability account of the broker will continue to have a balance even though the broker is settled in full in the respective local currency.

Here we have a currency gain on settlement date due to FX translation:

Currency gain/loss on settlement date	SGD	USD
a) Purchase price including accrued interest purchased (1.55)	2,427,600.00	1,583,334.42
b) Settlement amount in USD terms		1,579,810.50
c) Realized currency gain on settlement = (a) − (b)		**3,523.92**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Feb-X7	Payable to Richards & Brothers account	3,523.92	
	To Realized currency gain/loss(P&L) account		3,523.92
	(Being the realized realized currency gain/loss on settlement to the broker)		

F-6 *On accounting for interest on coupon date:* (T-5 @ FX Rate: 1.53)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Mar-X7	Interest Receivable account	61,411.58	
	To Interest Income—Bonds—AFS account		61,411.58
	(Being the interest accounted for on the coupon date)		

F-7 *On reversal of accrued interest purchased:* (T-6 @ FX Rate: 1.53)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Mar-X7	Interest Income—Bonds—AFS account	49,536.42	
	To Accrued interest purchased account		49,536.42
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bonds)		

F-8 *FX Translation on accrued interest purchased:*

Currency gain/loss on settlement date	SGD	USD
a) Accrued interest purchased (1.53)	60,164.38	49,307.99
b) Accrued interest purchased reversal in functional currency		49,536.42
c) Realized Currency gains on settlement = (b) − (a)		**228.43**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Mar-X7	Accrued interest purchased account	228.43	
	To Realized Currency gain/loss (P&L) account		228.43
	(Being the Realized Currency gain/loss on accrued interest purchased account)		

F-9 *On receipt of coupon interest in the bank:* (T-7 @ FX Rate: 1.52)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Oct-X7	Bank account	61,714.87	
	To Interest Receivable account		61,714.87
	(Being the receipt of coupon interest in the bank)		

F-10 *FX Translation on interest receipts:*

Currency gain/loss on settlement date	SGD	USD
a) Interest receivable (1.53)	93,723.29	61,411.58
b) Actual interest received in functional currency		61,714.87
c) Realized Currency gains on settlement = (b) − (a)		**303.29**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Oct-X7	Interest Receivable account	303.29	
	To Realized Currency gain/loss (P&L) account		303.29
	(Being the Realized Currency gain/loss on receipt of interest amount)		

F-11 *On accounting for interest based on amortization:* (T-8 @ FX Rate: 1.52)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Interest Income—Bonds—AFS account	6,335.86	
	To Investments—Bonds—AFS account		6,335.86
	(Being the amortization of premium treated as interest expense as per accounting standards)		

F-12 *On valuation of bond at the end of valuation date:* (T-9 @ FX Rate: 1.52)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	7,502.87	
	To MTM—Bonds—AFS (Asset/Liability) account		7,502.87
	(Being the unrealized capital gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

F-13 *On accrual of interest at end of valuation date:* (T-X6 @ FX Rate: 1.52)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Interest accrued but not due account	3,753.52	
	To Interest Income—Bonds—AFS account		3,753.52
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-14 *FX Translation on Investments—Bonds—AFS account:*

On the valuation date, the mark-to-market is done and the value is converted to USD based on the FX rate on the valuation date. This results in a different amount than the value in the local currency on the valuation day. It represents the unrealized currency gain or loss and is taken to the bond account under "other category income, OCI," since the bonds are held in the "available-for-sale" category.

Currency gain/loss on Valuation date	SGD	USD
a) Market value of investments (1.52)	12,331,000.00	1,536,099.32
b) Cost of acquisition (1.53)	2,352,000.00	1,534,026.43
c) Interest amortized—31-Mar-X7 (1.52)	(9,614.54)	(6,335.86)
d) Mark-to-market (a) − [(b) + (c)] SGD column) (1.52)	(11,385.46)	(7,502.87)
e) Mark-to-market in USD (a) − [(b) + (c)] (USD column)		8,408.75
f) Unrealized Currency gain = (e) − (d)		**15,911.62**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	MTM—Bonds—AFS (Asset/Liability) account	15,911.62	
	To Unrealized Currency gain/loss on Bonds—AFS (OCI) account		15,911.62
	(Being the unrealized Currency gain/loss on Investments—Bonds AFS account)		

F-15 *FX Translation on Bank account:*

Particulars	Date	SGD	USD
Opening Balance (1.53)	1-Jan-X7	2,500,000.00	1,629,089.01
Transfer out (1.53)	13-Feb-X7	(2,427,600.00)	(1,579,810.50)
Transfer in (1.52)	23-Mar-X7	93,723.29	61,714.87
Net Balance		166,123.29	110,993.38
Net Balance at current FX rate (1.52)	31-Mar-X7	166,123.29	109,473.13
FX translation on Bank account			**(1,520.25)**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Unrealized Currency gain/loss (P&L) account	1,520.25	
	To Bank account		1,520.25
	(Being the unrealized Currency gain/loss on Bank account)		

F-16 *On accounting for interest based on amortization:* (T-11 @ FX Rate: 1.53)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest Income—Bonds—AFS account	12,475.86	
	To Investments—Bonds—AFS account		12,475.86
	(Being the amortization of discount treated as interest expense as per accounting standards)		

F-17 *Reversal of MTM—Bonds—AFS (Asset/Liability) account: (Reversal)*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	MTM—Bonds—AFS (Asset/Liability) account	7,502.87	
	To Unrealized capital gain/loss on Bonds—AFS (OCI) account		7,502.87
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

F-18 *On valuation of bond at the end of valuation date:* (T-13 @ FX Rate: 1.53)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	8,662.23	
	To MTM—Bonds—AFS (Asset/Liability) account		8,662.23
	(Being the unrealized gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

F-19 *On reversal of interest accrual on the next valuation date:* (T-14 @ FX Rate: 1.52)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest Income—Bonds—AFS account	3,753.52	
	To Interest accrued but not due account		3,753.52
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

F-20 *On accrual of interest at end of valuation date:* (T-15 @ FX Rate: 1.53)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest accrued but not due account	34,473.46	
	To Interest Income—Bonds—AFS account		34,473.46
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-21 *FX Translation on Investments—Bonds—AFS account:*

Currency gain/loss on valuation date	SGD	USD
a) Market value of investments (1.53)	2,310,000.00	1,507,744.32
b) Cost of acquisition (1.53)	2,352,000.00	1,534,026.43
c) Interest amortized—31-Mar-X7 (1.52)	(9,614.54)	(6,335.86)
d) Interest amortized 30-Jun-X7 (1.53)	(19,114.14)	(12,475.86)
e) Mark-to-market (a) − [(b) + (c) + (d)] (SGD column) (1.24)	(13,271.32)	(8,662.23)
f) Mark-to-market in USD (a) − [(b) + (c) + (d)] (USD column)		(7,470.39)
g) Currency gain = (e) − (f)		1,191.84
Less: Currency gains booked until 31-Mar-X7		15,911.62
Net unrealized Currency Loss		**(14,719.78)**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Unrealized Currency gain/loss on Bonds—AFS (OCI) account	14,719.78	
	To MTM—Bonds—AFS (Asset/Liability) account		14,719.78
	(Being the unrealized Currency gain/loss on Investments—Bonds AFS account)		

F-22 *FX Translation on Bank account:*

Particulars	Date	SGD	USD
Opening Balance (1.52)	31-Mar-X7	166,123.29	109,473.13
Net Balance at current FX rate (1.53)	30-Jun-X7	166,123.29	108,429.20
FX translation on Bank account			**1,043.93**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Unrealized Currency gain/loss (P&L) account	1,043.93	
	To Bank account		1,043.93
	(Being the unrealized Currency gain/loss on Bank account)		

F-23 *On reversal of interest accrual on the next valuation date:* (Reversal)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Sep-X7	Interest Income—Bonds—AFS account	34,473.46	
	To Interest accrued but not due account		34,473.46
	(Being the reversal of accrual of interest on bonds on the next valuation date / coupon date)		

F-24 *On accounting for interest on coupon date:* (T-17 @ FX Rate: 1.51)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Sep-X7	Interest Receivable account	63,176.23	
	To Interest Income—Bonds—AFS account		63,176.23
	(Being the interest accounted for on the coupon date)		

F-25 *On receipt of coupon interest in the bank:* (T-18 @ FX Rate: 1.51)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Sep-X7	Bank account	63,271.47	
	To Interest Receivable account		63,271.47
	(Being the receipt of coupon interest in the bank)		

F-26 *FX Translation on Investments—Bonds—AFS account:*

Currency gain/loss on settlement date	**SGD**	**USD**
a) Interest receivable (1.51)	95,276.71	63,176.23
b) Actual interest received in functional currency		63,271.47
c) Realized Currency gains on settlement = (a) − (b)		**95.24**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
23-Sep-X7	Interest Receivable account	95.24	
	To Realized Currency gain/loss (P&L) account		95.24
	(Being the realized Currency gain/loss on receipt of interest amount)		

F-27 *Reversal of MTM—Bonds—Trading (Asset/Liability) account: (Reversal)*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X7	MTM—Bonds—AFS (Asset/Liability) account	8,662.23	
	To Unrealized capital gain/loss on Bonds—AFS (OCI) account		8,662.23
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

F-28 *On accrual of interest at end of valuation date:* (T-20 @ FX Rate: 1.46)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X7	Interest accrued but not due account	3,549.64	
	To Interest Income—Bonds—AFS account		3,549.64
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-29 *On accounting for interest based on amortization:* (T-21 @ FX Rate: 1.46)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X7	Interest Income—Bonds—AFS account	13,421.08	
	To Investments—Bonds—AFS account		13,421.08
	(Being the amortization of discount treated as interest expense as per accounting standards)		

F-30 *On valuation of bond at the end of valuation date:* (T-22 @ FX Rate: 1.46)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Unrealized capital gain/loss on Bonds—AFS (OCI) account	10,072.38	
	To MTM—Bonds—AFS (Asset/Liability) account		10,072.38
	(Being the unrealized gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

F-31 *FX Translation on Investments—Bonds—AFS account:*

Currency gain/loss on valuation date	SGD	USD
a) Market value of investments (1.46)	2,289,000.00	1,569,140.91
b) Cost of acquisition (1.53)	2,352,000.00	1,534,026.43
c) Interest amortized 31-Mar-X7 (1.52)	(9,614.54)	(6,335.86)
d) Interest amortized 30-Jun-X7 (1.53)	(19,114.14)	(12,475.86)
e) Interest amortized 30-Sep-X7 (1.46)	(19,578.13)	(13,421.08)
f) Mark-to-market (a) − [(b) + (c) + (d) + (e)] (SGD column) (1.46)	(14,693.19)	(10,072.38)
g) Mark-to-market in USD (a) − [(b) + (c) + (d) + (e)] (USD column)		67,347.28
h) Currency gain = (f) − (g)		77,419.66
Less: Currency gains booked until 30-Jun-X7		1,191.84
Net unrealized Currency gains		**76,227.82**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	MTM—Bonds—AFS (Asset/Liability) account	76,227.82	
	To Unrealized Currency gain/loss on Bonds—AFS (OCI) account		76,227.82
	(Being the unrealized Currency gain/loss on Investments—Bonds AFS account)		

F-32 *FX Translation on Bank account:*

Particulars	Date	SGD	USD
Opening Balance (1.53)	30-Jun-X7	166,123.29	108,429.20
Transfer in (1.51)	23-Sep-X7	95,276.71	63,271.47
Net Balance	30-Sep-X7	261,400.00	171,700.67
Net Balance at current FX rate (1.46)	30-Sep-X7	261,400.00	179,193.29
FX translation on Bank account—Gains			**7,492.62**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Bank account	7,492.62	
	To Unrealized Currency gain/loss (P&L) account		7,492.62
	(Being the unrealized Currency gain/loss on Bank account)		

F-33 *On sale of bonds:* (T-23 @ FX Rate: 1.46)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Oct-X7	Receivable from Richards & Brothers account	518,879.85	
	To Investments—Bonds—AFS account		518,879.85
	(Being the sale of bonds held held as available-for-sale through the broker)		

F-34 *On recording accrued interest sold received on sale of bonds: (*T-24 @ FX Rate: 1.46)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Oct-X7	Receivable from Richards & Brothers account	3,183.83	
	To Accrued Interest Sold account		3,183.83
	(Being the accrued interest sold received on the sale of bonds calculated from the previous coupon date to the date of settlement of the bond)		

F-35 *Accrued interest sold taken to interest income:* (T-25 @ FX Rate: 1.46)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Oct-X7	Accrued Interest Sold account	3,183.83	
	To Interest Income—Bonds—AFS account		3,183.83
	(Being reversal of accrued interest sold on the date on which the first coupon is accounted for after selling the bond)		

F-36 *On reversal of interest accrual on the next day:* (Reversal)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Oct-X7	Interest Income—Bonds—AFS account	3,549.64	
	To Interest accrued but not due account		3,549.64
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next day)		

F-37 *Profit/Loss on sale of Bond:* (T-26 @ FX Rate: 1.46)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Oct-X7	Realized capital gain/loss—Bonds—AFS account	4,904.36	
	To Investments—Bonds—AFS account		4,904.36
	(Being the loss on the sale of bond)		

F-38 *FX Translation on Investments—Bonds—AFS account:*

Currency gain/loss on date of sale	SGD	USD
a) Sale value (1.46)	759,500.00	518,879.85
b) Cost of acquisition (1.53)	784,000.00	511,342.14
c) Interest amortized—31-Mar-X7 (1.52)	(3,204.85)	(2,111.95)
d) Interest amortized 30-Jun-X7 (1.53)	(6,371.38)	(4,158.62)
e) Interest amortized 30-Sep-X7 (1.46)	(6,526.04)	(4,473.69)
f) Realized gain/loss (a) − [(b) + (c) + (d) + (e)] (Trade Currency) (1.46)	(8,397.73)	(5,737.21)
g) Realized gain/loss (a) − [(b) + (c) + (d) + (e)] (Functional currency)		18,281.97
h) Currency gain = (f) − (g)		**24,019.18**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Oct-X7	MTM—Bonds—AFS (Asset/Liability) account	24,019.18	
	To Unrealized Currency gain/loss on Bonds—AFS (OCI) account		24,019.18
	(Being the Unrealized Currency gain/loss on Investments—Bonds AFS account)		

F-39 *On receiving the contracted sum:* (T-27 @ FX Rate: 1.47)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Oct-X7	Bank account	520,757.99	
	To Receivable from Richards & Brothers account		520,757.99
	(Being amount received on the sale of the bond)		

F-40 *FX Translation on receipt from the broker:*

Currency gain/loss on settlement date	SGD	USD
a) Purchase price including accrued interest purchased (1.46)	764,160.27	522,063.68
b) Settlement amount in Functional currency		520,757.99
c) Realized Currency Loss on settlement = (a) − (b)		**(1,305.69)**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Oct-X7	Realized Currency gain/loss (P&L) account	1,305.69	
	To Receivable from Richards & Brothers account		1,305.69
	(Being the Realized Currency gain/loss on settlement by the broker)		

F-41 *On accounting for interest based on amortization:* (T-28 @ FX Rate: 1.45)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Interest Income—Bonds—AFS account	9,088.31	
	To Investments—Bonds—AFS account		9,088.31
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

F-42 *On reversal of mark-to-market valuation on the next valuation date:* (Reversal)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	MTM—Bonds—AFS (Asset/Liability) account	10,072.38	
	To Unrealized Capital Gains on Bonds—AFS (OCI) account		10,072.38
	(Being the reversal of mark-to-market entry on the next valuation date. The entry passed on previous valuation date is reversed and a new entry for mark-to-market is passed on this date)		

F-43 *On valuation of bond at the end of valuation date:* (T-29 @ FX Rate: 1.45)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Unrealized Capital Gains on Bonds—AFS (OCI) account	26,587.92	
	To MTM—Bonds—AFS (Asset/Liability) account		26,587.92
	(Being the unrealized gain/loss on bonds held as available-for-sale as on valuation date. This is calculated as the market value less the amortized cost as on date)		

F-44 *On accrual of interest at end of valuation date:* (T-30 @ FX Rate: 1.452)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Interest accrued but not due account	24,252.98	
	To Interest Income—Bonds—AFS account		24,252.98
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-45 *FX Translation on Investments—Bonds—AFS account:*

Currency gain/loss on valuation date	SGD	USD
a) Market value of investments (1.45)	1,484,000.00	1,022,165.28
b) Cost of acquisition (1.53)	1,568,000.00	1,022,684.29
c) Interest amortized—30-Mar-X7 (1.52)	(6,409.70)	(4,223.91)
d) Interest amortized 30-Jun-X7 (1.53)	(12,742.76)	(8,317.24)
e) Interest amortized 30-Sep-X7 (1.43)	(13,052.09)	(8,947.39)
f) Interest amortized 31-Dec-X7 (1.45)	(13,194.59)	(9,088.31)
g) Mark-to-market (a) − [(b) + (c) + (d) + (e) + (f)] (Trade currency) (1.45)	(38,600.87)	(26,587.92)
h) Mark-to-market in USD (a) − [(b) + (c) + (d) + (e) + (f)] (functional currency)		30,057.84
i) Currency gain = (g) − (h)		56,645.76
Less: Currency gains booked until 31-Dec-X7		77,419.66
Net unrealized Currency Loss		**(20,773.90)**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Unrealized Currency gain/loss on Bonds—AFS (OCI) account	20,773.90	
	To MTM—Bonds—AFS (Asset/Liability) account		20,773.90
	(Being the Unrealized Currency gain/loss on Investments—Bonds AFS account)		

F-46 *FX Translation on Bank account:*

Particulars	Date	SGD	USD
Opening Balance (1.46)	30-Sep-X7	261,400.00	179,193.29
Transfer in (1.47)	17-Oct-X7	764,160.27	520,757.99
Net Balance	31-Dec-X7	1,025,560.27	699,951.28
Net Balance at current FX rate (1.45)		1,025,560.27	706,396.30
FX translation on Bank account—Gains			**6,445.02**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Bank account	6,445.02	
	To Unrealized Currency gain/loss (P&L) account		6,445.02
	(Being the unrealized Currency gain/loss on Bank account)		

General Ledger accounts

Investments—Bonds—AFS account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
10-Feb-X7	To Payable to Richards & Brothers account	1,534,026.43			

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			31-Mar-X7	By Interest Income—Bonds—AFS account	6,335.86
			30-Jun-X7	By Interest Income—Bonds—AFS account	12,475.86
			30-Sep-X7	By Interest Income—Bonds—Trading account	13,421.08
			14-Oct-X7	By Receivable from Richards & Brothers account	518,879.85
			14-Oct-X7	By Realized capital gain/loss—Bonds—AFS account	4,904.36
			31-Dec-X7	By Interest Income—Bonds—AFS account	9,088.31
			31-Dec-X7	By Balance	968,921.11
31-Dec-X7	Total	**1,534,026.43**	31-Dec-X7	Total	**1,534,026.43**
31-Dec-X7	To Balance	968,921.11			

Payable to Richards & Brothers account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			10-Feb-X7	By Investments—Bonds—AFS account	1,534,026.43
			10-Feb-X7	By Accrued interest purchased account	49,307.99
13-Feb-X7	To Bank account	1,579,810.50			
13-Feb-X7	To Realized currency gain/loss(P&L) account	3,523.92			
31-Dec-X7	Total	**1,583,334.42**	31-Dec-X7	Total	**1,583,334.42**

Accrued interest purchased account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
10-Feb-X7	To Payable to Richards & Brothers account	49,307.99			
			20-Mar-X7	By Interest Income—Bonds—AFS account	49,536.42
20-Mar-X7	To Realized currency gain/loss (P&L) account	228.43			
31-Dec-X7	Total	**49,536.42**	31-Dec-X7	Total	**49,536.42**

Interest Receivable account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
20-Mar-X7	To Interest Income—Bonds—AFS account	61,411.58			

Interest Receivable account (*Cont'd*)

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			18-Oct-X7	By Bank account	61,714.87
18-Oct-X7	To Realized currency gain/ loss (P&L) account	303.29			
20-Sep-X7	To Interest Income—Bonds—AFS account	63,176.23			
			23-Sep-X7	By Bank account	63,271.47
23-Sep-X7	To Realized currency gain/ loss (P&L) account	95.24			
31-Dec-X7	Total	124,986.34	31-Dec-X7	Total	124,986.34

Unrealized capital gain/loss on Bonds—AFS (OCI) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
31-Mar-X7	To MTM—Bonds—AFS (Asset/Liability) account	7,502.87			
			30-Jun-X7	By MTM—Bonds—AFS (Asset/Liability) account	7,502.87
30-Jun-X7	To MTM –Bonds—AFS (Asset/Liability) account	8,662.23			
			30-Sep-X7	By MTM—Bonds—AFS (Asset/Liability) account	8,662.23
30-Sep-X7	To MTM—Bonds—AFS (Asset/Liability) account	10,072.38			
			31-Dec-X7	By MTM—Bonds—Trading (Asset/Liability) account	10,072.38
31-Dec-X7	To MTM—Bonds—AFS(Asset/Liability) account	26,587.92			
			31-Dec-X7	By balance	26,587.92
31-Dec-X7	Total	**52,825.40**	31-Dec-X7	Total	**52,825.40**
31-Dec-X7	To Balance	26,587.92			

Accrued Interest Sold account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			14-Oct-X7	By Receivable from Richards & Brothers account	3,183.83
14-Oct-X7	To Interest Income—Bonds—AFS account	3,183.83			
31-Dec-X7	Total	3,183.83	31-Dec-X7	Total	3,183.83

Interest accrued but not due account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
31-Mar-X7	To Interest Income—Bonds—AFS account	3,753.52			
			30-Jun-X7	By Interest Income—Bonds—AFS account	3,753.52
30-Jun-X7	To Interest Income—Bonds—AFS account	34,473.46			
			20-Sep-X7	By Interest Income—Bonds—AFS account	34,473.46
30-Sep-X7	To Interest Income—Bonds—AFS account	3,549.64			
			14-Oct-X7	By Interest Income—Bonds—AFS account	3,549.64
31-Dec-X7	To Interest Income—Bonds—AFS account	24,252.98			
			31-Dec-X7	By Balance	24,252.98
31-Dec-X7	Total	**66,029.60**	31-Dec-X7	Total	**66,029.60**
31-Dec-X7	To Balance	24,252.98			

Interest Income—Bonds—AFS account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			20-Mar-X7	By Interest Receivable account	61,411.58
20-Mar-X7	To Accrued interest purchased account	49,536.42			
31-Mar-X7	To Investments—Bonds—AFS account	6,335.86			
			31-Mar-X7	By Interest accrued but not due account	3,753.52
30-Jun-X7	To Investments—Bonds—AFS account	12,475.86			
30-Jun-X7	To Interest accrued but not due account	3,753.52			
			30-Jun-X7	By Interest accrued but not due account	34,473.46
20-Sep-X7	To Interest accrued but not due account	34,473.46			
			20-Sep-X7	By Interest Receivable account	63,176.23
			30-Sep-X7	By Interest accrued but not due account	3,549.64
30-Sep-X7	To Investments—Bonds—AFS account	13,421.08			
			14-Oct-X7	By Accrued Interest Sold account	3,183.83

Interest Income—Bonds—AFS account (*Cont'd*)

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
14-Oct-X7	To Interest accrued but not due account	3,549.64			
31-Dec-X7	To Investments—Bonds—AFS account	9,088.31			
			31-Dec-X7	By Interest accrued but not due account	24,252.98
31-Dec-X7	To Balance	61,167.09			
31-Dec-X7	Total	**193,801.24**	31-Dec-X7	Total	**193,801.24**
			31-Dec-X7	By Balance	61,167.09

MTM—Bonds—AFS (Asset/Liability) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			31-Mar-X7	By Unrealized capital gain/loss on Bonds—AFS (OCI) account	7,502.87
31-Mar-X7	To Unrealized Currency gain/loss on Bonds—Trading (P&L) account	15,911.62			
30-Jun-X7	To Unrealized capital gain/loss on Bonds—AFS (OCI) account	7,502.87			
			30-Jun-X7	By Unrealized capital gain/loss on Bonds—AFS (OCI) account	8,662.23
			30-Jun-X7	By Unrealized Currency gain/loss on Bonds—AFS (OCI) account	14,719.78
30-Sep-X7	To Unrealized capital gain/loss on Bonds—AFS (OCI) account	8,662.23			
			30-Sep-X7	By Unrealized capital gain/loss on Bonds—AFS (OCI) account	10,072.38
30-Sep-X7	To Unrealized Currency gain/loss on Bonds—AFS (OCI) account	76,227.82			
14-Oct-X7	To Unrealized Currency gain/loss on Bonds—AFS (OCI) account	24,019.18			
31-Dec-X7	To Unrealized capital gain/loss on Bonds—AFS (OCI) account	10,072.38			
			31-Dec-X7	By Unrealized capital gain/loss on Bonds—AFS(OCI) account	26,587.92
			31-Dec-X7	By Unrealized Currency gain/loss on Bonds—AFS (OCI) account	20,773.90
			31-Dec-X7	By Balance	54,077.02
31-Dec-X7	Total	**142,396.10**	31-Dec-X7	Total	**142,396.10**
31-Dec-X7	By Balance	54,077.02			

Realized capital gain/loss—Bonds—AFS account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
14-Oct-X7	To Investments—Bonds—AFS account	4,904.36			
			31-Dec-X7	By Balance	4,904.36
31-Dec-X7	Total	**4,904.36**	31-Dec-X7	Total	**4,904.36**
31-Dec-X7	To Balance	4,904.36			

Realized Currency gain/loss (P&L) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			13-Feb-X7	By payable to Richards & Brothers account	3,523.92
			20-Mar-X7	By Accrued interest purchased account	228.43
			18-Oct-X7	By Interest Receivable account	303.29
			23-Sep-X7	By Interest Receivable account	95.24
17-Oct-X7	To Receivable from Richards & Brothers account	1,305.69			
31-Dec-X7	To Balance	2,845.19			
31-Dec-X7	Total	**4,150.88**	31-Dec-X7	Total	**4,150.88**
			31-Dec-X7	To Balance	2,845.19

Unrealized Currency gain/loss (P&L) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
31-Mar-X7	To Bank account	1,520.25			
30-Jun-X7	To Bank account	1,043.93			
			30-Sep-X7	By Bank account	7,492.62
			31-Dec-X7	By Bank account	6,445.02
31-Dec-X7	To Balance	11,373.46			
31-Dec-X7	Total	**13,937.64**	31-Dec-X7	Total	**13,937.64**
			31-Dec-X7	To Balance	11,373.46

Unrealized Currency gain/loss On Bonds AFS (OCI) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			31-Mar-X7	By MTM—Bonds—AFS (Asset/Liability) account	15,911.62
30-Jun-X7	To MTM—Bonds—AFS (Asset/Liability) account	14,719.78			
			30-Sep-X7	By MTM—Bonds—AFS (Asset/Liability) account	76,227.82
			14-Oct-X7	By MTM—Bonds—AFS (Asset/Liability) account	24,019.18

Unrealized Currency gain/loss On Bonds AFS (OCI) account (*Cont'd*)

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
31-Dec-X7	To MTM—Bonds—AFS (Asset/Liability) account	20,773.90			
31-Dec-X7	To Balance	80,664.94			
31-Dec-X7	Total	**116,158.62**	31-Dec-X7	Total	**116,158.62**
			31-Dec-X7	To Balance	80,664.94

Share Capital account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			1-Jan-X7	By Bank account	1,629,089.01
31-Dec-X7	By Balance	1,629,089.01			
31-Dec-X7	Total	**1,629,089.01**	31-Dec-X7	Total	**1,629,089.01**
			31-Dec-X7	By Balance	1,629,089.01

Receivable from Richards & Brothers account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
14-Oct-X7	To Investments—Bonds—AFS account	518,879.85			
14-Oct-X7	To Accrued Interest Sold account	3,183.83			
			17-Oct-X7	By Bank account	520,757.99
			17-Oct-X7	By Realized Currency gain/loss (P&L) account	1,305.69
31-Dec-X7	Total	**522,063.68**	31-Dec-X7	Total	**522,063.68**

Bank account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
1-Jan-X7	To Share Capital account	1,629,089.01			
			13-Feb-X7	By Payable to Richards & Brothers account	1,579,810.50
18-Oct-X7	To Interest Receivable account	61,714.87			
			31-Mar-X7	By Unrealized Currency gain/loss (P&L) account	1,520.25
			30-Jun-X7	By Unrealized Currency gain/loss (P&L) account	1,043.93
23-Sep-X7	To Interest Receivable account	63,271.47			
30-Sep-X7	To unrealized Currency gain/loss(P&L) account	7,492.62			
17-Oct-X7	To Receivable from Richards & Brothers account	520,757.99			

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
31-Dec-X7	To unrealized Currency gain/loss (P&L) account	6,445.02			
			31-Dec-X7	By Balance	706,396.30
31-Dec-X7	Total	**2,288,770.98**	31-Dec-X7	Total	**2,288,770.98**
31-Dec-X7	To Balance	706,396.30			

Trial Balance

As on 31-Dec-X7 (USD)

Particulars	Debit	Credit
Capital account		
Share Capital		1,629,089.01
Unrealized currency gain/loss on Bonds AFS (OCI) account		80,664.94
Unrealized capital gain/loss on Bonds—AFS (OCI) account	26,587.92	
Current Liabilities		
Investments		
Investments—Bonds—AFS account	968,921.11	
MTM—Bonds—AFS (Asset/Liability) account	54,077.02	
Current Assets		
Bank account	706,396.30	
Interest accrued but not due account	24,252.98	
Income		
Interest Income—Bonds—AFS account		61,167.09
Realized Currency gain/loss (P&L) account		2,845.19
Realized capital gain/loss—Bonds—AFS account	4,904.36	
Unrealized Currency gain/loss (P&L) account		11,373.46
Total	**1,785,139.69**	**1,785,139.69**

Income Statement

For the period ending 31-Dec-X7

Expenses	USD	Income	USD
		Direct Income	
Realized capital gain/loss—Bonds—AFS account	4,904.36	Interest Income—Bonds—AFS account	61,167.09
		Realized Currency gain/loss (P&L) account	2,845.19
		Unrealized Currency gain/loss (P&L) account	11,373.46
Net Profit C/o	70,481.38		
Total	**75,385.74**	Total	**75,385.74**

Balance Sheet

As at 31-Dec-X7

Liabilities	USD	Assets	USD
Capital account		**Investments**	
Share Capital	1,629,089.01	Investments—Bonds—AFS account	968,921.11
Unrealized Currency gain/loss On Bonds AFS (OCI) account	80,664.94	MTM—Bonds—AFS (Asset/ Liability) account	54,077.02
Unrealized capital gain/loss on Bonds—AFS (OCI) account	(26,587.92)		
		Current Assets	
		Bank account	706,396.30
Current Liabilities	Nil	Interest accrued but not due account	24,252.98
Profit & Loss account			
Opening Balance	Nil		
Current Period	70,481.38		
Total	**1,753,647.41**	Total	**1,753,647.41**

SUMMARY

- Available-for-sale securities are debt or equity investments that are held for an indefinite period of time without any intention to resell for profit. They are not trading assets as in the case of short-term assets held for speculation nor are they acquired with an intention to hold until maturity.
- While available-for-sale securities are recorded at fair value or market value, the unrealized gains/losses on them are excluded from current earnings (P&L) and are instead recorded as an adjustment to bonds on the balance sheet.
- The available-for-sale category includes all bond securities except those classified as fair value through profit or loss and under held-until-maturity. Available-for-sale financial assets are carried at fair value subsequent to initial recognition.
- For available-for-sale financial assets, unrealized gains and losses are deferred until they are realized or impairment occurs. The unrealized gains on such financial assets are shown as other comprehensive income and adjusted directly in the bond/investments (net amount) under a separate component of shareholders' equity without being routed through the income statement. When the bonds are sold the gains/losses realized are reported in the income statement. Only interest income and dividend income, impairment losses, and certain foreign currency gains and losses are recognized in profit or loss.
- As per the accounting standards, available-for-sale financial assets are those non-derivative financial assets that are designated as available-for-sale or are not classified as:
  - Loans and receivables;
  - Held-to-maturity investments; or
  - Financial assets at fair value through profit or loss.
- Thus bonds that are not designated as financial assets at fair value through profit or loss are categorized as available-for-sale instruments. Also investments in bond instruments that do not have a quoted market price in an active market, and whose fair value cannot be

reliably measured should not be designated as at fair value through profit or loss and such instruments are designated as available-for-sale securities.

- The trade life cycle for investment in bonds that are designated as available-for-sale is identical to that given for trading securities, except that at the time of ascertaining the fair value at the end of the valuation date, the accounting entry that is recorded in the book of accounts is different.
- The mark-to-market process adopted here is the same as the one followed for trading bonds. However, if there is an increase in the market rate over and above the purchase rate (amortized cost) then such increase is recorded as part of the other comprehensive income (unrealized gain/loss) and not recognized as income in the current period. The other comprehensive income is shown as part of the share holders' equity in the balance sheet. The corresponding amount is shown in MTM—Bonds—AFS (Asset/Liability) account.
- The exception to this general rule is when there is a permanent impairment to the value of the bonds held as available-for-sale. Such permanent impairment should be recognized in the income and as such should be part of the income statement. If the perceived permanent impairment recovers, such increase in the value of the investments need not be recorded in the books until the liquidation of such bonds.
- Under the relevant accounting standards, foreign currency monetary items are treated differently from foreign currency non-monetary items during subsequent recognition of those items on any valuation date. The essential feature of a monetary item is the right to receive or an obligation to deliver a fixed or determinable amount of units of currency. A non-monetary item does not have this right.
- Exchange differences arise from the settlement of monetary items at a subsequent date to initial recognition, and re-measuring an entity's monetary items at rates different from those at which they were initially recorded (either during the reporting period or at the previous reporting periods). Such exchange differences must be recognized as income or expenses in the period in which they arise. If the transaction is settled in a different accounting period to that of the initial recognition of the transaction, the exchange difference to be recognized in each period is determined by the change in exchange rates during that period.
- Bonds are monetary items and as such any foreign exchange gains and losses on monetary assets are recognized in the statement of profit and loss except for those items that are designated as a hedging instrument. A monetary available-for-sale financial asset is treated as if it were carried at amortized cost in the foreign currency.
- When a gain or loss on a non-monetary item is recognized in profit or loss, any exchange component of that gain or loss is also recognized in profit or loss. When a gain or loss on a non-monetary item is recognized directly in other comprehensive income, any exchange component of that gain or loss is recognized directly in other comprehensive income.

QUESTIONS

Theory questions

1. What is meant by available-for-sale securities? When would you classify an investment as available-for-sale?
2. What are the major differences between trading securities and available-for-sale securities?
3. How is the classification of "available-for-sale" affected with the introduction of IFRS 9?
4. How is the foreign exchange translation impact on available-for-sale bonds treated in the books of accounts? Is this any different from equity securities? If so, explain why it is so.
5. How is the impairment of available-for-sale bonds treated and presented in the balance sheet?
6. How is the unrealized currency gain or loss recorded in the book of accounts?

7. How is the realized capital gain or loss recorded in the book of accounts on the settlement date?
8. Enumerate the significant events in the trade life cycle of an investment classified as an available-for-sale security.

Objective questions

1. Available-for-sale bonds are debt investments that will be held:
   a) Until maturity.
   b) For a predefined period.
   c) Only until the current financial year.
   d) For an indefinite period of time.
2. The unrealized gain or loss for available-for-sale bonds is:
   a) Recorded as an adjustment to the equity on the balance sheet.
   b) Not recorded in the balance sheet.
   c) Recorded as earnings in P&L for the current period.
   d) Recorded in the other comprehensive income (OCI).
3. When the bonds are sold then the realized gain is recorded in:
   a) Other comprehensive income (OCI).
   b) Not recorded in the balance sheet.
   c) Not recorded at all in the books.
   d) Taken directly to profit or loss account for the current period.
4. Impairment other than temporary with respect to bonds under available-for-sale should be:
   a) Written down to fair value.
   b) Treated alike as temporary impairment.
   c) Considered a loss and to be treated as temporary.
   d) None of the above.
5. For bonds classified as available-for-sale, which of the following items will be reported in the income statement of the current period?
   a) Both realized and unrealized gains.
   b) Realized gain alone.
   c) Unrealized gain alone.
   d) None of the above.

Journal questions

1. Bond-AFS-problem—USD

Bond details:	
Face value	100.00
Issue price	100.00
Maturity	10-Sep-X4
Rate of interest	6.50 %
Currency	USD

Coupon dates (until maturity)	**Coupon date**	**Settle date**
Previous coupon	10-Sep-X2	13-Sep-X2
Coupon date-1	10-Mar-X3	13-Mar-X3
Coupon date-2	10-Sep-X3	13-Sep-X3
Coupon date-3	10-Mar-X4	13-Mar-X4
Coupon date-4	10-Sep-X4	13-Sep-X4

Day Count	Actual/365

Transaction details

Particulars	**Trade date**	**Settle date**	**Quantity**	**Clean price**
Bought	12-Feb-X3	15-Feb-X3	25,000	143.00
Sold	06-Aug-X3	09-Aug-X3	21,000	161.50

Valuation dates and market value	**Date**	**Market rate**
Valuation date 1	31-Mar-X3	144.50
Valuation date 2	30-Jun-X3	155.50
Valuation date 3	30-Sep-X3	162.00
Functional currency	USD	

Other details	**Date**	**USD**
Capital introduced	01-Feb-X3	4,000,000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

2. Bond-AFS-problem—USD

Bond details:	
Face value	100.00
Issue price	100.00
Maturity	10-Dec-X6
Rate of interest	4.50
Currency	USD

Coupon dates (until maturity)	**Coupon date**	**Settle date**
Previous coupon	10-June-X2	13-June-X2
Coupon date-1	10-Dec-X3	13-Dec-X3
Coupon date-2	10-June-X3	13-June-X3
Coupon date-3	10-Dec-X4	13-Dec-X4
Coupon date-4	10-June-X4	13-June-X4
Coupon date-5	10-Dec-X5	13-Dec-X5
Coupon date-6	10-June-X5	13-June-X5
Coupon date-7	10-Dec-X6	13-Dec-X6
Day count	Actual/365	

Transaction details

Particulars	Trade date	Settle date	Quantity	Clean price
Bought	25-Jan-X3	28-Jan-X3	7,700	77.00
Written off	21-Dec-X4	24-Dec-X4	7,700	65.50

Valuation dates and market value	Date	Market rate
Valuation date 1	30-Jun-X2	73.50
Valuation date 2	30-Sep-X2	77.50
Valuation date 3	31-Dec-X2	78.00
Valuation date 4	31-Mar-X3	71.00
Valuation date 5	30-Jun-X3	74.00
Valuation date 6	30-Sep-X3	77.50
Valuation date 7	31-Dec-X3	82.75
Valuation date 8	31-Mar-X4	71.00
Valuation date 9	30-Jun-X4	73.50
Valuation date 10	30-Sep-X4	70.00
Valuation date 11	31-Dec-X4	62.50
Functional currency	USD	

Other details	Date	USD
Capital Introduced	01-Jan-X3	1,500,000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

3. Bond-AFS-problem—JPY

Bond details:	Face value	Issue price	Maturity	Rate of interest	Currency	Day count
Face value	100.00	100.00	20-Mar-X10	9.00	JPY	Actual/365
Coupon dates	20-Sep & 20-Mar					

Coupon dates	Coupon date	FX rate	Settle date	FX rate
Previous coupon	20-Sep-X6	118	23-Sep-X6	116
Coupon date-1	20-Mar-X7	117	23-Mar-X7	118
Coupon date-2	20-Sep-X7	116	23-Sep-X7	116

Transaction details

Particulars	Trade date	FX rate	Settle date	FX rate	Quantity	Clean price
Bought	10-Feb-X7	121	13-Feb-X7	122	11,000	97.00
Sold	14-Oct-X7	118	17-Oct-X7	117	7,000	108.50

Valuation dates and market value	Date	Market rate	FX rate
Valuation date 1	31-Mar-X7	111.00	118
Valuation date 2	30-Jun-X7	110.00	123
Valuation date 3	30-Sep-X7	109.00	115
Valuation date 4	31-Dec-X7	106.00	112

Day count	**Actual/365**
Functional currency	USD

Other details	**Date**	**JPY**	**FX rate**
Capital introduced	01-Jan-X7	2,500,000	109

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

4. Bond-AFS-problem—JPY

Bond details:	
Face value	100.00
Issue price	100.00
Maturity	21-Oct-X10
Rate of interest	5.00
Currency	JPY

Coupon dates (until maturity)	**Coupon date**	**FX rate**	**Settle date**	**FX rate**
Previous Coupon	10-Oct-X6	119	13-Oct-X6	120
Coupon date-1	10-Apr-X7	118	13-Apr-X7	119
Coupon date-2	10-Oct-X7	117	13-Oct-X7	118
Coupon date-3	10-Apr-X8	102	13-Apr-X8	101
Coupon date-4	10-Oct-X8	100	13-Oct-X8	101
Coupon date-5	10-Apr-X9	100	13-Apr-X9	101
Coupon date-6	10-Oct-X9	89	13-Oct-X9	90

Day count	Actual/365

Transaction details

Particulars	**Trade date**	**FX rate**	**Settle date**	**FX rate**	**Quantity**	**Clean price**
Bought	25-Feb-X7	121	28-Feb-X7	120	7,000	235.00
Sold	21-Oct-X7	114	24-Oct-X7	114	4,500	280.00

Valuation dates and market value	**Date**	**Market rate**	**FX rate**
Valuation date 1	30-Apr-X7	245.50	119
Valuation date 2	30-Jun-X7	275.50	123
Valuation date 3	31-Oct-X7	282.00	114
Valuation date 4	31-Dec-X7	290.00	112
Functional currency	USD		

Other details	**Date**	**USD**	**FX rate**
Capital introduced	01-Feb-X7	1,700,000	0.00828

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

CHAPTER 4

Fixed Income Securities—Held-to-Maturity

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Meaning of fixed income securities classified as "held-to-maturity"
- Accounting for held-to-maturity securities in the light of relevant accounting standards
- Classification of investments from intention and other perspectives
- Effective interest and amortized cost measurement concepts
- Trade life cycle of fixed incomesecurity investments classified as "held-to-maturity"
- Accounting journal entries to be recorded during the different phases of the trade life cycle
- Illustration of accounting for investments in fixed income securities classified as "held-to-maturity"
- Preparation of general ledger accounts
- Preparation of income statement, balance sheet after the bond investments are made
- Disclosure requirements for investments in fixed income securities
- FX revaluation and FX translation process
- Functional currency, foreign currency and presentation currency
- Distinction between capital gains and currency gains in unrealized gains

MEANING OF SECURITIES CLASSIFIED AS HELD-TO-MATURITY (HTM)

Held-to-maturity investments are those bought with the ability and specific intention to hold such investments until the maturity period of the instrument. However, an entity does not have a positive intention to hold to maturity an investment in a financial asset with a fixed maturity if:

a) The entity intends to hold the financial asset for an undefined period;
b) The entity stands ready to sell the financial asset in response to changes in market interest rates or risks, liquidity needs, changes in the availability of and the yield on alternative investments, changes in financing sources and terms or changes in foreign currency risk; or
c) The issuer has a right to settle the financial asset at an amount significantly below its amortized cost.
d) Hence, such investments cannot be classified as held-to-maturity.

Variable interest rate instrument

A debt instrument with a variable interest rate can satisfy the criteria for a held-to-maturity investment. Fixed or determinable payments and fixed maturity mean that a contractual arrangement defines the

amounts and dates of payments to the holder, such as interest and principal payments. The interest rate itself can be variable meaning it can be based on any benchmark interest rate.

Floating rate instruments

For floating rate financial instruments, periodic re-estimation of cash flows to reflect movements in market rates of interest alters the effective interest rate. If a floating rate financial instrument is recognized initially at an amount equal to the principal receivable or payable on maturity, re-estimating the future interest payments normally has no significant effect on the carrying amount of the asset or liability.

However, when an entity revises its estimates of payments or receipts, the carrying amount of the financial instrument is adjusted to reflect the actual and revised estimated cash flows. The entity should recalculate the carrying amount by computing the present value of estimated future cash flows at the financial instrument's original effective interest rate. *The adjustment is recognized as income or expense in the statement of profit and loss.*

Default risk

Default risk is no bar to the classification of a financial asset as held-to-maturity as long as its contractual payments are fixed or determinable and the other criteria for that classification are met.

Perpetual debt instrument

If the terms of a perpetual debt instrument provide for interest payments for an indefinite period, the instrument cannot be classified as held-to-maturity because there is no maturity date.

Equity Instruments

These cannot be classified as held-to-maturity investments because they have an indefinite life. Also the amounts the holder may receive can vary in a manner that is not predetermined such as warrants or other similar rights.

Callable debt & recovery of entire carrying amount

Financial asset that is callable by the issuer can be classified as held-to-maturity if the holder intends and is able to hold it until it is called or until maturity and the holder would recover substantially its entire carrying amount. The call option of the issuer merely accelerates the asset's maturity, in case the option is exercised by the issuer.

If the holder is unable to recover substantially the entire carrying amount due to the call option exercised by the issuer then the asset cannot be classified as a held-to-maturity investment. For this purpose the entity should consider premium paid and capitalized transaction costs if any to determine whether the carrying amount is substantially recovered.

Puttable debt cannot be an HTM asset

A financial asset that is "puttable," that is, where the holder has the right to require that the issuer repay or redeem the financial asset before maturity, cannot be classified as a held-to-maturity investment. To pay for a put feature in a financial asset is contrary to the expression of an intention to hold the financial asset until maturity.

Fair value Vs. amortized cost

For most financial assets, fair value is a more appropriate measure than amortized cost with the exception of "held-to-maturity" classification only if the entity has a positive intention and the ability to hold the investment to maturity.

Fixed income bearing bonds in the held-to-maturity category are recognized at amortized cost and not on fair value. The whole premise of held-to-maturity is that the bonds are held until maturity and are not held for selling. Thus, on each valuation period it is not necessary to measure them against fair value and find out the mark-to-market value. The only purpose for which the investment is made in a held-to-maturity asset is to get the "assured" periodical interest payments. Hence, the investor is really not affected by the periodical fluctuations in the market price of the said investments.

EXCEPTIONS TO THE RULE FOR CLASSIFICATION AS HELD-TO-MATURITY

Sales before maturity that do not "taint"

Sale or transfer of bonds under held-to-maturity is accepted when there is a change in circumstances leading to the change in the intention to hold the bonds until maturity. These exceptions are given in the relevant accounting standard both under US GAAP as well as IFRS and are broadly along the following lines:

a) A significant deterioration in the issuer's creditworthiness. If there is evidence that a financial asset is impaired, the deterioration in creditworthiness is often regarded as significant. This deterioration must be actual in nature and not mere speculation. This deterioration must be due to the issuer's inability to pay on maturity or the impairment of the fixed instrument asset.
b) A change in tax law that eliminates or significantly reduces the tax-exempt status of interest on the held-to-maturity investment. However, this does not include a change in tax law that revises the marginal tax rates applicable to interest income.
c) A major business combination or major disposition (such as a sale of a segment) that necessitates the sale or transfer of held-to-maturity investments to maintain the entity's existing interest rate risk position or credit risk policy. In this case, although the business combination is an event within the entity's control, the changes to its investment portfolio to maintain an interest rate risk position or credit risk policy may be consequential rather than anticipated and hence provided as an exception.
d) A change in statutory or regulatory requirements significantly modifying either what constitutes a permissible investment or the maximum level of particular types of investments, thereby causing an entity to dispose of a held-to-maturity investment.
e) A significant increase in the industry's regulatory capital requirements that causes the entity to downsize by selling held-to-maturity investments. If the sale of held-to-maturity bonds are made to re-invest the gains to replenish the capital reduced by losses then the enterprise's ability and intention for held-to-maturity is questionable.
f) A significant increase in the risk weights of held-to-maturity investments used for regulatory risk-based capital purposes.
g) Unanticipated or exceptional liquidity needs of financial institutions, for example, a bank run or a similar situation affecting an insurance company.

In addition to the foregoing changes in circumstances, other events that are isolated, nonrecurring, and unusual for the reporting enterprise that could not have been reasonably anticipated may cause the enterprise to sell or transfer a held-to-maturity security without necessarily "tainting" its intention to hold other debt securities to maturity. However, if this occurs, the classification should be re-considered in the light of the circumstances that led to the sale or transfer of the held-to-maturity security.

The following are not covered under the exceptions

An entity does not have a demonstrated ability to hold to maturity an investment in a financial asset with a fixed maturity if:

a) It does not have the financial resources available to continue to finance the investment until maturity; or
b) It is subject to an existing legal or other constraint that could frustrate its intention to hold the financial asset to maturity with the exception of an issuer's call option that does not necessarily frustrate an entity's intention to hold a financial asset to maturity.

An entity should assess its intention and ability to hold its held-to-maturity investments until maturity not only when those financial assets are initially recognized, but also at each subsequent balance sheet date.

Revised criteria for measurement at amortized cost

The entity's business model for managing financial assets

The recent IFRS 9 provides the criteria for measurement at amortized and this requires an entity to classify financial assets as subsequently measured at amortized cost or fair value on the basis of the entity's business model for managing the financial assets. An entity should assess whether its financial assets meet this condition on the basis of the objective of the business model as determined by the entity's key management personnel. (IFRS 9 Para B4.1)

Management's intentions do not decide the entity's business model for an individual instrument. Accordingly, this condition is **not an instrument-by-instrument approach** to classification and should be determined on a higher level of aggregation.

However, a single entity may have more than one business model for managing its financial instruments. Therefore, classification need not be determined at the reporting entity level. (IFRS 9 Para B4.2)

Although the objective of an entity's business model may be to hold financial assets in order to collect contractual cash flows, the entity need not hold all of those instruments until maturity. Thus an entity's business model can be to hold financial assets to collect contractual cash flows even when sales of financial assets occur.

For example, the entity may sell a financial asset if:

a) The financial asset no longer meets the entity's investment policy (e.g., the credit rating of the asset declines below that required by the entity's investment policy);
b) An insurer adjusts its investment portfolio to reflect a change in expected duration (ie the expected timing of payouts); or
c) An entity needs to fund capital expenditures.

However, if more than an infrequent number of sales are made out of a portfolio, the entity needs to assess whether and how such sales are consistent with an objective of collecting contractual cash flows. (IFRS 9 Para B4.3)

US GAAP proposal

As per the Exposure Draft in respect of accounting for financial instruments and revisions to the accounting for derivative instruments and hedging activities issued in May 2010, the financial assets that meet the specific eligibility criteria relating to whether the financial asset is being held for collection of contractual cash flows, amortized cost also would be presented with qualifying changes in fair value recognized in other comprehensive income rather than net income. However, under IFRS 9, when similar eligibility criteria are met, financial assets are measured at amortized cost and

fair value information is disclosed in the notes to the financial statements. It should be noted that the qualifying criteria under both the proposed guidance and IFRS 9 are based on the entity's business strategy viz., held for collection or payment of cash flows—with respect to the financial instrument and the cash flow characteristics of the instrument.

EFFECTIVE INTEREST RATE

The effective interest rate is the internal rate of return (IRR) or the level yield to maturity. It is the rate that exactly discounts the estimated future cash flows or receipts through the expected life of the instrument, or where appropriate, a shorter period, to the net carrying amount at initial recognition

An entity should estimate cash flows considering all contractual terms of the financial instrument including prepayment, call and similar options, when calculating the effective interest rate. The entity should not consider the future credit losses while calculating the effective interest rate. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs, and all other premiums or discounts.

The following aspects should be considered while arriving at the effective interest rate:

- For financial assets that are acquired at a deep discount, the price reflects incurred credit losses. Since this represents incurred credit losses these should be included in the estimated cash flows when computing the effective interest rate.
- The entity should amortize any fees, paid or received, transaction costs and other premiums or discounts included in the calculation of the effective interest rate over the expected life of the instrument.
- A shorter period is used if this is the period to which the fees, points paid or received, transaction costs, premiums or discounts relate.
- If a premium or discount on a floating rate instrument reflects interest that has accrued on the instrument since interest was last paid, or changes in market rates since the floating interest rate was reset to market rates, it should be amortized to the next date when the floating interest is reset to market rates.
- If the premium or discount results from a change in the credit spread over the floating rate specified in the instrument, or other variables that are not reset to market rates, it is amortized over the expected life of the instrument.

Effective interest rate is used to calculate the amount of interest earned by the entity which is shown in the profit and loss account as 'interest earned'. Also the effective interest rate is used to determine the carrying cost of the asset after proper amortization of the premium paid or discount realized while acquiring the said asset. The accounting standard requires that such amortization of premium/discount on acquisition of the security is shown as part of interest earned and not separately.

Fixed income security (HTM) as a hedged item

A hedged item is an asset, liability, firm commitment, highly probable forecast transaction or net investment in a foreign operation that (a) exposes the entity to risk of changes in fair value or future cash flows and (b) is designated as being hedged. Generally since fixed income security exposes an entity to risk of changes in fair value or future cash flows it is a suitable candidate for being designated as a hedged item.

A held-to-maturity investment cannot be a hedged item with respect to interest-rate risk or prepayment risk because designation of an investment as held-to-maturity requires an intention to hold the investment until maturity without regard to changes in the fair value or cash flows of such an investment attributable to changes in interest rates. However, a held-to-maturity investment

can be a hedged item with respect to risks from changes in **foreign currency exchange rates** and **credit risk.**

ACCOUNTING FOR SECURITIES CLASSIFIED AS HELD-TO-MATURITY

In this section we will cover the accounting requirements for fixed income security investments. The accounting treatment under the US GAAP is covered by the topic 825 and other topics as given below. Under the International Financial Reporting Standards, IAS 39 deals with this along with IAS 32, & IFRS 7. The new IFRS 9 which is eventually a replacement of IAS 39 also deals with this. Table 4.1 gives the relevant accounting standards relevant for this topic.

Table 4.1 Relevant accounting standards

US GAAP Topics	IFRS
220—Comprehensive Income	IFRS 7—Financial Instruments: Disclosure
320—Investments—Debt and Equity Securities	IFRS 9—Financial Instruments
815—Derivatives and Hedging	IAS 21—The Effects of Changes in Foreign Exchange Rates
820—Fair Value Measurements and Disclosures	IAS 32—Financial Instruments: Presentation
825—Financial Instruments	IAS 36—Impairment of Assets
830—Foreign Currency Matters	IAS 39—Financial Instruments: Recognition and Measurement
946—Financial Services—Investment Companies	

TRADE LIFE CYCLE FOR FIXED INCOME SECURITIES—HELD-TO-MATURITY

- Buy the bond
- Accrued interest purchased
- Pay the contracted amount for the bond
- Premium/discount on purchase
- Coupon accrual
- Coupon receipt
- Reversal of accrued interest purchased
- Amortization of premium/discount on purchase
- Accrual of interest on valuation date
- Valuation of bond on valuation date
- Sell the bond
- Interest on bond sold
- Receive the consideration
- Ascertain the profit/loss on the sale
- FX revaluation (for securities held in foreign currency)
- FX translation (for securities held in foreign currency)

Impairment of bonds

- Initial impairment
- Subsequent to initial impairment
- Receipt of proceeds of impaired bonds
- Write back upon declassification
- Write off

Additional possible events in the trade life cycle

- Revaluation
- Early redemption
- Maturity
- Write off
- Recovery subsequent to write off

Most of the events in the trade life cycle for fixed income securities classified as held-to-maturity are covered in the earlier two chapters. The additional events associated with this form of investments are discussed below.

Let us assume the details as shown in Table 4.2 for the purpose of this illustration.

Table 4.2 Trade and other details for the purpose of illustration

Bond details:				
Face value	100.00			
Issue price	100.00			
Maturity	15-Jan-X10			
Rate of interest	2.5%			
Currency	USD			
Coupon dates (until maturity)	**Coupon date**	**Settle date**		
Previous coupon	15-Jul-X6	18-Jul-X6		
Coupon date-1	15-Jan-X7	18-Jan-X7		
Coupon date-2	15-Jul-X7	18-Jul-X7		
Coupon date-3	15-Jan-X8	18-Jan-X8		
Coupon date-4	15-Jul-X8	18-Jul-X8		
Coupon date-5	15-Jan-X9	18-Jan-X9		
Coupon date-6	15-Jul-X9	18-Jul-X9		
Coupon date-7	15-Jan-X10	18-Jan-X10		
Day count	Actual/365			
Transaction details				
Particulars	**Trade date**	**Settle date**	**Quantity**	**Clean price**
Bought	07-Jan-X7	10-Jan-X7	12,500	81.00
Sold				
Valuation dates and market value	**Date**	**Market rate**		
Valuation date 1	31-Mar-X7	85.00		
Valuation date 2	30-Jun-X7	86.00		
Valuation date 3	30-Sep-X7	87.50		
Valuation date 4	31-Dec-X7	88.40		
Functional currency	USD			
Other details	**Date**	**USD**		
Capital introduced	01-Jan-X7	2,000,000		

Premium/discount on purchase of the security

The premium or discount on purchase of the security is recognized on purchase of the security. A contra entry is passed for the discount received on the purchase of bonds under held-to-maturity. Here in this example the discount, which is the difference between the face value of the bond and the clean price, is $19 per bond. This is the discount earned on the purchase of the bonds and this discount is recognized as interest income over the remaining life of the security. The total discount on purchase of 12,500 bonds under held-to-maturity is $237,500 and the accounting entry for recording this transaction is as follows:

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Jan-X7	Discount on Bonds—HTM account	237,500.00	
	To Discount on Bonds (Contra)—HTM account		237,500.00
	(Being the discount on purchase of bonds held as held-to-maturity)		

Amortization of premium/discount on purchase

Amortization of discount means that the discount realized on purchase of the asset is first capitalized and gradually taken to income as part of interest earned over the remaining life of the asset. In this example the bond is purchased for $81.00 and the discount of $19 should be amortized over the remaining life of the bond on yield-to-maturity basis. This is to find the interest element to be accounted for. As per the accounting standard, the amortized component should be shown as interest. Even though the interest percentage is 10% p.a. the effective rate of interest after taking into account the discount component of $19 works out to 8.91 percent.

The entry that is passed on the next valuation date of 31st March is as follows:

Calculation of interest based on amortization until 31-Mar-X7 per bond			USD
Period ending	**Amount/bond**	**Qty**	**Value**
15-Feb-X7	0.07572733		
31-Mar-X7	1.13745217		
Total	**1.21317950**	**12,500**	**15,164.74**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Investments—Bonds—HTM account	15,164.74	
	To Discount on Bonds—HTM account		15,164.74
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

Carrying cost and yield to maturity

Amortizing the discount over the remaining life of the security has the effect of increasing the effective yield (interest rate) of the security. Effective interest as a percentage would be constant if calculated on the carrying cost of the security.

The carrying cost of the security is the amount actually paid (clean price only) at the time of purchase (initial recognition). Then periodically—either daily or monthly—the amortized portion of the discount is shown as part of the interest earned and the same amount is also added to the cost of security thus modifying the carrying cost of the security.

An example to calculate the effective interest

Face Value	1,000,000
Coupon rate	8.00 % p.a.
Terms	Payable half yearly
Purchase price	900,000
Discount	100,000
Maturity	5 years
Effective rate	10.62985

Here the coupon rate is 8 percent and the discount on purchase of the security is 100,000. This means that the investor will ultimately receive from the issuer of the bond 1,000,000. The discount should be amortized over the effective life of the security—which is five years. On a straight line method the amortization amount would be 10,000 every six months or 20,000 every year for the next five years. On yield-to-maturity basis the amortization would be based on the carrying cost of the asset at the beginning of the period and the amount of discount amortized would be added to the carrying cost of the security to arrive at the new carrying cost. The amortized discount along with the interest receivable from the issuer would indicate the effective interest earned on the investment. The effective interest earned as a percentage on the carrying cost of the asset for each period would be a fixed percentage and in this case it is 5.314925 percent for six months or 10.62985 percent for every year. The effective interest percentage is in reality arrived at by the process of iteration in a way that the carrying cost at the time of maturity equals the notional face value of the security. The following table 4.3 gives the computation of amortization on yield-to-maturity and straight line basis.

Table 4.3 Amortization on yield-to-maturity and straight line basis

Date	Carrying Cost at Beginning	Effective Interest %	Effective Interest earned	Coupon Amount	Amortization Yield-to-maturity	Carrying Cost End	Amortization Straight Line method
6/15/X1	900,000.00	5.314925	47,834.33	40,000	7,834.33	907,834.33	10,000
12/15/X1	907,834.33	5.314925	48,250.71	40,000	8,250.71	916,085.04	10,000
6/15/X2	916,085.04	5.314925	48,689.23	40,000	8,689.23	924,774.27	10,000
12/15/X2	924,774.27	5.314925	49,151.06	40,000	9,151.06	933,925.33	10,000
6/15/X3	933,925.33	5.314925	49,637.43	40,000	9,637.43	943,562.76	10,000
12/15/X3	943,562.76	5.314925	50,149.65	40,000	10,149.65	953,712.41	10,000
6/15/X4	953,712.41	5.314925	50,689.10	40,000	10,689.10	964,401.51	10,000
12/15/X4	964,401.51	5.314925	51,257.22	40,000	11,257.22	975,658.73	10,000
6/15/X5	975,658.73	5.314925	51,855.53	40,000	11,855.53	987,514.26	10,000
12/15/X5	987,514.26	5.314925	52,485.64	40,000	12,485.64	999,999.90	10,000

No valuation at the end of reporting period

At the end of the valuation date the fair value of the bonds is not ascertained. In the case of held-to-maturity it is assumed that the bonds are/will be held until maturity and thus, mark-to-market is not done. The unrealized capital gains/loss is also thus not accounted for. The cost is only the amortized

Figure 4.1 Amortization chart based on the above numbers

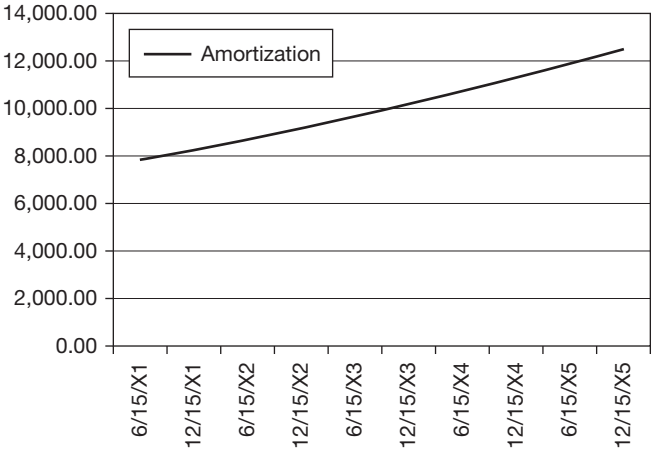
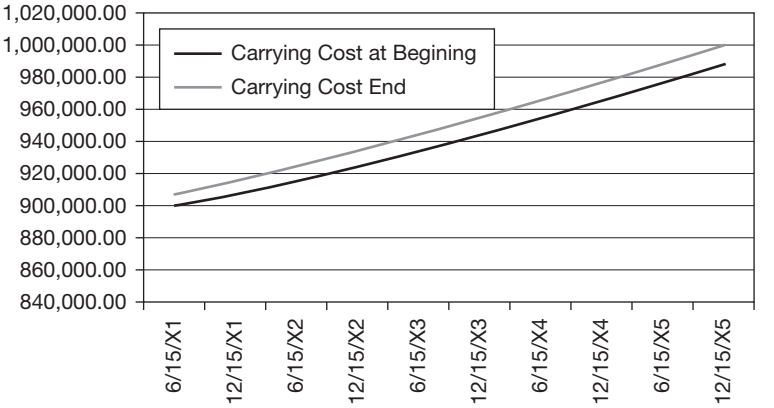


Figure 4.2 Carrying cost of the security



cost for the bonds. Figure 4.1 gives a graphic representation of amortization and figure 4.2 shows the carrying cost of the security at beginning as well as at end.

The exception to this general rule is when there is a permanent impairment to the value of the bonds held as available-for-sale. Such permanent impairment should be recognized in the income and as such should be part of the income statement. If the perceived permanent impairment later on recovers, such increase in the value of the investments need not be recorded in the books until the liquidation of such bonds.

No sale of the bond under held-to-maturity

In the case of held-to-maturity, the bonds are not sold unlike in the cases under trading or available-for-sale. Thus, we don't have an occasion to account for profit/loss.

Impairment of HTM fixed income securities

At the end of each reporting period an entity should assess whether there is any objective evidence that a financial asset or group of financial assets measured at amortized cost is impaired.

If any such evidence exists, the amount of any impairment loss should be first determined. (IAS 39 Para 58)

A financial asset or a group of financial assets is impaired and impairment losses are incurred if, and only if, there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset (a "loss event") and that loss event (or events) has an impact on the estimated future cash flows of the financial asset or group of financial assets that can be reliably estimated. Note that losses expected as a result of future events, no matter how likely, are not recognized.

Objective evidence that a financial asset or group of assets is impaired includes observable data that comes to the attention of the holder of the asset about the following loss events:

a) Significant financial difficulty of the issuer or obligor;
b) A breach of contract, such as a default or delinquency in interest or principal payments;
c) The lender, for economic or legal reasons relating to the borrower's financial difficulty, granting to the borrower a concession that the lender would not otherwise consider;
d) It becomes probable that the borrower will enter bankruptcy or other financial reorganization;
e) The disappearance of an active market for that financial asset because of financial difficulties; or
f) Observable data indicating that there is a measurable decrease in the estimated future cash flows from a group of financial assets since the initial recognition of those assets, although the decrease cannot yet be identified with the individual financial assets in the group, including:
    i) Adverse changes in the payment status of borrowers in the group (e.g., an increased number of delayed payments or an increased number of credit card borrowers who have reached their credit limit and are paying the minimum monthly amount); or
    ii) National or local economic conditions that correlate with defaults on the assets in the group (e.g., an increase in the unemployment rate in the geographical area of the borrowers, a decrease in property prices for mortgages in the relevant area, a decrease in oil prices for loan assets to oil producers, or adverse changes in industry conditions that affect the borrowers in the group). (IAS 39 Para 59)

If there is objective evidence that an impairment loss on financial assets measured at amortized cost has been incurred, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows (excluding future credit losses that have not been incurred) discounted at the financial asset's original effective interest rate (i.e., the effective interest rate computed at initial recognition). The carrying amount of the asset shall be reduced either directly or through use of an allowance account. The amount of the loss shall be recognized in profit or loss. (IAS 39 Para 63)

Recovery of impairment

If in a subsequent period the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized (such as an improvement in the debtor's credit rating), the previously recognized impairment loss shall be reversed either directly or by adjusting an allowance account. The reversal shall not result in a carrying amount of the financial asset that exceeds what the amortized cost would have been had the impairment not been recognized at the date the impairment is reversed. The amount of the reversal shall be recognized in profit or loss. (IAS 39 Para 65)

ILLUSTRATION OF BONDS HELD-TO-MATURITY—COMPLETE SOLUTION

The first step is to prepare the amortization schedule as shown in Table 4.3. The objective is to compute the effective interest rate and also the amortization factor for each period until the maturity of the bond. As mentioned earlier, the effective interest rate is computed based on an iterative process in such a way that the net present value is zero.

Table 4.4 Computation of amortization and carrying cost

	Face Value	100.00		
	Coupon rate	2.50	Discount/(–) Premium	19.00
	Effective rate	9.91122845		
	Purchase price	81.00		

Date	No. of days	Carrying Cost at Beginning	Effective Int %	Effective Interest	Coupon Amount	Amortization	Carrying Cost End
15-Jan-X7	5	81.00	0.135770253	0.1099739047	0.0342466	0.0757273	81.0757273
31-Mar-X7	75	81.08	2.036553791	1.6511507986	0.5136986	1.1374522	82.2131795
30-Jun-X7	91	82.21	2.4710186	2.0315029569	0.6232877	1.4082153	83.6213948
15-Jul-X7	15	83.62	0.407310758	0.3405989371	0.1027397	0.2378592	83.8592540
30-Sep-X7	77	83.86	2.090861892	1.7533811848	0.5273973	1.2259839	85.0852379
31-Dec-X7	92	85.09	2.49817265	2.1255761432	0.6301370	1.4954392	86.5806771
15-Jan-X8	15	86.58	0.407310758	0.3526524123	0.1027397	0.2499127	86.8305898
15-Jul-X8	182	86.83	4.9420372	4.2912000468	1.2465753	3.0446247	89.8752145
15-Jan-X9	184	89.88	4.996345301	4.4904760546	1.2602740	3.2302021	93.1054165
15-Jul-X9	181	93.11	4.914883149	4.5760224289	1.2397260	3.3362964	96.4417130
15-Jan-X10	184	96.44	4.996345301	4.8185609930	1.2602740	3.5582870	100.0000000
		100.00					

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Jan-X7	Bank account	2,000,000.00	
	To Share Capital account		2,000,000.00
	(Being the capital introduced)		

T-2 *On purchase of Bonds—HTM:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Jan-X7	Investments—Bonds—HTM account	1,012,500.00	
	To Payable to Julian account		1,012,500.00
	(Being the purchase of bonds held as held-to-maturity)		

T-3 *On accounting for premium/discount on purchase of Bonds—HTM:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Jan-X7	Discount on Bonds—HTM account	237,500.00	
	To Discount on Bonds (Contra)—HTM account		237,500.00
	(Being the discount on purchase of bonds held as held-to-maturity)		

T-4 *On recording accrued interest purchased on purchase of Bond:*

Calculation of accrued interest purchased	USD
a) Previous coupon date	15-Jul-X6
b) Settlement date of bonds purchased	10-JanX7
Number of days (Actual/365)	179
Face value of bonds on which interest is computed	1,250,000
Rate of interest p.a.(%)	2.50
Accrued interest purchased	**15,325.34**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Jan-X7	Accrued interest purchased account	15,325.34	
	To Payable to Julian account		15,325.34
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

T-5 *On payment of contracted sum:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jan-X7	Payable to Julian account	1,027,825.34	
	To Bank account		1,027,825.34
	(Being the payment made to the broker for purchased of bonds including accrued interest purchased)		

T-6 *On accounting for interest on coupon date:* (T-6 @ FX Rate: 1.000000)

Calculation of interest on coupon date	USD
a) Previous coupon date	15-Jul-X6
b) Settlement date of bonds purchased	15-JanX7
Number of days (Actual/365)	184
Face value of bonds on which interest is computed	1,250,000
Rate of interest p.a.(%)	2.50
Accrued interest purchased	**15,753.42**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Jan-X7	Interest Receivable account	15,753.42	
	To Interest Income—Bonds—HTM account		15,753.42
	(Being the interest accounted for on the coupon date)		

T-7 *On reversal of accrued interest purchased:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Jan-X7	Interest Income—Bonds—HTM account	15,325.34	
	To Accrued interest purchased account		15,325.34
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bonds)		

T-8 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Feb-X7	Bank account	15,753.42	
	To Interest Receivable account		15,753.42
	(Being the receipt of coupon interest in the bank)		

T-9 *On amortization of discount:*

Calculation of interest based on amortization until 31-Mar-X7 per bond			USD
Period ending	**Amount/bond**	**Qty**	**Value**
15-Feb-X7	0.07572733		
31-Mar-X7	1.13745217		
Total	**1.21317950**	**12,500**	**15,164.74**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Investments—Bonds—HTM account	15,164.74	
	To Discount on Bonds—HTM account		15,164.74
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

T-10 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Discount on Bonds (Contra)—HTM account	15,164.74	
	To Interest Income—Bonds—HTM account		15,164.74
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-11 *On accrual of interest on valuation date:*

Calculation of interest accrued on valuation date	USD
a) Previous coupon date	15-Jan-X7
b) Settlement date of bonds purchased	31-Mar-X7
Number of days (Actual/365)	75
Face value of bonds on which interest is computed	1,250,000
Rate of interest p.a.(%)	2.50
Accrued interest purchased	**6,421.23**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Interest accrued but not due account	6,421.23	
	To Interest Income—Bonds—HTM account		6,421.23
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-12 *On amortization of discount:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Investments—Bonds—HTM account	17,602.69	
	To Discount on Bonds—HTM account		17,602.69
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

T-13 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Discount on Bonds (Contra)—HTM account	17,602.69	
	To Interest Income—Bonds—HTM account		17,602.69
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-14 *On reversal of interest accrual on the next valuation date: (Reversal)*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest Income—Bonds—HTM account	6,421.23	
	To Interest accrued but not due account		6,421.23
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

T-15 *On accrual of interest on valuation date:*

Calculation of interest accrued on valuation date	USD
a) Previous coupon date	15-Jan-X7
b) Settlement date of bonds purchased	30-Jun-X7
Number of days (Actual/365)	166
Face value of bonds on which interest is computed	1,250,000
Rate of interest p.a.(%)	2.50
Interest accrued on valuation date	**14,212.33**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest accrued but not due account	14,212.33	
	To Interest Income—Bonds—HTM account		14,212.33
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-16 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Jul-X7	Interest Income—Bonds—HTM account	14,212.33	
	To Interest accrued but not due account		14,212.33
	(Being the reversal of accrual of interest on bonds on the next valuation date / coupon date)		

T-17 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	USD
a) Previous coupon date	15-Jan-X7
b) Settlement date of bonds purchased	15-Jul-X7
Number of days (Actual/365)	181
Face value of bonds on which interest is computed	1,250,000
Rate of interest p.a.(%)	2.50
Interest on coupon date	**15,496.58**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Jul-X7	Interest Receivable account	15,496.58	
	To Interest Income—Bonds—HTM account		15,496.58
	(Being the interest accounted for on the coupon date)		

T-18 *On receipt of coupon interest in the bank:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jul-X7	Bank account	15,496.58	
	To Interest Receivable account		15,496.58
	(Being the receipt of coupon interest in the bank)		

T-19 *On accrual of interest on valuation date:*

Calculation of interest accrued on valuation date	USD
a) Previous coupon date	15-Jan-X7
b) Settlement date of bonds purchased	30-Sep-X7
Number of days (Actual/365)	77
Face value of bonds on which interest is computed	1,250,000
Rate of interest p.a.(%)	2.50
Interest accrued on valuation date	**6,592.47**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Interest accrued but not due account	6,592.47	
	To Interest Income—Bonds—HTM account		6,592.47
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-20 *On amortization of discount:*

Calculation of interest based on amortization until 30-Sep-X7 per bond			USD
Period ending	**Amount/bond**	**Qty**	**Value**
15-Jul-X7	0.23785921		
30-Sep-X7	1.22598392		
Total	**1.46384314**	**12,500**	**18,298.04**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Investments—Bonds—HTM account	18,298.04	
	To Discount on Bonds—HTM account		18,298.04
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

T-21 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Discount on Bonds (Contra)—HTM account	18,298.04	
	To Interest Income—Bonds—HTM account		18,298.04
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-22 *On reversal of interest accrual on the next day:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Interest Income—Bonds—HTM account	6,592.47	
	To Interest accrued but not due account		6,592.47
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next day)		

T-23 *On amortization of discount:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Investments—Bonds—HTM account	18,692.99	
	To Discount on Bonds—HTM account		18,692.99
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

T-24 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Discount on Bonds (Contra)—HTM account	18,692.99	
	To Interest Income—Bonds—HTM account		18,692.99
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-25 *On accrual of interest on valuation date:*

Calculation of accrued interest on valuation date	**USD**
a) Previous coupon date	15-Jul-X7
b) Settlement date of bonds purchased	31-Dec-X7
Number of days (Actual/365)	169
Face value of bonds on which interest is computed	1,250,000
Rate of interest p.a.(%)	2.50
Accrued interest on valuation date	**14,469.18**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Dec-X7	Interest accrued but not due account	14,469.18	
	To Interest Income—Bonds—HTM account		14,469.18
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

General Ledger

Investments—Bonds—HTM account

Date	**Particulars**	**Debit**	**Date**	**Particulars**	**Credit**
7-Jan-X7	To Payable to Julian account	1,012,500.00			
31-Mar-X7	To Discount on Bonds—HTM account	15,164.74			
30-Jun-X7	To Discount on Bonds—HTM account	17,602.69			
30-Sep-X7	To Discount on Bonds—HTM account	18,298.04			
31-Dec-X7	To Discount on Bonds—HTM account	18,692.99			
			31-Dec-X7	By Balance	1,082,258.46
31-Dec-X7	Total	**1,082,258.46**	31-Dec-X7	Total	**1,082,258.46**
31-Dec-X7	To Balance	1,082,258.46			

Payable to Julian account

Date	**Particulars**	**Debit**	**Date**	**Particulars**	**Credit**
			7-Jan-X7	By Investments—Bonds—HTM account	1,012,500.00
			7-Jan-X7	By Accrued interest purchased account	15,325.34
10-Jan-X7	To Bank account	1,027,825.34			
31-Dec-X7	Total	1,027,825.34	31-Dec-X7	Total	1,027,825.34

Discount on Bonds—HTM account

Date	Particulars	Debit	Date	Particulars	Credit
7-Jan-X7	To Discount on Bonds (Contra)—HTM account	237,500.00			
			31-Mar-X7	By Investments—Bonds—HTM account	15,164.74
			30-Jun-X7	By Investments—Bonds—HTM account	17,602.69
			30-Sep-X7	By Investments—Bonds—HTM account	18,298.04
			31-Dec-X7	By Investments—Bonds—HTM account	18,692.99
			31-Dec-X7	By Balance	167,741.54
31-Dec-X7	Total	**237,500.00**	31-Dec-X7	Total	**237,500.00**
31-Dec-X7	To Balance	167,741.54			

Discount on Bonds(contra)—HTM account

Date	Particulars	Debit	Date	Particulars	Credit
			7-Jan-X7	By Discount on Bonds—HTM account	237,500.00
31-Mar-X7	To Interest Income—Bonds—HTM account	15,164.74			
30-Jun-X7	To Interest Income—Bonds—HTM account	17,602.69			
30-Sep-X7	To Interest Income—Bonds—HTM account	18,298.04			
31-Dec-X7	To Interest Income—Bonds—HTM account	18,692.99			
31-Dec-X7	To Balance	167,741.54			
31-Dec-X7	Total	**237,500.00**	31-Dec-X7	Total	**237,500.00**
			31-Dec-X7	By Balance	167,741.54

Accrued interest purchased account

Date	Particulars	Debit	Date	Particulars	Credit
7-Jan-X7	To Payable to Julian account	15,325.34			
			15-Jan-X7	By Interest Income—Bonds—HTM account	15,325.34
31-Dec-X7	Total	15,325.34	31-Dec-X7	Total	15,325.34

Interest Receivable account

Date	Particulars	Debit	Date	Particulars	Credit
15-Jan-X7	To Interest Income—Bonds—HTM account	15,753.42			
			18-Feb-X7	By Bank account	15,753.42

Date	Particulars	Debit	Date	Particulars	Credit
15-Jul-X7	To Interest Income—Bonds—HTM account	15,496.58			
			18-Jul-X7	By Bank account	15,496.58
31-Dec-X7	Total	31,250.00	31-Dec-X7	Total	31,250.00

Interest accrued but not due account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To Interest Income—Bonds—HTM account	6,421.23			
			30-Jun-X7	By Interest Income—Bonds—HTM account	6,421.23
30-Jun-X7	To Interest Income—Bonds—HTM account	14,212.33			
			15-Jul-X7	By Interest Income—Bonds—HTM account	14,212.33
30-Sep-X7	To Interest Income—Bonds—HTM account	6,592.47			
			31-Dec-X7	By Interest Income—Bonds—HTM account	6,592.47
31-Dec-X7	To Interest Income—Bonds—HTM account	14,469.18			
			31-Dec-X7	By Balance	14,469.18
31-Dec-X7	Total	**41,695.21**	31-Dec-X7	Total	**41,695.21**
31-Dec-X7	To Balance	14,469.18			

Interest Income—Bonds—HTM account

Date	Particulars	Debit	Date	Particulars	Credit
			15-Jan-X7	By Interest Receivable account	15,753.42
15-Jan-X7	To Accrued interest purchased account	15,325.34			
			31-Mar-X7	By Discount on Bonds (Contra)—HTM account	15,164.74
			31-Mar-X7	By Interest accrued but not due account	6,421.23
			30-Jun-X7	By Discount on Bonds (Contra)—HTM account	17,602.69
30-Jun-X7	To Interest accrued but not due account	6,421.23			
			30-Jun-X7	By Interest accrued but not due account	14,212.33
15-Jul-X7	To Interest accrued but not due account	14,212.33			
			15-Jul-X7	By Interest Receivable account	15,496.58
			30-Sep-X7	By Discount on Bonds (Contra)—HTM account	18,298.04
			30-Sep-X7	By Interest accrued but not due account	6,592.47

Investments—Bonds—HTM account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
31-Dec-X7	To Interest Accrued but not Due Account	6,592.47			
			31-Dec-X7	By Discount on Bonds (Contra)—HTM account	18,692.99
			31-Dec-X7	By Interest accrued but not due account	14,469.18
31-Dec-X7	To Balance	100,152.30			
31-Dec-X7	Total	**142,703.67**	31-Dec-X7	Total	**142,703.67**
			31-Dec-X7	By Balance	100,152.30

Share Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X7	By Bank account	2,000,000.00
31-Dec-X7	To Balance	2,000,000.00			
31-Dec-X7	Total	**2,000,000.00**	31-Dec-X7	Total	**2,000,000.00**
			31-Dec-X7	By Balance	2,000,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X7	To Share Capital account	2,000,000.00			
			10-Jan-X7	By Payable to Julian account	1,027,825.34
18-Feb-X7	To Interest Receivable account	15,753.42			
18-Jul-X7	To Interest Receivable account	15,496.58			
			31-Dec-X7	By Balance	1,003,424.66
31-Dec-X7	Total	**2,031,250.00**	31-Dec-X7	Total	**2,031,250.00**
31-Dec-X7	To Balance	1,003,424.66			

Trial Balance

As on 31-Dec-X7 (USD)

Particulars	Debit	Credit
Capital account		
Share Capital		2,000,000.00
Investments		
Investments—Bonds—HTM account	1,082,258.46	
Current Assets		
Interest accrued but not due account	14,469.18	
Bank account	1,003,424.66	
Income		
Interest Income—Bonds—HTM account		100,152.30
Totals	**2,100,152.30**	**2,100,152.30**

Income Statement

For the period ending 31-Dec-X7

Expenses	USD	Income	USD
		Direct Income	
		Interest Income—Bonds—HTM account	100,152.30
Net Profit C/o	100,152.30		
Total	**100,152.30**	Total	**100,152.30**

Balance Sheet

As at 31-Dec-X7

Liabilities	USD	Assets	USD
Capital account		**Investments**	
Share Capital	2,000,000.00	Investments—Bonds—HTM account	1,082,258.46
Current Liabilities		**Current Assets**	
Profit & Loss account		Interest accrued but not due account	14,469.18
Opening Balance	Nil	Bank account	1,003,424.66
Current Period	100,152.30		
Total	**2,100,152.30**	Total	**2,100,152.30**

PROBLEM—2: BONDS HELD AS HELD-TO-MATURITY IN BRL (FOREIGN CURRENCY)

Bond details:	Face value	Issue price	Maturity	Rate of interest	Currency	**Day count**
	100.00	100.00	15-Feb-X10	4.00	**BRL**	Actual/365
Coupon dates	15-Aug & 15-Feb					

Coupon dates (until maturity)	**Coupon date**	**FX rate**	**Settle date**	**FX rate**
Previous coupon	15-Aug-X6		18-Aug-X6	
Coupon date-1	15-Feb-X7	2.106640	18-Feb-X7	2.094900
Coupon date-2	15-Aug-X7	1.958330	18-Aug-X7	2.061910

Transaction details

Particulars	**Trade date**	**FX rate**	**Settle date**	**FX rate**	**Quantity**	**Clean price**
Bought	22-Jan-X7	2.132000	25-Jan-X7	2.133020	15,000	76.00

Valuation dates and market value	**Date**	**Market rate**	**FX rate**
Valuation date 1	31-Mar-X7	82.00	2.063000
Valuation date 2	30-Jun-X7	85.00	1.928840

Valuation dates and market value	Date	Market rate	FX rate
Valuation date 3	30-Sep-X7	84.00	1.840700
Valuation date 4	31-Dec-X7	87.00	1.774100
Functional currency	**USD**		

Other details	Date	BRL	FX rate
Capital introduced	01-Jan-X7	1,500,000	2.138500

SOLUTION TO PROBLEM—2: BONDS HELD AS HELD-TO-MATURITY IN BRL (FOREIGN CURRENCY)

Face value	100.00		
Coupon rate	4.00	Discount/(–) Premium	24.00
Effective rate	13.8229999		
Purchase price	76.00		

Date	No. of days	Carrying Cost at Beginning	Effective Int %	Effective Interest	Coupon Amount	Amortization	Carrying Cost End
15-Feb-X7	21	76.00	0.795295885	0.6044248723	0.2301370	0.3742879	76.3742879
31-Mar-X7	44	76.37	1.666334235	1.2726509054	0.4821918	0.7904591	77.1647470
30-Jun-X7	91	77.16	3.446282167	2.6593149153	0.9972603	1.6620546	78.8268017
15-Aug-X7	46	78.83	1.742076700	1.3732233447	0.5041096	0.8691138	79.6959154
30-Sep-X7	46	79.70	1.742076700	1.3883639730	0.5041096	0.8842544	80.5801698
31-Dec-X7	92	80.58	3.484153399	2.8075367251	1.0082192	1.7993175	82.3794873
15-Feb-X8	46	82.38	1.742076700	1.4351138543	0.5041096	0.9310043	83.3104916
15-Aug-X8	182	83.31	6.892564334	5.7422292305	1.9945205	3.7477087	87.0582003
15-Feb-X9	184	87.06	6.968306799	6.0664824896	2.0164384	4.0500441	91.1082444
15-Aug-X9	181	91.11	6.854693101	6.2451905448	1.9835616	4.2616289	95.3698733
15-Feb-X10	184	95.37	6.968306799	6.6456653667	2.0164384	4.6292270	99.9991003
		100.00					

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
1-Jan-X7	Bank account	1,500,000.00	
	To Share Capital account		1,500,000.00
	(Being the capital introduced)		

T-2 *On purchase of Bonds—HTM:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
22-Jan-X7	Investments—Bonds—HTM account	1,140,000.00	
	To Payable to Davis Account		1,140,000.00
	(Being the purchase of bonds held as held-to-maturity)		

T-3 *On Accounting for premium/discount on purchase of bonds—HTM:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
22-Jan-X7	Discount on bonds—HTM Account	360,000.00	
	To Discount on Bonds(contra)—HTM account		360,000.00
	(Being the discount on purchase of bonds held as held-to-maturity)		

T-4 *On recording accrued interest purchased on purchase of Bond:*

Calculation of accrued interest purchased	**BRL**
a) Previous coupon date	15-Aug-X6
b) Settlement date of bonds purchased	25-Jan-X7
Number of days (Actual/365)	163
Face value of bonds on which interest is computed	1,500,000
Rate of interest p.a.(%)	4.00
Accrued interest purchased	**26,794.52**

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
22-Jan-X7	Accrued interest purchased account	26,794.52	
	To Payable to Davis Account		26,794.52
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

T-5 *On payment of contracted sum:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
25-Jan-X7	Payable to Davis Account	1,166,794.52	
	To Bank account		1,166,794.52
	(Being the payment made to the broker for purchase of bonds along with the payment for accrued interest purchased)		

T-6 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	**BRL**
a) Previous coupon date	15-Aug-X6
b) Current coupon date	15-Feb-X7
Number of days (Actual/365)	184
Face value of bonds on which interest is computed	1,500,000
Rate of interest p.a.(%)	4.00
Interest accounted for on coupon date	**30,246.58**

Journal Entry

Date	**Particulars**	**Debit (BRL)**	**Credit (BRL)**
15-Feb-X7	Interest Receivable account	30,246.58	
	To Interest Income—Bonds—HTM Account		30,246.58
	(Being the interest accounted for on the coupon date)		

T-7 *On reversal of accrued interest purchased:*

Journal Entry

Date	**Particulars**	**Debit (BRL)**	**Credit (BRL)**
20-Mar-X7	Interest Income—Bonds—HTM Account	26,794.52	
	To Accrued interest purchased account		26,794.52
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bond)s		

T-8 *On receipt of coupon interest in the bank:*

Journal Entry

Date	**Particulars**	**Debit (BRL)**	**Credit (BRL)**
23-Mar-X7	Bank Account	30,246.58	
	To Interest Receivable Account		30,246.58
	(Being the receipt of coupon interest in the bank)		

T-9 *On amortization of discount:*

Calculation of interest based on amortization until 31-Mar-X7 per bond			**BRL**
Period ending	**Amount/bond**	**Qty**	**Value**
15-Feb-X7	0.37428789		
31-Mar-X7	0.79045912		
Total	**1.16474701**	**15,000**	**17,471.21**

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
31-Mar-X7	Investments—Bonds—HTM Account	17,471.21	
	To Discount on Bonds—HTM Account		17,471.21
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

T-10 *On accounting for interest based on amortization*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
31-Mar-X7	Discount on Bonds (Contra)—account	17,471.21	
	To Interest Income—Bonds—HTM Account		17,471.21
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-11 *On accrual of interest on valuation date:*

Calculation of interest accrued on valuation date	BRL
a) Previous coupon date	15-Feb-X7
b) Current coupon date	31-Mar-X7
Number of days (Actual/365)	44
Face value of bonds on which interest is computed	1,500,000
Rate of interest p.a.(%)	4.00
Accrued interest on valuation date	**7,232.88**

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
31-Mar-X7	Interest accrued but not due account	7,232.88	
	To Interest Income—Bonds—HTM Account		7,232.88
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-12 *On amortization of discount:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
30-Jun-X7	Investments—Bonds—HTM Account	24,930.82	
	To Discount On Bonds—HTM Account		24,930.82
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

T-13 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
30-Jun-X7	Discount on Bonds (Contra)—HTM account	24,930.82	
	To Interest Income—Bonds—HTM account		24,930.82
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-14 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
30-Jun-X7	Interest Income—Bonds—HTM Account	7,232.88	
	To Interest accrued but not due account		7,232.88
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

T-15 *On accrual of interest on valuation date:*

Calculation of interest accrued on valuation date	BRL
a) Previous coupon date	15-Feb-X7
b) Current coupon date	30-Jun-X7
Number of days (Actual/365)	135
Face value of bonds on which interest is computed	1,500,000
Rate of interest p.a.(%)	4.00
Accrued interest on valuation date	**22,191.78**

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
30-Jun-X7	Interest accrued but not due account	22,191.78	
	To Interest Income—Bonds—HTM Account		22,191.78
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-16 *On reversal of interest accrual on the next valuation date:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
15-Aug-X7	Interest Income—Bonds—HTM Account	22,191.78	
	To Interest accrued but not due account		22,191.78
	(Being the reversal of accrual of interest on bonds on the next valuation date/coupon date)		

T-17 *On accounting for interest on coupon date:*

Calculation of interest on coupon date	**BRL**
a) Previous coupon date	15-Feb-X7
b) Current coupon date	15-Aug-X7
Number of days (Actual/365)	181
Face value of bonds on which interest is computed	1,500,000
Rate of interest p.a.(%)	4.00
Interest accounted for on coupon date	**29,753.42**

Journal Entry

Date	**Particulars**	**Debit (BRL)**	**Credit (BRL)**
15-Aug-X7	Interest Receivable account	29,753.42	
	To Interest Income—Bonds—HTM Account		29,753.42
	(Being the interest accounted for on the coupon date)		

T-18 *On receipt of coupon interest in the bank:*

Journal Entry

Date	**Particulars**	**Debit (BRL)**	**Credit (BRL)**
18-Aug-X7	Bank account	29,753.42	
	To Interest Receivable account		29,753.42
	(Being the receipt of coupon interest in the bank)		

T-19 *On accrual of interest on valuation date:*

Calculation of interest accrued on valuation date	**BRL**
a) Previous coupon date	15-Aug-X7
b) Current coupon date	30-Sep-X7
Number of days (Actual/365)	46
Face value of bonds on which interest is computed	1,500,000
Rate of interest p.a.(%)	4.00
Accrued interest on valuation date	**7,561.64**

Journal Entry

Date	**Particulars**	**Debit (BRL)**	**Credit (BRL)**
30-Sep-X7	Interest accrued but not due account	7,561.64	
	To Interest Income—Bonds—HTM Account		7,561.64
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

T-20 *On amortization of discount:*

Calculation of interest based on amortization until 30-Sep-X7 per bond			BRL
Period ending	**Amount/bond**	**Qty**	**Value**
15-Aug-X7	0.86911376		
30-Sep-X7	0.88425438		
Total	**1.75336814**	**15,000**	**26,300.52**

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
30-Sep-X7	Investments—Bonds—HTM Account	26,300.52	
	To Discount on Bonds—HTM account		26,300.52
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

T-21 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
30-Sep-X7	Discount on Bonds (Contra)—HTM Account	26,300.52	
	To Interest Income—Bonds—HTM Account		26,300.52
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-22 *On reversal of interest accrual on the next day:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
31-Dec-X7	Interest Income—Bonds—HTM Account	7,561.64	
	To Interest Accrued but not Due Account		7,561.64
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next day)		

T-23 *On amortization of discount:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
31-Dec-X7	Investments—Bonds—HTM Account	26,989.76	
	To Discount on Bonds—HTM Account		26,989.76
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

T-24 *On accounting for interest based on amortization:*

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
31-Dec-X7	Discount on Bonds (Contra)—HTM Account	26,989.76	
	To Interest Income—Bonds—HTM Account		26,989.76
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

T-25 *On accrual of interest on valuation date:*

Calculation of interest accrued on valuation date	**BRL**
a) Previous coupon date	15-Aug-X7
b) Current coupon date	31-Dec-X7
Number of days (Actual/365)	138
Face value of bonds on which interest is computed	1,500,000
Rate of interest p.a.(%)	4.00
Accrued interest on valuation date	**22,684.93**

Journal Entry

Date	Particulars	Debit (BRL)	Credit (BRL)
31-Dec-X7	Interest accrued but not due account	22,684.93	
	To Interest Income—Bonds—HTM Account		22,684.93
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

General Ledger accounts

Investments—Bonds—HTM Account

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
22-Jan-X7	To Payable to Davis Account	1,140,000.00			
31-Mar-X7	To Discount on Bonds—HTM Account	17,471.21			
30-Jun-X7	To Discount on Bonds—HTM Account	24,930.82			
30-Sep-X7	To Discount on Bonds—HTM Account	26,300.52			
31-Dec-X7	To Discount on Bonds—HTM Account	26,989.76			
			31-Dec-X7	By Balance	1,235,692.31
31-Dec-X7	Total	**1,235,692.31**	31-Dec-X7	Total	**1,235,692.31**
31-Dec-X7	To Balance	1,235,692.31			

Payable to Davis account

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
			22-Jan-X7	By Investments—Bonds—HTM Account	1,140,000.00
			22-Jan-X7	By Accrued interest purchased account	26,794.52
25-Jan-X7	To Bank account	1,166,794.52			
31-Dec-X7	Total	**1,166,794.52**	31-Dec-X7	Total	**1,166,794.52**

Discount on Bonds—HTM Account

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
22-Jan-X7	To Discount on Bonds (Contra)—HTM—account	360,000.00			
			31-Mar-X7	By Investments—Bonds—HTM Account	17,471.21
			30-Jun-X7	By Investments—Bonds—HTM Account	24,930.82
			30-Sep-X7	By Investments—Bonds—HTM Account	26,300.52
			31-Dec-X7	By Investments—Bond—HTM Account	26,989.76
			31-Dec-X7	By Balance	264,307.69
31-Dec-X7	Total	**360,000.00**	31-Dec-X7	Total	**360,000.00**
31-Dec-X7	To balance	264,307.69			

Discount on Bonds(Contra)—HTM Account

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
			22-Jan-X7	By Discount on Bonds—HTM Account	360,000.00
31-Mar-X7	To Interest Income—Bonds—HTM Account	17,471.21			
30-Jun-X7	To Interest Income—Bonds—HTM Account	24,930.82			
30-Sep-X7	To Interest Income—Bonds—HTM Account	26,300.52			
31-Dec-X7	To Interest Income—Bonds—HTM Account	26,989.76			
31-Dec-X7	To balance	264,307.69			
31-Dec-X7	Total	**360,000.00**	31-Dec-X7	Total	**360,000.00**
			31-Dec-X7	By balance	264,307.69

Accrued interest purchased account

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
22-Jan-X7	To Payable to Davis Account	26,794.52			
			20-Mar-X7	By Interest Income—Bonds—HTM Account	26,794.52
31-Dec-X7	Total	26,794.52	31-Dec-X7	Total	26,794.52

Interest Receivable account

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
15-Feb-X7	To Interest Income—Bonds—HTM Account	30,246.58			
			23-Mar-X7	By Bank account	30,246.58
15-Aug-X7	To Interest Income—Bonds—HTM Account	29,753.42			
			18-Aug-X7	By Bank account	29,753.42
31-Dec-X7	Total	60,000.00	31-Dec-X7	Total	60,000.00

Interest accrued but not due account

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
31-Mar-X7	To Interest Income—Bonds—HTM Account	7,232.88			
			30-Jun-X7	By Interest Income—Bonds—HTM Account	7,232.88
30-Jun-X7	To Interest Income—Bonds—HTM Account	22,191.78			
			15-Aug-X7	By Interest Income—Bonds—HTM Account	22,191.78
30-Sep-X7	To Interest Income—Bonds—HTM Account	7,561.64			
			31-Dec-X7	By Interest Income—Bonds—HTM Account	7,561.64
31-Dec-X7	To Interest Income—Bonds—HTM Account	22,684.93			
			31-Dec-X7	By Balance	22,684.93
31-Dec-X7	Total	**59,671.23**	31-Dec-X7	Total	**59,671.23**
31-Dec-X7	To Balance	22,684.93			

Interest Income—Bonds—HTM Account

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
			15-Feb-X7	By Interest Receivable account	30,246.58
15-Feb-X7	To Accrued interest purchased account	26,794.52			
			31-Mar-X7	By Discount on Bonds (Contra)—account	17,471.21

Interest Income—Bonds—HTM Account (*Cont'd*)

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
			31-Mar-X7	By Interest accrued but not due account	7,232.88
			30-Jun-X7	By Discount on Bonds (Contra)—HTM account	24,930.82
30-Jun-X7	To Interest accrued but not due account	7,232.88			
			30-Jun-X7	By Interest accrued but not due account	22,191.78
15-Aug-X7	To Interest accrued but not due account	22,191.78			
			15-Aug-X7	By Interest Receivable account	29,753.42
			30-Sep-X7	By Interest accrued but not due account	7,561.64
			30-Sep-X7	By Discount on Bonds (Contra)—HTM account	26,300.52
			31-Dec-X7	By Discount on Bonds (Contra) HTM account	26,989.76
			31-Dec-X7	By Interest accrued but not due account	22,684.93
31-Dec-X7	To Interest accrued but not due account	7,561.64			
31-Dec-X7	To Balance	151,582.72			
31-Dec-X7	Total	**215,363.54**	31-Dec-X7	Total	**215,363.54**
			31-Dec-X7	By Balance	151,582.72

Share Capital Account

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
			1-Jan-X7	By Bank account	1,500,000.00
31-Dec-X7	**To Balance**	1,500,000.00			
31-Dec-X7	**Total**	**1,500,000.00**	31-Dec-X7	Total	**1,500,000.00**
			31-Dec-X7	By Balance	1,500,000.00

Bank account

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
1-Jan-X7	To share Capital account	1,500,000.00			
			25-Jan-X7	By Payable to Davis Account	1,166,794.52
23-Mar-X7	To Interest Receivable account	30,246.58			

Date	Particulars	Debit (BRL)	Date	Particulars	Credit (BRL)
18-Aug-X7	To Interest Receivable account	29,753.42			
			31-Dec-X7	By Balance	393,205.48
31-Dec-X7	Total	**1,560,000.00**	31-Dec-X7	Total	**1,560,000.00**
31-Dec-X7	To Balance	393,205.48			

Trial Balance

As on 31-Dec-X7 (BRL)

Particulars	Debit	Credit
Capital account		
Share Capital		1,500,000.00
Current Liabilities		
Investments		
Investments—Bonds—HTM Account	1,235,692.31	
Current Asset		
Bank account	393,205.48	
Interest accrued but not due account	22,684.93	
Income		
Interest Income—Bonds—HTM account		151,582.72
Total	**1,651,582.72**	**1,651,582.72**

Income Statement

For the period ending 31-Dec-X7

Expenses	BRL	Income	BRL
		Direct Income	
		Interest Income—Bonds—HTM account	151,582.72
Net Profit C/o	151,582.72		
Total	**151,582.72**	Total	**151,582.72**

Balance Sheet

As at 31-Dec-X7

Liabilities	BRL	Assets	BRL
Capital account		**Investments**	
Share Capital	1,500,000.00	Investments—Bonds—HTM account	1,235,692.31
Current Liabilities			
		Current Assets	
Profit & Loss account		Bank account	393,205.48
Opening Balance	Nil	Interest accrued but not due account	22,684.93
Current Period	151,582.72		
Total	**1,651,582.72**	Total	**1,651,582.72**

ACCOUNTING ENTRIES IN FUNCTIONAL CURRENCY—PROBLEM 2—USD

F-1 *On introducing cash into the fund:* (T-1 @ FX Rate: 2-138500)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Jan-X7	Bank account	701,426.23	
	To Share Capital account		701,426.23
	(Being the capital introduced)		

F-2 *On purchase of Bonds—HTM:* (T-2 @ FX Rate: 2.132000)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Jan-X7	Investments—Bonds—HTM Account	534,709.19	
	To Payable to Davis account		534,709.19
	(Being the purchase of bonds held as held-to-maturity)		

F-3 *On accounting for premium/discount on purchase of Bonds—HTM:* (T-3 @ FX Rate: 2.132000)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Jan-X7	Discount on Bonds—HTM account	168,855.53	
	To Discount on Bonds (Contra)—HTM account		168,855.53
	(Being the discount on purchase of bonds held as held-to-maturity)		

F-4 *On recording accrued interest purchased on purchase of Bond:* (T-4 @ FX Rate: 2.132000)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Jan-X7	Accrued interest purchased account	12,567.79	
	To Payable to Davis account		12,567.79
	(Being the accrued interest purchased representing the interest from the last coupon date until the settlement date of the bond purchase)		

F-5 *On payment of contracted sum:* (T-5 @ FX Rate: 2.133020)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Jan-X7	Payable to Davis account	547,015.27	
	To Bank account		547,015.27
	(Being the payment made to the broker for purchased of bonds including accrued interest purchased)		

F-6 *FX Translation on payment to broker:*

Currency gain/loss on settlement date	**BRL**	**USD**
a) Purchase price including accrued interest purchased (2.132000)	1,166,794.52	547,276.98
b) Settlement amount in functional currency		547,015.27
c) Realized Currency Gain on settlement = (a) − (b)		**261.71**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
25-Jan-X7	Payable to Davis account	261.71	
	To Realized Currency gain/loss (P&L) account		261.71
	(Being the Realized Currency gain/loss on settlement to the broker)		

F-7 *On accounting for interest on coupon date:* (T-6 @ FX Rate: 2.106640)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
15-Feb-X7	Interest Receivable account	14,357.74	
	To Interest Income—Bonds—HTM account		14,357.74
	(Being the interest accounted for on the coupon date)		

F-8 *On reversal of accrued interest purchased:* (T-7 @ FX Rate: 2.106640)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
15-Feb-X7	Interest Income—Bonds—HTM account	12,719.08	
	To Accrued interest purchased account		12,719.08
	(Being reversal of accrued interest purchased on the date on which the first coupon is accounted for after purchasing the bonds)		

F-9 *FX Translation on Accrued interest purchased:*

Currency gain/loss on settlement date	**BRL**	**USD**
a) Accrued interest purchased (2.132000)	26,794.52	12,567.79
b) Settlement amount in functional currency		12,719.08
c) Realized Currency Gain on settlement = (a) − (b)		**151.29**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
15-Feb-X7	Accrued interest purchased account	151.29	
	To Realized Currency gain/loss (P&L) account		151.29
	(Being the Realized Currency gain/loss on accrued interest purchased account)		

F-10 *On receipt of coupon interest in the bank:* (T-8 @ FX Rate: 2.094900)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Feb-X7	Bank Account	14,438.20	
	To Interest Receivable Account		14,438.20
	(Being the receipt of coupon interest in the bank)		

F-11 *FX Translation on interest receipts:*

Currency gain/loss on settlement date	BRL	USD
a) Interest Receivable (2.106640)	30,246.58	14,357.74
b) Actual interest received in functional currency		14,438.20
c) Realized Currency Gain on settlement = (a) − (b)		**80.46**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Feb-X7	Interest Receivable Account	80.46	
	To Realized Currency gain/loss (P&L) account		80.46
	(Being the Realized Currency gain/loss on receipt of interest amount)		

F-12 *On amortization of discount:* (T-9 @ FX Rate: 2.063000)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Investments—Bonds—HTM Account	8,468.84	
	To Discount on Bonds—HTM Account		8,468.84
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

F-13 *On accounting for interest based on amortization:* (T-10 @ FX Rate: 2.063000)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Discount on Bonds (Contra)—HTM Account	8,468.84	
	To Interest Income—Bonds—HTM Account		8,468.84
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

F-14 *On accrual of interest on valuation date:* (T-11 @ FX Rate: 2.063000)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Interest accrued but not due account	3,506.00	
	To Interest Income—Bonds—HTM Account		3,506.00
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-15 *FX Translation on Investments—Bonds—HTM account:*

Currency gain/loss on Amortized Cost	BRL	USD
a) Market value of investments (2.06300)	1,275,000.00	661,019.06
b) Cost of acquisition (2.132000)	1,140,000.00	534,709.19
c) Interest amortized—31-Mar-X7 (2.063000)	17,471.21	8,468.84
d) Total (a-b-c) (BRL column) (2.063000)	72,528.79	35,156.95
e) Amortized Cost (USD column)		53,041.07
f) Currency gain = (d) − (e)		**17,884.12**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Investments—Bonds—HTM Account	17,884.12	
	To Unrealized Currency gain/loss on Bonds—HTM (P&L) account		17,884.12
	(Being the unrealized Currency gain/loss on Investments—Bonds HTM account)		

F-16 *FX Translation on Bank account:*

Particulars	Date	BRL	USD
Opening balance (2.138500)	1-Jan-X7	1,500,000.00	701,426.23
Transfer out (2.133020)	25-Jan-X7	(1,166,794.52)	(547,015.27)
Transfer in (2.094900)	18-Feb-X7	30,246.58	14,438.20
Net balance		363,452.06	168,849.16
Net balance at current FX rate(2.063000)	31-Mar-X7	363,452.06	176,176.47
FX translation on Bank account			**7,327.31**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Bank account	7,327.31	
	To Unrealized Currency gain/loss (P&L) account		7,327.31
	(Being the unrealized Currency gain/loss on Bank account)		

F-17 *On amortization of discount:* (T-12 @ FX Rate: 1.928840)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Investments—Bonds—HTM account	12,925.29	
	To Discount on Bonds—HTM account		12,925.29
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

F-18 *On accounting for interest based on amortization:* (T-13 @ FX Rate: 1.928840)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Discount on Bonds (Contra)—HTM account	12,925.29	
	To Interest Income—Bonds—HTM account T		12,925.29
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

F-19 *On reversal of interest accrual on the next valuation date:* (Reversal)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest Income—Bonds—HTM account	3,506.00	
	To Interest accrued but not due account		3,506.00
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next valuation date)		

F-20 *On accrual of interest on valuation date:* (T-15 @ FX Rate: 1.928840)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest accrued but not due account	11,505.25	
	To Interest Income—Bonds—HTM account		11,505.25
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-21 *FX Translation on Investments—Bonds—HTM account:*

Currency gain/loss on Amortized Cost	BRL	USD
a) Market value of investments (1.928840)	1,275,000.00	661,019.06
b) Cost of acquisition (2.132000)	1,140,000.00	534,709.19
c) Interest amortized—31-Mar-X7 (12.063000)	17,471.21	8,468.84
d) Interest amortized 31st Mar 2007 (1.928840)	24,930.82	12,925.29
e) Total (a-b-c-d)	92,597.97	48,007.08

Currency gain/loss on Amortized Cost	**BRL**	**USD**
f) Amortized cost (Trade currency) (1.928840)		104,915.74
g) Currency gain = (e) − (f)		56,908.66
Less: Currency gains booked until 31-Mar- X1		17,884.12
Net unrealized Currency gains		**39,024.54**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Jun-X7	Investments—Bonds—HTM Account	39,024.54	
	To Unrealized Currency gain/loss on Bonds—HTM (P&L) account		39,024.54
	(Being the unrealized Currency gain/loss on Investments—Bonds HTM account)		

F-22 *FX Translation on Bank account:*

Particulars	**Date**	**BRL**	**USD**
Opening Balance (12.063000)	31-Mar-X7	363,452.06	176,176.47
Net Balance at current FX rate (1.928840)	30-Jun-X7	363,452.06	188,430.38
FX translation on Bank account—Gains			**12,253.91**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Jun-X7	Bank account	12,253.91	
	To Unrealized Currency gain/loss (P&L) account		12,253.91
	(Being the unrealized Currency gain/loss on Bank account)		

F-23 *On reversal of interest accrual on the next valuation date:* (Reversal)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
15-Aug-X7	Interest Income—Bonds—HTM account	11,505.25	
	To Interest accrued but not due account		11,505.25
	(Being the reversal of accrual of interest on bonds on the next valuation date / coupon date)		

F-24 *On accounting for interest on coupon date:* (T-17 @ FX Rate: 1.958330)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
15-Aug-X7	Interest Receivable account	15,193.26	
	To Interest Income—Bonds—HTM account		15,193.26
	(Being the interest accounted for on the coupon date)		

F-25 *On receipt of coupon interest in the bank:* (T-18 @ FX Rate: 2.061910)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Aug-X7	Bank account	14,430.03	
	To Interest Receivable account		14,430.03
	(Being the receipt of coupon interest in the bank)		

F-26 *FX Translation on interest receipts:*

Currency gain/loss on settlement date	BRL	USD
a) Interest receivable (1.958330)	29,753.42	15,193.26
b) Actual interest received in functional currency		14,430.03
c) Realized Currency loss on settlement = (a) − (b)		**(763.23)**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Aug-X7	Realized Currency gain/loss (P&L) account	763.23	
	To Interest Receivable account		763.23
	(Being the realized Currency gain/loss on receipt of interest amount)		

F-27 *On accrual of interest on valuation date:* (T-19 @ FX Rate: 1.840700)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Interest accrued but not due account	4,108.02	
	To Interest Income—Bonds—HTM account		4,108.02
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-28 *On amortization of discount:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Investments—Bonds—HTM account	14,288.33	
	To Discount on Bonds—HTM account		14,288.33
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

F-29 *On accounting for interest based on amortization:* (T-20 @ FX Rate: 1.840700)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Discount on Bonds (Contra)—HTM account	14,288.33	
	To Interest Income—Bonds—HTM account		14,288.33
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

F-30 *FX Translation on Investments—Bonds—HTM account:*

Currency gain/loss on Amortized Cost	BRL	USD
a) Market value of investments (1.840700)	1,260,000.00	684,522.19
b) Cost of acquisition (2.132000)	1,140,000.00	534,709.19
c) Interest amortized—31-Mar-X7 (2.063000)	17,471.21	8,468.84
d) Interest amortized 30-Jun-X7 (1.928840)	24,930.82	12,925.29
e) Interest amortized 30-Sep-X7 (1.840700)	26,300.52	14,288.33
f) Total (a-b-c-d-e)	51,297.45	27,868.45
g) Amortized cost (Trade currency) (1.840700)		114,130.54
h) Currency gain = (f) − (g)		86,262.09
Less: Currency gains booked until 30-June-X1		56,908.66
Net unrealized Currency Gain		**29,353.43**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Investments—Bonds—HTM account	29,153.43	
	To Unrealized Currency gain/loss on Bonds—HTM (P&L) Account		29,353.43
	(Being the unrealized Currency gain/loss on Investments—Bonds HTM account)		

F-31 *FX Translation on Bank account:*

Particulars	Date	BRL	USD
Opening Balance (1.928840)	30-Jun-X7	363,452.06	188,430.38
Transfer in (2.061910)	18-Aug-X7	29,753.42	14,430.03
Net Balance	30-Sep-X7	393,205.48	202,860.41
Net Balance at current FX rate (1.840700)	30-Sep-X7	393,205.48	213,617.36
FX translation on Bank account—Gains			**10,756.95**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Bank account	10,756.95	
	To Unrealized Currency gain/loss (P&L) account		10,756.95
	(Being the unrealized Currency gain/loss on Bank account)		

F-32 *On reversal of interest accrual on the next day:* (Reversal)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Interest Income—Bonds—HTM account	4,108.02	
	To Interest Accrued but not Due Account		4,108.02
	(Being the reversal of accrual of interest on bonds until the end of the valuation date from the last coupon date on the next day)		

F-33 *On amortization of discount:* (T-23 @ FX Rate: 1.774100)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Investments—Bonds—HTM account	15,213.21	
	To Discount on Bonds—HTM account		15,213.21
	(Being the amortization of discount adjusting the carrying cost of the bonds classified as held-to-maturity)		

F-34 *On accounting for interest based on amortization:* (T-24 @ FX Rate: 1.774100)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Discount on Bonds (Contra)—HTM account	15,213.21	
	To Interest Income—Bonds—HTM account		15,213.21
	(Being the amortization of discount treated as interest revenue as per accounting standards)		

F-35 *On accrual of interest on valuation date:* (T-25 @ FX Rate: 1.774100)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X7	Interest accrued but not due account	12,786.73	
	To Interest Income—Bonds—HTM account		12,786.73
	(Being the accrual of interest on bonds until the end of the valuation date from the last coupon date)		

F-36 *FX Translation on Investments—Bonds—HTM account:*

Currency gain/loss on Amortized Cost	BRL	USD
a) Market value of investments (1.774100)	1,305,000.00	735,584.24
b) Cost of acquisition (2.132000)	1,140,000.00	534,709.19
c) Interest amortized—31-Mar-X7 (2.063000)	17,471.21	8,468.83
d) Interest amortized 30-Jun-X7 (1.928840)	24,930.82	12,925.29
e) Interest amortized 30-Sep-X7 (1.840700)	26,300.52	14,288.33
f) Interest amortized 31-Dec-X7 (1.774100)	26,989.76	15,213.21

Currency gain/loss on Amortized Cost	**BRL**	**USD**
g) Total (a-b-c-d-e-f)	69,307.69	39,066.39
h) Amortized cost (Trade currency) (1.774100)		149,979.39
i) Currency gain in USD (g – f) (functional currency)		110,913.00
Less: Currency gains booked until 30-Sep-X7		86,262.09
Net unrealized Currency Gain		**24,650.91**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X7	Investments—Bonds—HTM account	24,650.91	
	To Unrealized Currency gain/loss on Bonds—HTM (P&L) account		24,650.91
	(Being the unrealized Currency gain/loss on Investments—Bonds HTM account)		

F-37 *FX Translation on Bank account:*

Particulars	**Date**	**BRL**	**USD**
Opening Balance (1.840700)	30-Sep-X7	393,205.48	213,617.36
Net Balance	31-Dec-X7	393,205.48	213,617.36
Net Balance at current FX rate (1.774100)	31-Dec-X7	393,205.48	221,636.59
FX translation on Bank account—Gains			**8,019.23**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Dec-X7	Bank account	8,019.23	
	To Unrealized Currency gain/loss (P&L) account		8,019.23
	(Being the unrealized Currency gain/loss on Bank account)		

General Ledger accounts

Investments—Bonds—HTM Account

Date	**Particulars**	**Debit (USD)**	**Date**	**Particulars**	**Credit (USD)**
22-Jan-X7	To Payable to Davis Account	534,709.19			
31-Mar-X7	To Discount on Bonds—HTM Account	8,468.84			
31-Mar-X7	To Unrealized Currency gain/loss on Bonds—HTM (P&L) account	17,884.12			
30-Jun-X7	To Discount on Bonds—HTM Account	12,925.29			
30-Jun-X7	To Unrealized Currency gain/loss on Bonds—HTM (P&L) account	39,024.54			
30-Sep-X7	To Unrealized Currency gain/loss on Bonds—HTM (P&L) account	29,353.43			
30-Sep-X7	To Discount on Bonds—HTM Account	14,288.33			

Investments—Bonds—HTM Account (*Cont'd*)

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
31-Dec-X7	To Unrealized Currency gain/loss on Bonds—HTM (P&L) account	24,650.91			
31-Dec-X7	To Discount On Bonds—HTM account	15,213.21			
			31-Dec-X7	By Balance	696,517.86
31-Dec-X7	Total	**696,517.86**	31-Dec-X7	Total	**696,517.86**
31-Dec-X7	To Balance	696,517.86			

Payable to Davis account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			22-Jan-X7	By Investments—Bonds—HTM Account	534,709.19
			22-Jan-X7	By Accrued interest purchased account	12,567.79
25-Jan-X7	To Realized currency gain/loss (P&L) Account	261.71			
25-Jan-X7	To Bank account	547,015.27			
31-Dec-X7	Total	547,276.98	31-Dec-X7	Total	547,276.98

Discount on Bonds—HTM Account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
22-Jan-X7	To Discount on Bonds (Contra)—HTM—account	168,855.53			
			31-Mar-X7	By Investments—Bonds—HTM Account	8,468.84
			30-Jun-X7	By Investments—Bonds—HTM Account	12,925.29
			30-Sep-X7	By Investments—Bonds—HTM account	14,288.33
			31-Dec-X7	By Investments—bonds—HTM account	15,213.21
			31-Dec-X7	By Balance	117,959.86
31-Dec-X7	Total	**168,855.53**	31-Dec-X7	Total	**168,855.53**
31-Dec-X7	To Balance	117,959.86			

Discount on Bonds(Contra)—HTM Account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			22-Jan-X7	By Discount On Bonds—HTM Account	168,855.53
31-Mar-X7	To Interest Income—Bonds—HTM Account	8,468.84			
30-Jun-X7	To Interest Income—Bonds—HTM Account	12,925.29			

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
30-Sep-X7	To Interest Income—Bonds—HTM Account	14,288.33			
31-Dec-X7	To Interest Income—Bonds—HTM account	15,213.21			
31-Dec-X7	To Balance	117,959.86			
31-Dec-X7	Total	**168,855.53**	31-Dec-X7	Total	**168,855.53**
			31-Dec-X7	By Balance	117,959.86

Accrued interest purchased account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
22-Jan-X7	To Payable to Davis Account	12,567.79			
			15-Feb-X7	By Interest Income—Bonds—HTM Account	12,719.08
15-Feb-X7	To realized currency gain/loss account	151.29			
31-Dec-X7	Total	12,719.08	31-Dec-X7	Total	12,719.08

Realized currency gain/loss (P&L) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			25-Jan-X7	By payable to Davis account	261.71
			15-Feb-X7	By Accrued interest purchased account	151.29
			18-Feb-X7	By Interest Receivable account	80.46
18-Aug-X7	To Interest Receivable account	763.23			
			31-Dec-X7	By Balance	269.77
31-Dec-X7	Total	**763.23**	31-Dec-X7	Total	**763.23**
31-Dec-X7	To Balance	269.77			

Interest Income—Bonds—HTM Account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			15-Feb-X7	By Interest Receivable account	14,357.74
15-Feb-X7	To Accrued interest purchased account	12,719.08			
			31-Mar-X7	By Discount on Bonds (Contra)—account	8,468.84
			31-Mar-X7	By Interest accrued but not due account	3,506.00
			30-Jun-X7	By Discount on Bonds (Contra)—HTM account	12,925.29
30-Jun-X7	To Interest accrued but not due account	3,506.00			

Interest Income—Bonds—HTM Account (*Cont'd*)

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			30-Jun-X7	By Interest accrued but not due account	11,505.25
15-Aug-X7	To Interest accrued but not due account	11,505.25			
			15-Aug-X7	By Interest Receivable account	15,193.26
			30-Sep-X7	By Interest Accrued but not due account	4,108.02
			30-Sep-X7	By Discount on Bonds (Contra)—HTM account	14,288.33
31-Dec-X7	To Interest accrued but not due account	4,108.02			
			31-Dec-X7	By Discount on Bonds (Contra) HTM account	15,213.21
			31-Dec-X7	By Interest Accrued but not due account	12,786.73
31-Dec-X7	To Balance	80,514.32			
31-Dec-X7	Total	**112,352.67**	31-Dec-X7	Total	**112,352.67**
			31-Dec-X7	By Balance	80,514.32

Interest accrued but not due account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
31-Mar-X7	To Interest Income—Bonds—HTM Account	3,506.00			
			30-Jun-X7	By Interest Income—Bonds—HTM Account	3,506.00
30-Jun-X7	To Interest Income—Bonds—HTM Account	11,505.25			
			15-Aug-X7	By Interest Income—Bonds—HTM Account	11,505.25
30-Sep-X7	To Interest Income—Bonds—HTM Account	4,108.02			
			31-Dec-X7	By Interest Income—Bonds—HTM Account	4,108.02
31-Dec-X7	To Interest Income—Bonds—HTM Account	12,786.73			
			31-Dec-X7	By Balance	12,786.73
31-Dec-X7	Total	**31,906.00**	31-Dec-X7	Total	**31,906.00**
31-Dec-X7	To Balance	12,786.73			

Interest Receivable account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
15-Feb-X7	To Interest Income—Bonds—HTM Account	14,357.74			
			18-Feb-X7	By Bank account	14,438.20
18-Feb-X7	To Realized currency gain/loss (P&L) account	80.46			
15-Aug-X7	To Interest Income—Bonds—HTM Account	15193.26			
			18-Aug-X7	By Bank account	14,430.03
			18-Aug-X7	By Realized currency gain/loss (P&L) account	763.23
31-Dec-X7	Total	29,631.46	31-Dec-X7	Total	29,631.46

Unrealized Currency gain/loss on Bonds-HTM (P&L) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			31-Mar-X7	By Investments-bonds-HTM account	17,884.12
			30-Jun-X7	By Investments-bonds-HTM account	39,024.54
			30-Sep-X7	By Investments-bonds-HTM account	29,353.43
			31-Dec-X7	By Investments-bonds-HTM account	24,650.91
31-Dec-X7	To Balance	110,913.00			
31-Dec-X7	Total	**110,913.00**	31-Dec-X7	Total	**110,913.00**
			31-Dec-X7	By Balance	110,913.00

Unrealized Currency gain/loss (P&L) account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			30-Jun-X7	By Bank account	7,327.31
			30-Jun-X7	By Bank account	12,253.91
			30-Sep-X7	By Bank account	10,756.95
			31-Dec-X7	By Bank account	8019.23
31-Dec-X7	By Balance	38,357.40			
31-Dec-X7	Total	**38,357.40**	31-Dec-X7	Total	**38,357.40**
			31-Dec-X7	To Balance	38,357.40

Share Capital Account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
			1-Jan-X7	By Bank account	701,426.23
31-Dec-X7	To Balance	701,426.23			
31-Dec-X7	Total	**701,426.23**	31-Dec-X7	Total	**701,426.23**
			31-Dec-X7	By Balance	701,426.23

Bank account

Date	Particulars	Debit (USD)	Date	Particulars	Credit (USD)
1-Jan-X7	To Share Capital account	701,426.23			
			25-Jan-X7	By Payable to Davis Account	547,015.27
18-Feb-X7	To Interest Receivable account	14,438.20			
30-Jun-X7	To Unrealized Currency gain/loss (P&L) account	7,327.31			
30-Jun-X7	To Unrealized Currency gain/loss (P&L) account	12,253.91			
18-Aug-X7	To Interest Receivable account	14,430.03			
30-Sep-X7	To Unrealized Currency gain/loss (P&L) account	10,756.95			
31-Dec-X7	To Unrealized Currency gain/loss (P&L) account	8,019.23			
			31-Dec-X7	By Balance	221,636.59
31-Dec-X7	Total	**768,651.86**	31-Dec-X7	Total	**768,651.86**
31-Dec-X7	To Balance	221,636.59			

Trial Balance

As on 31-Dec-X7 (USD)

Particulars	Debit	Credit
Capital account		
Share Capital		701,426.23
Current Liabilities		
Investments		
Investments—Bonds—HTM Account	696,517.86	
Current Assets		
Interest accrued but not due account	12,786.73	
Bank account	221,636.59	
Income		
Interest Income—Bonds—HTM account		80,514.32
Unrealized Currency gain/loss on Bonds—HTM (P&L) account		110,913.00
Unrealized Currency gain/loss (P&L) account		38,357.40
Realized Currency gain/loss (P&L) account	269.77	
Total	**931,210.95**	**931,210.95**

Income Statement

For the period ending 31-Dec-X7

Expenses	USD	Income	USD
		Direct Income	
		Interest Income—Bonds—HTM account	80,514.32
		Unrealized Currency gain/loss on Bonds—Trading (P&L) account	110,913.00
Realized Currency gain/loss (P&L) account	269.77	Unrealized Currency gain/loss (P&L) account	38,357.40
Net Profit C/o	229,514.95		
Total	**229,784.72**	Total	**229,784.72**

Balance Sheet

As at 31-Dec-X7

Liabilities	USD	Assets	USD
Capital account		**Investments**	
Share Capital	701,426.23	Investments—Bonds—HTM account	696,517.86
Current Liabilities	Nil		
		Current Assets	
Profit & Loss account		Bank account	221,636.59
Opening Balance	Nil	Interest accrued but not due account	12,786.73
Current Period	229,514.95		
Total	**930,941.18**	Total	**930,941.18**

SUMMARY

- Held-to-maturity investments are those which are bought with the ability and specific intention to hold such investments until the maturity period of the instrument.
- A debt instrument with a variable interest rate can satisfy the criteria for a held-to-maturity investment.
- For floating rate financial instruments, periodic re-estimation of cash flows to reflect movements in market rates of interest alters the effective interest rate. If a floating rate financial instrument is recognized initially at an amount equal to the principal receivable or payable on maturity, re-estimating the future interest payments normally has no significant effect on the carrying amount of the asset or liability.
- Default risk is no bar to the classification of a financial asset as held-to-maturity as long as its contractual payments are fixed or determinable and the other criteria for that classification are met.
- Perpetual debt instruments that provide for interest payments for an indefinite period cannot be classified as held-to-maturity because there is no maturity date.
- Equity instruments cannot be classified as held-to-maturity investments because they have an indefinite life. Also the amounts the holder may receive can vary in a manner that is not predetermined, such as warrants or other similar rights.

- A financial asset that is callable by the issuer can be classified as held-to-maturity if the holder intends and is able to hold it until it is called or until maturity and the holder would recover substantially its entire carrying amount.
- A financial asset that is puttable, that is, where the holder has the right to require that the issuer repay or redeem the financial asset before maturity, cannot be classified as a held-to-maturity investment.
- Fixed income bearing bonds in the held-to-maturity category are recognized at amortized cost and not on fair value. The whole premise of held-to-maturity is that the bonds are held-to-maturity and are not held for selling.
- Sale or transfer of bonds under held-to-maturity is accepted when there is a change in circumstances leading to the change in the intention to hold the bonds until maturity and these exceptions are given in the relevant accounting standard both under US GAAP as well as IFRS.
- The effective interest rate is the internal rate of return (IRR) or the level yield to maturity. It is the rate that exactly discounts the estimated future cash flows or receipts through the expected life of the instrument, or where appropriate, a shorter period, to the net carrying amount at initial recognition.
- An entity should estimate cash flows considering all contractual terms of the financial instrument including prepayment, call and similar options, when calculating the effective interest rate. The entity should not consider the future credit losses while calculating the effective interest rate. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs, and all other premiums or discounts.
- Effective interest rate is used to calculate the amount of interest earned by the entity which is shown in the profit and loss account as "interest earned." Also, the effective interest rate is used to determine the carrying cost of the asset after proper amortization of the premium paid or discount realized while acquiring the said asset. The accounting standard requires that such amortization of premium/discount on acquisition of the security is shown as part of interest earned and not separately.
- The premium or discount on purchase of the security is recognized on purchase of the security. A contra entry is passed for the discount received on the purchase of bonds under held-to-maturity.
- Amortization of discount means that the discount realized on purchase of the asset is first capitalized and gradually taken to income as part of interest earned over the remaining life of the asset.
- Amortizing the discount over the remaining life of the security has the effect of increasing the effective yield (interest rate) of the security. Effective interest as a percentage would be constant if calculated on the carrying cost of the security.
- The effective interest percentage is in reality arrived at by the process of iteration in a way that the carrying cost at the time of maturity equals the notional face value of the security.
- At the end of the valuation date the fair value of the bonds is not ascertained. In the case of held-to-maturity it is assumed that the bonds are/will be held-to-maturity and thus, mark-to-market is not done. The unrealized capital gains/loss also thus does not arise to be accounted for. The cost is only the amortized cost for the bonds.

QUESTIONS

Theory questions

1. What are the criteria for classifying a security as held-to-maturity?
2. What is meant by a "tainting rule" and what are the exceptions to it?

3. Elucidate the revised criteria for measurement as amortized cost in the light of IFRS 9. Is US GAAP proposal significantly different from this?
4. What is meant by "effective interest rate"? What aspects should be considered for arriving at the effective interest rate?
5. Enumerate the significant events in the trade life cycle for an investment in fixed income security.
6. What is meant by amortization of premium or discount on purchase of a fixed income security?
7. Explain what is meant by yield-to-maturity in the context of investment in a fixed income security.
8. How is the impairment of an investment classified as "held-to-maturity" dealt with in the book of accounts?

Objective questions

1. As per US GAAP, changes in fair value for held-to-maturity bonds is reported in:
   a) The income statement.
   b) Other comprehensive income.
   c) No need to report.
   d) None of the above.
2. For held-to-maturity bonds mark-to-market is done on valuation date on the basis of:
   a) Fair value.
   b) Weighted average.
   c) Mark-to-market is not done.
   d) None of the above.
3. A bond denoted as held-until-maturity has the following aspects except:
   a) Positive intent to hold until maturity.
   b) Ability to hold until maturity.
   c) Bond is not sold before maturity.
   d) The issuer has a right to settle the financial asset at an amount significantly below its amortized cost.
4. Held-to-maturity bonds are reported at :
   a) Fair value.
   b) Amortized cost.
   c) Sale value.
   d) Original cost of acquisition.
5. The unrealized gain or loss for held-to-maturity bonds are:
   a) Not recognized in the income statement or balance sheet.
   b) Recorded as earnings in P&L for the current period.
   c) Recorded in the other comprehensive income (OCI).
   d) None of the above.
6. Sale or transfer of bonds under held-to-maturity is accepted under the following circumstances except when there is:
   a) A significant deterioration in the issuer's creditworthiness.
   b) A change in tax law that eliminates or significantly reduces the tax-exempt status of interest on the held-to-maturity investment.
   c) A change in statutory or regulatory requirements.
   d) The market value is higher than the amortized cost.

Journal questions

1. Bond-trading-problem—USD

Bond details:	
Face value	100.00
Issue price	100.00
Maturity	15-Dec-X6
Rate of interest	4.00 %
Currency	USD

Coupon dates (until maturity)	**Coupon date**	**Settle date**
Previous coupon	15-June-X2	18-June-X2
Coupon date-1	15-Dec-X3	18-Dec-X3
Coupon date-2	15-June-X3	18-June-X3
Coupon date-3	15-Dec-X4	18-Dec-X4
Coupon date-4	15-June-X4	18-June-X4
Coupon date-5	15-Dec-X5	18-Dec-X5
Coupon date-6	15-June-X5	18-June-X5
Coupon date-7	15-Dec-X6	18-Dec-X6

Day count	Actual/365	365

Transaction details

Particulars	**Trade date**	**Settle date**	**Quantity**	**Clean price**
Bought	07-Dec-X3	10-Dec-X3	7,400	112.00

Valuation dates and market value	**Date**	**Market rate**
Valuation date 1	31-Mar-X3	125.50
Valuation date 2	30-Jun-X3	130.00
Valuation date 3	30-Sep-X3	145.00
Valuation date 4	31-Dec-X3	136.50
Functional currency	USD	

Other details	**Date**	**USD**
Capital introduced	01-Dec-X3	1,000,000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

2. Bond-trading-problem—USD

Bond details:	
Face value	50.00
Issue price	50.00
Maturity	15-Mar-X5

Rate of interest	5.50 %
Currency	USD

Coupon dates (until maturity)	**Coupon date**	**Settle date**
Previous coupon	15-Sep-X2	18-Sep-X2
Coupon date-1	15-Mar-X3	18-Mar-X3
Coupon date-2	15-Sep-X3	18-Sep-X3
Coupon date-3	15-Mar-X4	18-Mar-X4
Coupon date-4	15-Sep-X4	18-Sep-X4
Coupon date-5	15-Mar-X5	18-Mar-X5

Day count	Actual/365	365

Transaction details

Particulars	**Trade date**	**Settle date**	**Quantity**	**Clean price**
Bought	10-Mar-X3	13-Mar-X3	22,000	27.00

Valuation dates and market value	**Date**	**Market rate**
Valuation date 1	31-Mar-X3	28.00
Valuation date 2	30-Jun-X3	30.50
Valuation date 3	30-Sep-X3	29.50
Valuation date 4	31-Mar-X3	32.00
Functional currency	USD	

Other details	**Date**	**USD**
Capital introduced	01-Mar-X3	600,000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

3. Bond-trading-problem—USD

Bond details:	Face value	Issue price	Maturity	Rate of interest	Currency	**Day count**
	100.00	100.00	15-Jan-X6	4.00	**USD**	Actual/365
Coupon dates	15-July & 15-Jan					

Coupon dates (until maturity)	**Coupon date**	**FX rate**	**Settle date**	**FX rate**
Previous coupon	15-July-X2	0.63727	18-July-X2	0.63532
Coupon date-1	15-Jan-X3	0.62282	18-Jan-X3	0.61994
Coupon date-2	15-July-X3	0.62848	18-July-X3	0.62869

Transaction details

Particulars	**Trade date**	**FX rate**	**Settle date**	**FX rate**	**Quantity**	**Clean price**
Bought	05-Jan-X3	0.62062	08-Jan-X3	0.61977	8,300	93.00

Valuation dates and market value	Date	Market rate	FX rate
Valuation date 1	31-Mar-X3	99.00	0.63183
Valuation date 2	30-Jun-X3	105.50	0.60438
Valuation date 3	30-Sep-X3	107.00	0.60176
Valuation date 4	31-Dec-X3	110.00	0.55997
Functional currency	**GBP**		

Other details	Date	USD	FX rate
Capital introduced	01-Jan-X3	800,000	0.62112

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

4. Bond-trading-problem—GBP

Bond details:	Face value	Issue price	Maturity	Rate of interest	Currency	Day count
	100.00	100.00	15-Mar-X6	4.00	**JPY**	Actual/365
Coupon dates	15-Sep & 15-Mar					

Coupon dates (until maturity)	Coupon date	FX rate	Settle date	FX rate
Previous coupon	15-Sep-X2	188.87	18-Sep-X2	188.32
Coupon date-1	15-Mar-X3	187.37	18-Mar-X3	186.23
Coupon date-2	15-Sep-X3	188.09	18-Sep-X3	186.39

Transaction details

Particulars	Trade date	FX rate	Settle date	FX rate	Quantity	Clean price
Bought	05-Mar-X3	188	08-Mar-X3	187.76	24,000	78.00

Valuation dates and market value	Date	Market rate	FX rate
Valuation date 1	31-Mar-X3	76.50	186.9
Valuation date 2	30-Jun-X3	78.50	198.22
Valuation date 3	30-Sep-X3	80.50	185.28
Valuation date 4	31-Dec-X3	82.00	191.47
Functional currency	**USD**		

Other details	Date	GBP	FX rate
Capital introduced	01-Mar-X3	2,000,000	185.7

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

CHAPTER 5

Presentation, Disclosures & Reclassification

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Classes of financial instruments and level of disclosure
- Significance of financial instruments for financial position and performance
- Categories of financial assets and financial liabilities
- Requirements for financial assets at fair value through profit or loss
- Financial assets measured at fair value through other comprehensive income
- Derecognition of investments at FVPL through OCI
- Reclassification disclosures
- Derecognition disclosures
- Financial assets pledged as collateral
- Statement of comprehensive income
- Items of income, expense, gains or losses
- Disclosure of gains/loss from derecognition of assets measured at amortized cost
- Accounting policy disclosures
- Fair value and fair value hierarchy
- Qualitative disclosures
- Quantitative disclosures
- Credit risk
- Financial assets that are either past due or impaired
- Collateral and other credit enhancements obtained
- Liquidity risk
- Market risk—sensitivity analysis
- Interest rate risk
- Currency risk and other price risk
- Amendments to IAS 39 and IFRS 7 standard in October 2008
- Reclassification as per IFRS 9
- Presentation of financial instruments
- Currency and non-currency assets
- Equity and liability components of financial instruments

RELEVANT ACCOUNTING STANDARDS

Table 5.1 gives the relevant accounting standards relevant for this topic.

Table 5.1 Relevant accounting standards

US GAAP Topics	IFRS
220—Comprehensive Income	IFRS 7—Financial Instruments: Disclosure
320—Investments—Debt and Equity Securities	IFRS 9—Financial Instruments
820—Fair Value Measurements and Disclosures	IAS 21—The Effects of Changes in Foreign Exchange Rates
825—Financial Instruments	IAS 32—Financial Instruments: Presentation
830—Foreign currency Matters	IAS 36—Impairment of Assets
946—Financial Services—Investment Companies	IAS 39—Financial Instruments: Recognition and Measurement

GENERAL DISCLOSURE AS PER IFRS 7

IFRS requires certain disclosures to be presented by category of instrument based on the IAS 39 measurement categories. Certain other disclosures are required by class of financial instrument. For those disclosures an entity must group its financial instruments into classes of similar instruments as appropriate to the nature of the information presented.

The objective of IFRS 7 is to require entities to provide disclosures in their financial statements that enable users to evaluate:

a) The **significance of financial instruments** for an entity's financial position and performance.
b) **Qualitative** and quantitative information about exposure to risks arising from financial instruments, including specified minimum disclosures about credit risk, liquidity risk and market risk. The qualitative disclosures describe management's objectives, policies and processes for managing those risks.
c) The **quantitative disclosures** provide information about the extent to which the entity is exposed to risk, based on information provided internally to the entity's key management personnel. Together, these disclosures provide an overview of the entity's use of financial instruments and the exposures to risks they create.

Classes of financial instruments and level of disclosure

When this IFRS requires disclosures by class of financial instrument, an entity shall group financial instruments into classes that are appropriate to the nature of the information disclosed and take into account the characteristics of those financial instruments. An entity shall provide sufficient information to permit reconciliation to the line items presented in the statement of financial position. (IFRS 7 Para 6)

The classes described here are determined by the entity and are, thus, distinct from the categories of financial instruments specified in IAS 39 and IFRS 9, which determine how financial instruments are measured and where changes in fair value are recognized.

In determining classes of financial instrument, an entity shall, at a minimum:

a) Distinguish instruments measured at amortized cost from those measured at fair value;
b) Treat as a separate class or classes those financial instruments outside the scope of this IFRS.

It is very important to note that the disclosure specifically requires the entity to decide how much detail it provides to satisfy the requirements of this IFRS, how much emphasis it places on different

aspects of the requirements, and how it aggregates information to display the overall picture without combining information with different characteristics. It is necessary to strike a balance between overburdening financial statements with excessive detail that may not assist users of financial statements, and obscuring important information as a result of too much aggregation. For example, an entity shall not obscure important information by including it among a large amount of insignificant detail. Similarly, an entity shall not disclose information that is so aggregated that it obscures important differences between individual transactions or associated risks.

A. SIGNIFICANCE OF FINANCIAL INSTRUMENTS FOR FINANCIAL POSITION AND PERFORMANCE

An entity shall disclose information that enables users of its financial statements to evaluate the significance of financial instruments for its financial position and performance. (IFRS 7 Para 7)

Categories of financial assets and financial liabilities

The carrying amounts of each of the following categories, as specified in IFRS 9 or IAS 39, shall be disclosed either in the statement of financial position or in the notes:

a) Financial assets measured at fair value through profit or loss, showing separately:
   i) Those designated as such upon initial recognition; and
   ii) Those mandatorily measured at fair value in accordance with IFRS 9.
b) Financial liabilities at fair value through profit or loss, showing separately;
   i) Those designated as such upon initial recognition; and
   ii) Those that meet the definition of held for trading in IAS 39.
d) Financial assets measured at amortized cost.
e) Financial liabilities measured at amortized cost.
f) Financial assets measured at fair value through other comprehensive income. (IFRS 7 Para 8)

Financial assets at fair value through profit or loss

If the entity has designated as measured at fair value a financial asset (or group of financial assets) that would otherwise be measured at amortized cost, it shall disclose:

a) The maximum exposure to credit risk of the financial asset or group of financial assets at the end of the reporting period.
b) The amount by which any related credit derivatives or similar instruments mitigate that maximum exposure to credit risk.
c) The amount of change, during the period and cumulatively, in the fair value of the financial asset (or group of financial assets) that is attributable to changes in the credit risk of the financial asset determined either:
   i) As the amount of change in its fair value that is not attributable to changes in market conditions that give rise to market risk; or
   ii) Using an alternative method the entity believes more faithfully represents the amount of change in its fair value that is attributable to changes in the credit risk of the asset.
d) Changes in market conditions that give rise to market risk include changes in an observed (benchmark) interest rate, commodity price, foreign exchange rate or index of prices or rates.
e) The amount of the change in the fair value of any related credit derivatives or similar instruments that has occurred during the period and cumulatively since the financial asset was designated. (IFRS 7 Para 9)

Financial assets measured at fair value through other comprehensive income

If an entity has designated investments in equity instruments to be measured at fair value through other comprehensive income, it shall disclose:

a) Which investments in equity instruments have been designated to be measured at fair value through other comprehensive income;
b) The reasons for using this presentation alternative;
c) The fair value of each such investment at the end of the reporting period;
d) Dividends recognized during the period, showing separately those related to investments derecognised during the reporting period and those related to investments held at the end of the reporting period;
e) Any transfers of the cumulative gain or loss within equity during the period including the reason for such transfers. (IFRS 7 Para 11A)

Derecognition of investments at FVPL through OCI

If an entity derecognized investments in equity instruments measured at fair value through other comprehensive income during the reporting period, it shall disclose:

a) The reasons for disposing of the investments;
b) The fair value of the investments at the date of derecognition;
c) The cumulative gain or loss on disposal. (IFRS 7 Para 11B)

Reclassification

An entity shall disclose if, in the current or previous reporting periods, it has reclassified any financial assets.

For each such event, an entity shall disclose:

a) The date of reclassification;
b) A detailed explanation of the change in business model and a qualitative description of its effect on the entity's financial statements;
c) The amount reclassified into and out of each category.

For each reporting period following reclassification until derecognition, an entity shall disclose for assets reclassified so that they are measured at amortized cost:

a) The effective interest rate determined on the date of reclassification; and
b) The interest income or expense recognized.

If an entity has reclassified financial assets so that they are measured at amortized cost since its last annual reporting date, it shall disclose:

a) The fair value of the financial assets at the end of the reporting period; and
b) The fair value gain or loss that would have been recognized in profit or loss during the reporting period if the financial assets had not been reclassified. (IFRS 7 Para 12B, 12C and 12D)

Derecognition

When an entity may have transferred financial assets in such a way that part or all of the financial assets do not qualify for derecognition, the entity shall disclose for each class of such financial assets:

a) The nature of the assets;
b) The nature of the risks and rewards of ownership to which the entity remains exposed;
c) When the entity continues to recognize all of the assets, the carrying amounts of the assets and of the associated liabilities;

d) When the entity continues to recognize the assets to the extent of its continuing involvement, the total carrying amount of the original assets, the amount of the assets that the entity continues to recognize, and the carrying amount of the associated liabilities. (IFRS 7 Para 13)

Financial assets pledged as collateral

An entity shall disclose:

a) The carrying amount of financial assets it has pledged as collateral for liabilities or contingent liabilities, including amounts that have been reclassified in accordance with paragraph 37(a) of IAS 39; and
b) The terms and conditions relating to its pledge. (IFRS 7 Para 14)

Allowance account for credit losses

When financial assets are impaired by credit losses and the entity records the impairment in a separate account (for example, an allowance account used to record individual impairments or a similar account used to record a collective impairment of assets), rather than directly reducing the carrying amount of the asset, it shall disclose a reconciliation of changes in that account during the period for each class of financial assets. (IFRS 7 Para 16)

STATEMENT OF COMPREHENSIVE INCOME

Items of income, expense, gains or losses

An entity shall disclose the following items of income, expense, gains or losses either in the statement of comprehensive income or in the notes:

a) Net gains or net losses on:
   i) Financial assets measured at fair value through profit or loss, showing separately those on financial assets designated as such upon initial recognition, and those that are mandatorily measured at fair value in accordance with IFRS 9;
   ii) Financial assets measured at amortized cost;
   iii) Financial assets measured at fair value through other comprehensive income.
b) Total interest income and total interest expense (calculated using the effective interest method) for financial assets that are measured at amortized cost.
c) Fee income and expense (other than amounts included in determining the effective interest rate) arising from financial assets measured at amortized cost.
d) Interest income on impaired financial assets accrued.
e) The amount of any impairment loss for each class of financial asset. (IFRS 7 Para 20)

Disclosure of gain/loss from derecognition of assets measured at amortized cost

An entity shall disclose an analysis of the gain or loss recognized in the statement of comprehensive income arising from the derecognition of financial assets measured at amortized cost, showing separately gains and losses arising from derecognition of those financial assets. This disclosure shall include the reasons for derecognizing those financial assets. (IFRS 7 Para 20A)

OTHER DISCLOSURES

Accounting policies

An entity should disclose, in the summary of significant accounting policies, the measurement basis (or bases) used in preparing the financial statements and the other accounting policies used that are relevant to an understanding of the financial statements. (IFRS 7 Para 21)

Fair value

For each class of financial assets and financial liabilities, an entity shall disclose the fair value of that class of assets and liabilities in a way that permits it to be compared with its carrying amount. In disclosing fair values, an entity shall group financial assets and financial liabilities into classes, but shall offset them only to the extent that their carrying amounts are offset in the statement of financial position. An entity shall disclose for each class of financial instruments the methods and, when a valuation technique is used, the assumptions applied in determining fair values of each class of financial assets or financial liabilities. For example, if applicable, an entity discloses information about the assumptions relating to prepayment rates, rates of estimated credit losses, and interest rates or discount rates. If there has been a change in valuation technique, the entity shall disclose that change and the reasons for making it. (IFRS 7 Para 25, 26 and 27)

Fair value hierarchy

An entity shall classify fair value measurements using a fair value hierarchy that reflects the significance of the inputs used in making the measurements. The fair value hierarchy shall have the following levels:

a) Quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1);
b) Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices) (Level 2); and
c) Inputs for the asset or liability that are not based on observable market data (unobservable inputs) (Level 3) (IFRS 7 Para 27A).

An entity shall disclose for each class of financial instruments:

a) The level in the fair value hierarchy into which the fair value measurements are categorized in their entirety, segregating fair value measurements in accordance with the levels defined in previous paragraph.
b) Any significant transfers between Level 1 and Level 2 of the fair value hierarchy and the reasons for those transfers. Transfers into each level shall be disclosed and discussed separately from transfers out of each level. For this purpose, significance shall be judged with respect to profit or loss, and total assets or total liabilities.
c) For fair value measurements in Level 3 of the fair value hierarchy, a reconciliation from the beginning balances to the ending balances, disclosing separately changes during the period attributable to the following:
    i) Total gains or losses for the period recognized in profit or loss, and a description of where they are presented in the statement of comprehensive income or the separate income statement (if presented);
    ii) Total gains or losses recognized in other comprehensive income;
    iii) Purchases, sales, issues and settlements (each type of movement disclosed separately);
    iv) Transfers into or out of Level 3 (e.g., transfers attributable to changes in the obserability of market data) and the reasons for those transfers;
    v) For significant transfers, transfers into Level 3 shall be disclosed and discussed separately from transfers out of Level 3. (IFRS 7 Para 27B)

Nature and extent of risks arising from financial instruments

An entity shall disclose information that enables users of its financial statements to evaluate the nature and extent of risks arising from financial instruments to which the entity is exposed at the end of the reporting period. (IFRS 7 Para 31)

B. QUALITATIVE DISCLOSURES

For each type of risk arising from financial instruments, an entity shall disclose:

a) The exposures to risk and how they arise;
b) Its objectives, policies and processes for managing the risk and the methods used to measure the risk; and
c) Any changes in (a) or (b) from the previous period. (IFRS 7 Para 33)

C. QUANTITATIVE DISCLOSURES

For each type of risk arising from financial instruments, an entity shall disclose:

a) Summary quantitative data about its exposure to that risk at the end of the reporting period. This disclosure shall be based on the information provided internally to key management personnel of the entity (for example, the entity's board of directors or chief executive officer).
b) The disclosures required by paragraphs 36–42, to the extent not provided in (a), unless the risk is not material.
c) Concentrations of risk if not apparent from (a) and (b). (IFRS 7 Para 34)

Credit risk

An entity shall disclose by class of financial instrument:

a) The amount that best represents its maximum exposure to credit risk at the end of the reporting period without taking account of any collateral held or other credit enhancements (e.g., netting agreements that do not qualify for offset in accordance with IAS 32);
b) In respect of the amount disclosed in (a), a description of collateral held as security and other credit enhancements;
c) Information about the credit quality of financial assets that are neither past due nor impaired;
d) The carrying amount of financial assets that would otherwise be past due or impaired whose terms have been renegotiated. (IFRS 7 Para 36)

Financial assets that are either past due or impaired

An entity shall disclose by class of financial asset:

a) An analysis of the age of financial assets that are past due as at the end of the reporting period but not impaired;
b) An analysis of financial assets that are individually determined to be impaired as at the end of the reporting period, including the factors the entity considered in determining that they are impaired;
c) For the amounts disclosed in (a) and (b), a description of collateral held by the entity as security and other credit enhancements and, unless impracticable, an estimate of their fair value. (IFRS 7 Para 37)

Collateral and other credit enhancements obtained

When an entity obtains financial or non-financial assets during the period by taking possession of collateral it holds as security or calling on other credit enhancements (eg guarantees), and such assets meet the recognition criteria in other IFRSs, an entity shall disclose:

a) The nature and carrying amount of the assets obtained; and
b) When the assets are not readily convertible into cash, its policies for disposing of such assets or for using them in its operations. (IFRS 7 Para 38)

Liquidity risk

An entity shall disclose:

a) A maturity analysis for non-derivative financial liabilities that shows the remaining contractual maturities.
b) A maturity analysis for derivative financial liabilities. The maturity analysis shall include the remaining contractual maturities for those derivative financial liabilities for which contractual maturities are essential for an understanding of the timing of the cash flows
c) A description of how it manages the liquidity risk inherent in (a) and (b). (IFRS 7 Para 39)

Market risk—sensitivity analysis

Unless an entity complies with paragraph 41, it shall disclose:

a) A sensitivity analysis for each type of market risk to which the entity is exposed at the end of the reporting period, showing how profit or loss and equity would have been affected by changes in the relevant risk variable that were reasonably possible at that date;
b) The methods and assumptions used in preparing the sensitivity analysis; and
c) Changes from the previous period in the methods and assumptions used, and the reasons for such changes. (IFRS 7 Para 40)

If an entity prepares a sensitivity analysis, such as value-at-risk, that reflects interdependencies between risk variables (e.g., interest rates and exchange rates) and uses it to manage financial risks, it may use that sensitivity analysis in place of the analysis specified in paragraph 40. The entity shall also disclose:

a) An explanation of the method used in preparing such a sensitivity analysis, and of the main parameters and assumptions underlying the data provided; and
b) An explanation of the objective of the method used and of limitations that may result in the information not fully reflecting the fair value of the assets and liabilities involved. (IFRS 7 Para 41)

An entity shall provide sensitivity analyses for the whole of its business, but may provide different types of sensitivity analysis for different classes of financial instruments.

Interest rate risk

Interest rate risk arises on interest-bearing financial instruments recognized in the statement of financial position (e.g., debt instruments acquired or issued) and on some financial instruments not recognized in the statement of financial position (e.g., some loan commitments).

Currency risk

Currency risk (or foreign exchange risk) arises on financial instruments that are denominated in a foreign currency, i.e., in a currency other than the functional currency in which they are measured. For the purpose of this IFRS, currency risk does not arise from financial instruments that are non-monetary items or from financial instruments denominated in the functional currency. A sensitivity analysis is disclosed for each currency to which an entity has significant exposure.

Other price risk

Other price risk arises on financial instruments because of changes in, for example, commodity prices or equity prices. An entity might disclose the effect of a decrease in a specified stock market index, commodity price, or other risk variable. For example, if an entity gives residual value guarantees

that are financial instruments, the entity discloses an increase or decrease in the value of the assets to which the guarantee applies.

Reclassifications

An entity shall not reclassify a financial instrument into or out of the fair value through profit or loss category while it is held or issued. If, as a result of a change in intention or ability, it is no longer appropriate to classify an investment as held to maturity, it shall be reclassified as available-for-sale and remeasured at fair value, and the difference between its carrying amount and fair value shall be recognized in other comprehensive income. (IAS 39 Para 50 and 51)

Whenever sales or reclassification of more than an insignificant amount of held-to-maturity investments do not meet any of the conditions in paragraph 9, any remaining held-to-maturity investments shall be reclassified as available-for-sale. On such reclassification, the difference between their carrying amount and fair value shall be recognized in other comprehensive income. (IAS 39 Para 52)

If a reliable measure becomes available for a financial asset or financial liability for which such a measure was previously not available, and the asset or liability is required to be measured at fair value if a reliable measure is available, the asset or liability shall be remeasured at fair value, and the difference between its carrying amount and fair value recognized in other comprehensive income. (IAS 39 Para 53)

If, as a result of a change in intention or ability or in the rare circumstance that a reliable measure of fair value is no longer available (see paragraphs 46(c) and 47) or because the "two preceding financial years" referred to in paragraph 9 have passed, it becomes appropriate to carry a financial asset or financial liability at cost or amortized cost rather than at fair value, the fair value carrying amount of the financial asset or the financial liability on that date becomes its new cost or amortized cost, as applicable. Any previous gain or loss on that asset that has been recognized in other comprehensive income shall be accounted for as follows:

a) In the case of a financial asset with a fixed maturity, the gain or loss shall be amortized to profit or loss over the remaining life of the held-to-maturity investment using the effective interest method. Any difference between the new amortized cost and maturity amount shall also be amortized over the remaining life of the financial asset using the effective interest method, similar to the amortization of a premium and a discount. If the financial asset is subsequently impaired, any gain or loss that has been recognized in other comprehensive income is reclassified from equity to profit or loss.
b) In the case of a financial asset that does not have a fixed maturity, the gain or loss shall be recognized in profit or loss when the financial asset is sold or otherwise disposed of. If the financial asset is subsequently impaired any previous gain or loss that has been recognized in other comprehensive income is reclassified from equity to profit or loss. (IAS 39 Para 54)

AMENDMENTS TO IAS 39 & IFRS 7 (OCTOBER 2008)

Reclassification out of fair value through profit or loss category

This amendment permits an entity to reclassify non-derivative financial assets out of the fair value through profit or loss category in certain circumstances. However non-derivative financial assets designated at fair value through profit or loss by the entity upon initial recognition **cannot** be reclassified.

The amendment also permits an entity to transfer from the available-for-sale category to the loans and receivables category a financial asset that would have met the definition of loans and receivables (if the financial asset had not been designated as available-for-sale), if the entity has the intention and ability to hold that financial asset for the foreseeable future.

An entity:

a) Shall not reclassify a derivative financial instrument into or out of the fair value through profit or loss category while it is held or issued;
b) Shall not reclassify any financial instrument out of the fair value through profit or loss category if upon initial recognition it was designated by the entity as at fair value through profit or loss; and
c) May, if a financial asset is no longer held for the purpose of selling or repurchasing it in the near term (notwithstanding that the financial asset may have been acquired or incurred principally for the purpose of selling or repurchasing it in the near term), reclassify that financial asset out of the fair value through profit or loss category if the certain requirements given in paragraph 50B or 50D of IAS 39 are met.

An entity shall not reclassify any financial instrument into the fair value through profit or loss category after initial recognition.

A financial asset to which paragraph 50(c) applies (except a financial asset of the type described in paragraph 50D) may be reclassified out of the fair value through profit or loss category only in rare circumstances. (IAS 39 Para 50B)

If an entity reclassifies a financial asset out of the fair value through profit or loss category in accordance with paragraph 50B, the financial asset shall be reclassified at its fair value on the date of reclassification. Any gain or loss already recognized in profit or loss shall not be reversed. The fair value of the financial asset on the date of reclassification becomes its new cost or amortized cost, as applicable. (IAS 39 Para 50C)

A financial asset to which paragraph 50(c) applies that would have met the definition of loans and receivables (if the financial asset had not been required to be classified as held for trading at initial recognition) may be reclassified out of the fair value through profit or loss category if the entity has the intention and ability to hold the financial asset for the foreseeable future or until maturity. (IAS 39 Para 50D)

A financial asset classified as available for sale that would have met the definition of loans and receivables (if it had not been designated as available for sale) may be reclassified out of the available-for-sale category to the loans and receivables category if the entity has the intention and ability to hold the financial asset for the foreseeable future or until maturity. (IAS 39 Para 50E)

If an entity reclassifies a financial asset out of the fair value through profit or loss category in accordance with paragraph 50D or out of the available-for-sale category in accordance with paragraph 50E, it shall reclassify the financial asset at its fair value on the date of reclassification. For a financial asset reclassified in accordance with paragraph 50D, any gain or loss already recognized in profit or loss shall not be reversed. The fair value of the financial asset on the date of reclassification becomes its new cost or amortized cost, as applicable. For a financial asset reclassified out of the available-for-sale category in accordance with paragraph 50E, any previous gain or loss on that asset that has been recognized in other comprehensive income in accordance with paragraph 55(b) shall be accounted for in accordance with paragraph 54. (IAS 39 Para 50F)

Note: IFRS 9 now supersedes paragraphs 50B to 50F and paragraph 54 mentioned above.

RECLASSIFICATION AS PER IFRS 9

After the introduction of IFRS 9, many of the erstwhile provisions of IAS 39 were deleted and the amendments made to IAS 39 and IFRS 7 in October 2008 relating to reclassification has lost its significance. As per IFRS 9, reclassification is allowed only when an entity changes its business model for managing financial assets. If an entity reclassifies financial assets then it shall apply the reclassification prospectively from the reclassification date. **The entity shall not restate any previously recognized gains, losses or interest.**

When an entity reclassifies a financial asset so that it is measured at fair value, its fair value is determined at the reclassification date. Any gain or loss arising from a difference between the previous carrying amount and fair value is recognized in profit or loss. When the reclassification is measured at amortized cost, its fair value at the reclassification date becomes its new carrying amount.

On reclassification a gain or loss on a financial asset that is measured at amortized cost and is not part of a hedging relationship shall be recognized in profit or loss through the amortization process.

Reclassification date

The first day of the first reporting period following the change in business model that results in an entity reclassifying financial assets.

Examples of situations where reclassification is made

Reclassification of financial assets is required if the objective of the entity's business model for managing those financial assets changes. Such changes are expected to be very infrequent. Such changes must be determined by the entity's senior management as a result of external or internal changes and must be significant to the entity's operations and demonstrable to external parties.

Examples of a change in business model include the following:

a) An entity has a portfolio of commercial loans that it holds to sell in the short term. The entity acquires a company that manages commercial loans and has a business model that holds the loans in order to collect the contractual cash flows. The portfolio of commercial loans is no longer for sale, and the portfolio is now managed together with the acquired commercial loans and all are held to collect the contractual cash flows.
b) A financial services firm decides to shut down its retail mortgage business. That business no longer accepts new business and the financial services firm is actively marketing its mortgage loan portfolio for sale.

A change in the objective of the entity's business model must be effected before the reclassification date. For example, if a financial services firm decides on 15 February to shut down its retail mortgage business and hence must reclassify all affected financial assets on 1 April (i.e., the first day of the entity's next reporting period), the entity must not accept new retail mortgage business or otherwise engage in activities consistent with its former business model after 15 February.

The following are not changes in the business model:

a) A change in intention related to particular financial assets (even in circumstances of significant changes in market conditions);
b) A temporary disappearance of a particular market for financial assets;
c) A transfer of financial assets between parts of the entity with different business models.

PRESENTATION OF FINANCIAL INSTRUMENTS

An entity should present current and non-current assets, and current and non-current liabilities, as separate classifications on the face of the balance sheet, except when a presentation based on liquidity provides information that is reliable and is more relevant. In that situation all assets and liabilities should be presented broadly in order of liquidity. (IAS 1 Para 60)

Current and non-current assets

An entity shall classify an asset as current when:

a) It expects to realize the asset, or intends to sell or consume it, in its normal operating cycle;
b) It holds the asset primarily for the purpose of trading;

c) It expects to realize the asset within 12 months after the reporting period; or
d) The asset is cash or a cash equivalent (as defined in IAS 7: Cash Flow Statements) unless the asset is restricted from being exchanged or used to settle a liability for at least 12 months after the reporting period.

An entity shall classify all other assets as non-current. (IAS 1 Para 66)

Current assets also include assets held primarily for the purpose of trading (examples include **some** financial assets that meet the definition of "held for trading" in IAS 39) and the current portion of non-current financial assets. (IAS 1 Para 68) Applying the same logic, trading derivative assets should also be presented as current assets. Non-hedging derivatives need not be classified as current simply because those are held for trading purposes. Applying the requirements of IAS 1, it can be inferred that the derivatives should be presented as current assets if realization within a 12-month period is expected, else those derivatives should be presented as non-current. Any portion that is expected to be realized within the next 12-month period should be presented as a current asset.

Current and non-current liabilities

An entity shall classify a liability as current when:

a) It 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.

Terms of a liability that could, at the option of the counterparty, result in its settlement by the issue of equity instruments do not affect its classification.

An entity shall classify all other liabilities as non-current.

Equity & liability components of financial instruments

The equity and liability components of financial instruments must be classified separately as financial liabilities, financial assets or as equity instruments as per IAS 32. Where a portion of a financial liability is expected to be settled within 12 months of the date of the balance sheet, that portion of the liability should be presented as current and the remainder should be presented as non-current liability.

Offsetting a financial asset and a financial liability

A financial asset and a financial liability shall be offset and the net amount presented in the statement of financial position when, and only when, an entity:

a) Currently has a legally enforceable right to set off the recognized amounts; and
b) Intends either to settle on a net basis or realize the asset and settle the liability simultaneously.

In accounting for a transfer of a financial asset that does not qualify for derecognition, the entity shall not offset the transferred asset and the associated liability. (IAS 32 Para 42)

The financial assets and financial liabilities should be presented on a net basis when doing so reflects an entity's expected future cash flow from settling two or more separate financial instruments. When an entity has the right to receive or pay a single net amount and intends to do so, it has, in effect, only a single financial asset or financial liability. In other circumstances, financial assets and financial liabilities are presented separately from each other consistently with their characteristics as resources or obligations of the entity. (IAS 32 Para 43)

SUMMARY

IFRS requires certain disclosures to be presented by category of instrument based on the IAS 39 measurement categories. Certain other disclosures are required by class of financial instrument. For those disclosures an entity must group its financial instruments into classes of similar instruments as appropriate to the nature of the information presented.

Balance sheet

Disclose the significance of financial instruments for an entity's financial position and performance. This includes disclosures for each of the following categories:

- Financial assets measured at fair value through profit and loss, showing separately those held for trading and those designated at initial recognition;
- Held-to-maturity investments;
- Loans and receivables;
- Available-for-sale assets;
- Financial liabilities at fair value through profit and loss, showing separately those held for trading and those designated at initial recognition;
- Financial liabilities measured at amortized cost.

Other balance sheet-related disclosures

- Special disclosures about financial assets and financial liabilities designated to be measured at fair value through profit and loss, including disclosures about credit risk and market risk, changes in fair values attributable to these risks and the methods of measurement;
- Reclassifications of financial instruments from one category to another (e.g., from fair value to amortized cost or vice versa);
- Disclosures about derecognitions, including transfers of financial assets for which derecogntion accounting is not permitted by IAS 39;
- Information about financial assets pledged as collateral and about financial or non-financial assets held as collateral;
- Reconciliation of the allowance account for credit losses (bad debts) by class of financial assets;
- Information about compound financial instruments with multiple embedded derivatives;
- Breaches of terms of loan agreements.

Income statement and equity

Items of income, expense, gains, and losses, with separate disclosure of gains and losses from:

- Financial assets measured at fair value through profit and loss, showing separately those held for trading and those designated at initial recognition;
- Held-to-maturity investments;
- Loans and receivables;
- Available-for-sale assets;
- Financial liabilities measured at fair value through profit and loss, showing separately those held for trading and those designated at initial recognition;
- Financial liabilities measured at amortized cost.

Other income statement-related disclosures

- Total interest income and total interest expense for those financial instruments that are not measured at fair value through profit and loss;

- Fee income and expense;
- Amount of impairment losses by class of financial assets;
- Interest income on impaired financial assets.

Other disclosures

Accounting policies for financial instruments

Information about hedge accounting, including:

- Description of each hedge, hedging instrument, and fair values of those instruments, and nature of risks being hedged.
- For cash flow hedges, the periods in which the cash flows are expected to occur, when they are expected to enter into the determination of profit or loss, and a description of any forecast transaction for which hedge accounting had previously been used but which is no longer expected to occur.
- If a gain or loss on a hedging instrument in a cash flow hedge has been recognized in other comprehensive income, an entity should disclose the following:
  - The amount that was so recognized in other comprehensive income during the period;
  - The amount that was removed from equity and included in profit or loss for the period;
  - The amount that was removed from equity during the period and included in the initial measurement of the acquisition cost or other carrying amount of a non-financial asset or non- financial liability in a hedged highly probable forecast transaction.
- For fair value hedges, information about the fair value changes of the hedging instrument and the hedged item.
- Hedge ineffectiveness recognized in profit and loss (separately for cash flow hedges and hedges of a net investment in a foreign operation).
- Information about the fair values of each class of financial asset and financial liability, along with:
  - Comparable carrying amounts;
  - Description of how fair value was determined;
  - The level of inputs used in determining fair value;
  - Reconciliations of movements between levels of fair value measurement hierarchy;
  - Additional disclosures for financial instruments whose fair value is determined using level 3 inputs including impacts on profit and loss, other comprehensive income and sensitivity analysis;
  - Information if fair value cannot be reliably measured.

Fair value hierarchy

The fair value hierarchy introduces three levels of inputs based on the lowest level of input significant to the overall fair value:

- Level 1—quoted prices for similar instruments;
- Level 2—directly observable market inputs other than Level 1 inputs;
- Level 3—inputs not based on observable market data.

Note that disclosure of fair values is not required when the carrying amount is a reasonable approximation of fair value, such as short-term trade receivables and payables, or for instruments whose fair value cannot be measured reliably.

Nature and extent of exposure to risks arising from financial instruments

Qualitative disclosures

The qualitative disclosures describe:

- Risk exposures for each type of financial instrument;
- Management's objectives, policies, and processes for managing those risks;
- Changes from the prior period.

Quantitative disclosures

The quantitative disclosures provide information about the extent to which the entity is exposed to risk, based on information provided internally to the entity's key management personnel. These disclosures include:

- Summary quantitative data about exposure to each risk at the reporting date;
- Disclosures about credit risk, liquidity risk, and market risk and how these risks are managed as further described below;
- Concentrations of risk.

Credit risk

Credit risk is the risk that one party to a financial instrument will cause a loss for the other party by failing to pay for its obligation.

Disclosures about credit risk include:

- Maximum amount of exposure (before deducting the value of collateral), description of collateral, information about credit quality of financial assets that are neither past due nor impaired, and information about credit quality of financial assets whose terms have been renegotiated;
- For financial assets that are past due or impaired, analytical disclosures are required;
- Information about collateral or other credit enhancements obtained or called.

Liquidity risk

Liquidity risk is the risk that an entity will have difficulties in paying its financial liabilities.

Disclosures about liquidity risk include:

- A maturity analysis of financial liabilities;
- A description of approach to risk management.

Market risk

Market risk is the risk that the fair value or cash flows of a financial instrument will fluctuate due to changes in market prices. Market risk reflects interest rate risk, currency risk and other price risks.

Disclosures about market risk include:

- A sensitivity analysis of each type of market risk to which the entity is exposed;
- Additional information if the sensitivity analysis is not representative of the entity's risk exposure (for example, because exposures during the year were different to exposures at year-end).

IFRS 7 provides that if an entity prepares a sensitivity analysis such as value-at-risk for management purposes that reflects interdependencies of more than one component of market

risk (for instance, interest risk and foreign currency risk combined), it may disclose that analysis instead of a separate sensitivity analysis for each type of market risk.

EXERCISE

Theory questions

1. Can the securities that are classified once be transferred to other categories? If so, what precautions should be taken to adjust the unrealized gains or losses?
2. How is the impairment of securities presented in the balance sheet?

CHAPTER 6

Interest Rate Derivatives—Theory

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Derivatives in a financial instrument
- Various types of derivative contracts
- Definition of derivatives as per accounting standards
- Differences between US GAAP and IFRS pertaining to derivatives
- Difference between exchange-traded derivatives and over-the-counter derivatives
- Limitations of OTC derivatives
- Benefits of interest rate derivatives
- International Swaps and Derivatives Association
- Netting provisions of ISDA and its importance
- Different forms of interest rate derivatives
- Interest rate swaps
- Interest rate futures
- Caps and floors
- Collars and reverse collars
- Cross currency swaps
- Swaptions
- The status of various financial instruments for hedging purposes

DERIVATIVES IN A FINANCIAL INSTRUMENT

A derivative instrument is a financial instrument, such as an option or futures contract, whose value depends on the performance of an underlying security or asset. Futures contracts, forward contracts, options, and swaps are the most common types of derivatives. Derivatives are generally used by institutional investors to increase overall portfolio returns or to hedge portfolio risk. A derivative is a financial instrument that does not constitute ownership, but a promise to convey ownership.

All derivatives are based on some underlying financial or non-financial item. For example, the underlying products could be any of the following:

- **Equity shares**: These include equity shares listed in the stock exchanges, index based on the equity market, etc.
- **Commodities:** These include grain, wheat, pepper, coffee, cotton, crude etc.

- **Foreign exchange:** This is buying and selling of foreign currency at the spot rates that are quoted by the inter banks.
- **Bonds** of various different varieties like Eurobonds, domestic bonds, fixed interest or floating rate notes, etc. Bonds are medium- to long-term negotiable debt securities issued by governments, government agencies, federal or state bodies, the World Bank, or companies. These bonds may be freely traded without reference to the issuer of the security if they are negotiable.
- **Short-term money market negotiable debt securities** such as T-bills issued by governments, commercial paper issued by companies or bankers acceptances. These are similar to bonds, except that they differ mainly in their maturity. "Short term" is usually defined as being up to one year in maturity. "Medium term" is commonly taken to mean from one to five years in maturity, and long term anything above that.
- **Benchmark interest rates** such as a three-month LIBOR.

Various types of derivative contracts

Table 6.1 gives a list various types of contracts with the corresponding underlying variable:

Table 6.1 Derivative contracts & underlying variables

Type of Contract	Underlying Variable
Interest rate swap	Interest rates
Currency swap	Currency rates
Commodity swap	Commodity prices
Equity swap	Equity prices (equity of another entity)
Credit swap	Credit rating, credit index or credit price
Total return swap	Total fair value of the reference asset and interest rates
Purchased or written equity option (call or put)	Equity prices
Purchased or written equity index option (call or put)	Equity index
Purchased or written treasury bond option (call or put)	Interest rates
Purchased or written currency option (call or put)	Currency rates
Purchased or written commodity option (call or put)	Commodity prices
Equity futures	Equity prices
Equity index futures	Equity index
Currency futures	Currency rates
Commodity futures	Commodity prices
Currency forward	Currency rates
Commodity forward	Commodity prices

In this chapter we will cover interest rate derivatives in particular even though much of these concepts are applicable for other types of derivatives as well.

DEFINITION OF DERIVATIVES AS PER ACCOUNTING STANDARDS

As per US GAAP

- As per the US GAAP Accounting Standard, a derivative instrument is defined as follows: A derivative instrument is a financial instrument or other contract with all three of the following characteristics:

- It has (1) one or more underlyings and (2) one or more notional amounts or payment provisions or both. Those terms determine the amount of the settlement or settlements, and, in some cases, whether or not a settlement is required.
- It requires no initial net investment or an initial net investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors.
- Its terms require or permit net settlement, it can readily be settled net by a means outside the contract, or it provides for delivery of an asset that puts the recipient in a position not substantially different from net settlement.

As per IFRS

As per IAS 39, the key definitions for derivatives are as follows:

A **derivative** is a financial instrument with the following three characteristics:

- Its value changes in response to a change in price of, or index on, a specified underlying financial or non-financial item or other variable;
- It requires no, or comparatively little, initial investment; and
- It is to be settled at a future date.

In the definition of a derivative it has been clarified that a contract will meet the definition of a derivative regardless of whether it is settled net or gross. In this regard this definition is different from the US GAAP, which excludes contracts that are settled gross.

An interest rate swap would be a derivative financial instrument even if the parties pay the interest payments to each other on a gross settlement basis or settle the same on a net basis.

Even though the definition of a derivative requires that the instrument is settled at a future date, it is clarified that this criterion is met even if an option is expected not to be exercised (for example, it is out of the money). This is so because expiry at maturity is a form of settlement even though there is no additional exchange of consideration.

ACCOUNTING STANDARDS FOR INTEREST RATE DERIVATIVES

In the subsequent chapters we will cover the accounting requirements for interest rate derivatives in the form of interest rate swaps, caps, floors, collars and reverse collars. Also we will cover cross currency swaps and swaption contracts. An interest rate derivative instrument is a form of derivative and if used as a hedging instrument requires special hedge accounting treatment.

The accounting treatment under the US GAAP for interest rate derivatives is covered in Table 6.2. The relevant International Financial Reporting Standards, IAS (International Accounting Standard) are also given:

Table 6.2 Relevant accounting standards

US GAAP Topics	IFRS
220—Comprehensive Income	IFRS 7—Financial Instruments: Disclosure
320—Investments—Debt and Equity Securities	IFRS 9—Financial Instruments
820—Fair Value Measurements and Disclosures	IAS 21—The Effects of Changes in Foreign Exchange Rates
825—Financial Instruments	IAS 32—Financial Instruments: Presentation
830—Foreign Currency Matters	IAS 36—Impairment of Assets
946—Financial Services—Investment Companies	IAS 39—Financial Instruments: Recognition and Measurement

DIFFERENCES BETWEEN US GAAP AND IFRS

Table 6.3 shows the differences between US GAAP and IFRS in respect of treatment of derivatives.

Table 6.3 Derivatives treatment

Topic	US GAAP	IFRS
Definition	A derivative is a financial instrument: • whose value changes in response to a specified variable or underlying rate (for example, interest rate); • that requires no or little net investment; • that is settled at a future date; and • that permits net settlement	Same as US GAAP except that there is requirement that the contract should permit net settlement
Initial measurement	Measured at fair value and on acquisition date and presented in balance sheet	Same as US GAAP
Subsequent measurement	Measured at fair value on subsequent valuation date and presented in balance sheet. This is irrespective of whether the derivative instrument is a hedging instrument or not	Same as US GAAP except that a derivative that should be settled by delivery of an equity shares that is unquoted and whose fair value cannot be reliably measured is carried at cost less impairment until settlement
Changes in Fair Value of derivative instrument	Recognized in the income statement. However if the instrument qualifies as a hedge then income recognized as per the hedge accounting norms	Same as US GAAP

OVER-THE-COUNTER CONTRACTS

Over-the-counter (OTC) derivatives are contracts that are traded directly between two parties, without going through an exchange or other intermediary. These are privately negotiated trades and the terms are structured in such a way to suit the parties involved in the trade. Interest rate swaps, forward rate agreements, and other exotic options are usually traded as over-the-counter derivatives. The OTC derivative market is the largest market for derivatives and is largely unregulated when it comes to disclosure of information between the parties. The predominant players in this market segment are banks and other less regulated entities like hedge funds. Reporting of OTC contracts is difficult because trades often occur privately between the counterparties and as such are not recorded on any exchange.

As OTC derivatives are not traded on an exchange, there is no central counterparty and this means that the contracts suffer from counterparty risk, like any other private contract between two parties where each one of them relies on the other to perform the contract. The counterparty risk faced by a derivatives trader is often in the form of replacement risk.

As per the market survey results provided by the International Swaps and Derivatives Association (ISDA), the notional amount outstanding of interest rate derivatives (IRD) was at US$426.75 trillion at the end of Dec 2009.

EXCHANGE-TRADED DERIVATIVE CONTRACTS

Exchange-traded derivative contracts are those derivatives instruments that are traded in specialized derivatives exchanges or other exchanges. A derivatives exchange is a market where different counterparties trade standardized contracts which are defined by the respective exchange. A derivatives exchange acts as an intermediary to all related transactions, and takes an initial margin as well as a variation margin from both sides of the trade to act as a guarantee for the performance of the contract. We can say that the counterparty risk is greatly reduced for exchange-traded derivative contracts because the settlement of exchange-traded futures and options is guaranteed by the clearing house associated with the exchange and therefore the clearing house acts as the central counterparty.

BENEFITS OF INTEREST RATE DERIVATIVES

Reasons for using interest rate swaps

Interest rate swaps are used by a wide range of commercial banks, investment banks, non-financial operating companies, insurance companies, mortgage companies, investment vehicles and trusts, government agencies and sovereign states for one or more of the following reasons:

- To hedge interest rate exposure;
- To take speculative positions in relation to future movements in interest rates;
- To lower the cost of funding;
- To create new types of investment assets not otherwise available;
- To implement the overall asset-liability management strategies.

To hedge interest rate exposure

An entity that provides fixed rate loans is exposed to pre-payment risk when faced with falling interest rates. The borrowers may prefer to close the existing mortgage and re-finance the same at a lower rate. The entity can protect against this risk by entering into an interest rate swap by receiving fixed and paying floating interest. Depending upon the risk management policy of the entity, the entity can opt to convert a portion of their lending portfolio from fixed rate to floating rate by entering into appropriate interest rate swap contracts.

To take speculative positions in relation to future movements in interest rates

The entity may want to take a speculative position on short-term interest rates and lower its cost of borrowing even further if in its judgment the level of future interest rates is expected to fall. There are also many exotic combinations of these interest rate derivatives, such as "indexed principal swap" where the notional principal amount continually amortizes in line with say a mortgage pre-payment index but the amortization rate increases when interest rates fall and the rate decreases when interest rates rise. The existence of the interest rate derivative market enables the entity to take a speculative position that best suits its specific requirement considering the overall portfolio of its loans and its judgment about the future rates of interest. Interest rate derivatives are used extensively to manage positions in a cost effective manner.

To lower the cost of funding

Interest rate derivatives are used to effectively lower the cost of funding. For example, a U.S. industrial entity with a good credit rating may want to raise funds for a six-year fixed-rate debt that would be callable at par after three years. In order to reduce its funding cost the entity can issue a six-month commercial paper and simultaneously enter into a six-year interest rate swap under which it receives a six-month floating rate of interest (LIBOR) and pays a series of fixed, semi-annual interest payments. The cost saving in this case would be quite handsome.

To implement the overall asset-liability management strategies

Interest rate derivatives are predominantly used by financial institutions and other market participants who have assets or liabilities that are sensitive to interest rates for hedging interest rate risk arising from the maturity mismatches between the asset and the liabilities. An entity with a high asset duration coupled with a low liability duration may "correct" its duration by entering into appropriate interest rate swap contracts to pay fixed interest and receive floating interest, despite losing some return percentage on its net worth. It is also common to find very highly leveraged institutions using interest rate swaps to fine-tune their duration gaps.

Comparative cost advantage to both parties

Whenever market inefficiencies exist there is scope for arbitrage opportunities and the interest rate derivative market is no exception to this. An entity can execute an interest rate swap contract to exploit the arbitrage opportunities, which is also known as the comparative cost advantage.

INTERNATIONAL SWAPS AND DERIVATIVES ASSOCIATION (ISDA)

The International Swaps and Derivatives Association (ISDA) is a trade organization of participants in the market for over-the-counter derivatives. Headquartered in New York, it has created a standardized contract (the ISDA Master Agreement) to enter into derivatives transactions. ISDA has more than 830 members in 57 countries; its membership consists of derivatives dealers, service providers and end users.

Since its inception, ISDA has pioneered efforts to identify and reduce the sources of risk in the derivatives and risk management business. Among its most notable accomplishments are: developing the ISDA Master Agreement; publishing a wide range of related documentation materials and instruments covering a variety of transaction types; producing legal opinions on the enforceability of netting and collateral arrangements (available only to ISDA members); securing recognition of the risk-reducing effects of netting in determining capital requirements; promoting sound risk management practices, and advancing the understanding and treatment of derivatives and risk management from public policy and regulatory capital perspectives.[1]

The ISDA Master Agreement was first published in 1992, and a second edition was published in 2002. The second edition was drafted in response to market difficulties in the late 1990s, and could be adopted either in a unified form or as standard form amendments to the first edition.

Netting provisions of ISDA

The most important aspect of the ISDA Master Agreement is that the Master Agreement and all the confirmations entered into under it form a single agreement. This is very important for regulated financial entities as it allows the parties to an ISDA Master Agreement to aggregate the amounts owed by each of them under all of the transactions outstanding under that ISDA Master Agreement and replace them with a single net amount payable by one party to the other. Netting allows the parties to net out amounts payable on the same day and in the same currency.

The main use of a netting provision is close-out netting, whereby the outstanding transactions under it are terminated following a credit event as defined by ISDA and the value of each of the terminated transactions is assessed.

Assume that in an interest rate derivative contract between parties A & B, A profits $1,000,0000 in one transaction and B profits $5,000,000 in another transaction simultaneously. And before the transactions are settled, B becomes insolvent. The danger for A is that B's liquidator will cherry pick profitable transactions and disclaim unprofitable transactions thereby requiring A to pay $5 million while requiring A to join the line of other creditors to claim the $1 million against B's estate. Needless to say that A will recover only a fraction of $1 million. If the close-out netting was effective, then A could have simply knocked off the $1 million from the $5 million payable to B and would have paid B a net amount of $4 million.

Credit support annex

ISDA also produces a credit support annex which further permits parties to an ISDA Master Agreement to mitigate their credit risk by requiring the party which is "out-of-the-money" to post

[1] ISDA, October 25, 2010, http://www.isda.org

collateral corresponding to the amount which would be payable by that party were all the outstanding transactions under the relevant ISDA Master Agreement terminated.

TYPES OF INTEREST RATE DERIVATIVES

Forward rate agreements

A forward rate agreement (FRA) is a contract between two parties to exchange interest payments on a specified notional principal amount for one future period of predetermined length (i.e., one month forward for three months). Effectively, an FRA is a short-term, single-period interest rate swap. Only interest flows are exchanged and no principal is exchanged. In a generic FRA one party pays fixed and the other party pays floating. This exchange allows for conversion of variable rate funding to fixed rate exposure or fixed rate funding to variable rate exposure.

Settlement: Settlement of an FRA is on a net basis and can occur on the start date or the maturity date. If the FRA is settled on the start date, the settlement is on a present value basis. If the FRA is settled on the maturity date, the settlement is on a same day basis. The settlement reflects the difference between the FRA rate and the floating rate set for the period. The determination of the floating rate depends upon its underlying index (i.e., LIBOR, Commercial Paper, Prime, etc.).

Normally there is a buyer and a seller of an FRA. The buyer is the fixed-rate payer and the seller is the floating rate payer. If interest rates increase, the value of the FRA increases to the buyer. If interest rates decline, the value of the FRA increases to the seller. An FRA can be terminated at any time with the consent of both parties. The termination amount (market value) will depend on the relationship between the fixed rate of the FRA and the current market rates. If one party is paying fixed rates and interest rates decline, that party will most likely have to pay to terminate the FRA. Conversely, if one party is paying fixed rates and interest rates rise, that party receives the added value upon termination.

If the fixed rate equals the floating rate, there is no FRA payment. If the fixed rate is greater than the floating rate, the fixed-rate payer pays the net amount. If the fixed rate is less than the floating rate, the floating-rate payer pays the net amount.

Forward rate agreement applications

Typically this type of interest rate derivative is used to fine-tune the proportion of fixed interest debt and floating interest debt. Assume for instance that a large corporate borrower's debt structure is 40 percent fixed and 60 percent floating. Their treasury department foresees interest rates rising at the end of the year and the corporation wants to increase its fixed rate debt to 75 percent during that period. To achieve this objective the corporation could pay off some of its floating rate debt and issue or borrow an additional fixed rate debt which, however, could cause very high transaction costs apart from the task itself being daunting. An easier and less expensive process is to enter into a forward rate agreement. The FRA converts the borrower's floating rate exposure to a fixed rate at the end of the year.

Where a corporation expects that interest rates are going to rise, the corporation can use an FRA to lock in the rate on the additional borrowing that they will need.

Interest rate swaps

Interest rate swaps are over-the-counter instruments where two parties agree to "swap" or exchange periodic interest payments. The amount of the interest payments exchanged is based on some predetermined principal also known as the notional principal. In a generic interest rate swap one party pays fixed and the other party pays floating. This exchange allows for conversion of variable rate funding to fixed rate exposure or fixed rate funding to variable rate exposure. The amount one

counterparty pays to the other is the agreed-upon periodic interest rate—either fixed or floating based on some agreed benchmark—applied on the notional principal. Only the interest component on the notional principal is exchanged between the parties and not the notional principal itself.

Exchange of payments occurs at preset payment dates over a specified term (for example, semi-annual payments for five years). Exchanges reflect differences between the fixed rate and each period's floating rate. The calculation or determination of the floating rate depends upon its underlying index, say, LIBOR.

Where the swaps are a discrete setting, the floating interest rate is set at the beginning of the period. The floating interest rate is also set at the end of the period based on the average of the underlying index during the period. The fixed and floating payments are usually netted and the counterparty owing the difference pays the net amount on the payment date. If an entity is paying a fixed rate and interest rates increase, the value of the swap increases to the fixed rate payer.

Termination of interest rate swaps

An interest rate swap can be terminated at any time with the consent of both parties and the termination amount depends upon the relationship between the fixed rate on the swap and current market rates. If a party is paying a fixed rate and interest rates decline, that party has to pay to terminate the swap. However, if a counterparty is paying a fixed rate and interest rates rise, that party receives the market value upon termination.

Caps

An interest rate cap is an interest rate derivative contract, which has a ceiling viz. cap strike—on a floating rate of interest on a specified notional principal amount for a specific term. The cap buyer effectively uses the cap contract to limit the entity's maximum interest rate payable. If the buyer's floating rate rises above the cap strike, the cap contract provides for payments from the seller to the buyer of the cap for the difference between the floating rate and the cap strike. If the floating rate remains below the cap strike, no payments are required. The cap buyer is required to pay an upfront fee for the cap, which is known as the premium for the contract. The interest rate cap can be thought of as a series of call options, or caplets, which exist for each period the cap agreement is in existence.

The cap premium charged by the seller depends upon the market's assessment of the probability that rates will move through the cap strike over the time horizon of the deal. The premium for the cap contract is paid on trade date + 2 days. The cap premium takes the form of an upfront charge that is usually expressed in basis points as a percentage of the notional principal amount.

If the cap strike is greater than the floating rate, there will be no payment on the cap. However, the amortized premium increases the effective interest rate paid by the buyer of the cap. If the floating rate is greater than the cap strike on the reset date, the seller of the cap will pay the buyer at settlement an amount calculated as notional principal x (floating rate—cap strike) x actual days/365.

Floors

An interest rate floor is a form of interest rate derivative contract that has a minimum value—floor strike—on a floating rate of interest on a specified notional principal amount for a specific term. The floor buyer uses the floor contract to limit his minimum interest rate receivable. The seller of the floor agrees to pay a minimum rate of interest on the notional for which the seller gets a premium. One of the uses for this interest rate derivative is to offset the cost of a purchased interest rate cap. If the floating rate drops below the floor strike, the floor contract enables the floor buyer to get from the floor seller the difference between the floor strike and the floating rate. An interest rate floor is a series of put options, or floorlets, on a specified reference rate, usually LIBOR.

Just like the cap, in the case of floor the premium charged by the seller depends upon the market's assessment of the probability that rates will drop below the floor strike over the life of the contract. The premium for the floor contract is paid on trade date + 2 days. The floor premium takes the form of an upfront charge that is usually expressed in basis points as a percentage of the notional principal amount.

If the floor strike is greater than the floating rate, there will be no receipt from the floor. If the floating rate is lower than the floor strike on the reset date, the seller of the cap will pay the buyer at settlement an amount calculated as notional principal x (floor strike—floating rate) x actual days/365. The floor buyer's effective interest rate is equal to the higher of the floating rate or the strike, less, in each case, the amortized cost of the floor premium.

Interest rate collar

An interest rate collar is a form of interest rate derivative, which is the simultaneous purchase of an interest rate cap and sale of an interest rate floor on the same index for the same maturity and notional principal amount.

- The cap rate is set above the floor rate.
- The objective of the buyer of a collar is to protect against rising interest rates.
- The purchase of the cap protects against rising rates while the sale of the floor generates premium income.
- A collar creates a band within which the buyer's effective interest rate fluctuates.

An interest rate collar is a combination of an interest rate cap and an interest rate floor. The buyer of the collar purchases the cap that places a ceiling on the interest rate he will pay, and sells the floor to obtain a premium to pay for all or part of the cap.

This type of derivative contract is very useful especially because it pegs interest rate payment commitments by the buyer of the collar to a range specified by the strike rates of both the cap and floor. If the floating rate rises above the cap strike, the collar contract ensures receipt from the seller of the collar to the buyer for the difference between the floating rate and the cap strike. On the other hand, if the floating rate falls below the floor strike, the collar buyer pays the collar seller the difference between the floor strike and the floating rate.

Similar to a cap or a floor contract, the collar premium charged by the seller depends upon the market's assessment of the probability that rates will move above the cap or below the floor level over the life of the contract. The premium for the floor contract is paid on the trade date + 2 days. The premium takes the form of an upfront charge that is usually expressed in basis points as a percentage of the notional principal amount. There are also collar contracts that are available at virtually no cost, as the price paid for the cap equals the price received for the floor, and no net premium is exchanged between the buyer and seller of the collar.

Reverse collars

An interest rate reverse collar is a form of interest rate derivative, which is the simultaneous sale of an interest rate cap and purchase of an interest rate floor on the same index for the same maturity and notional principal amount.

An interest rate reverse collar is a combination of an interest rate cap and an interest rate floor. It is similar to that of a collar except that in this case the buyer of the collar sells the cap and buys the floor.

This type of derivative contract is also very useful especially because it protects the buyer from falling interest rates. If the floating rate rises above the cap strike, the reverse collar contract ensures

payment by the buyer of the reverse collar to the seller for the difference between the floating rate and the cap strike. On the other hand, if the floating rate falls below the floor strike, the reverse collar buyer receives from the reverse collar seller the difference between the floor strike and the floating rate.

Similar to a cap or a floor contract, the reverse collar premium charged by the seller depends upon the market's assessment of the probability that rates will move above the cap or below the floor level over the life of the contract. The premium for the floor contract is paid on the trade date + 2 days. The premium takes the form of an upfront charge that is usually expressed in basis points as a percentage of the notional principal amount. There are also reverse collar contracts that are available at virtually no cost, as the premium received for selling the cap equals the price paid for buying the floor, and no net premium is exchanged between the buyer and seller of the reverse collar.

Swaption

A swaption is an option granting the buyer the right but not the obligation to enter into an underlying swap. Although swaptions can be traded on a variety of swaps, the term "swaption" typically refers to options on interest rate swaps.

There are two types of swaption contracts:

- A **payer swaption** gives the buyer of the swaption the right to enter into a swap where they pay the fixed leg and receive the floating leg.
- A **receiver swaption** gives the buyer of the swaption the right to enter into a swap where they will receive the fixed leg, and pay the floating leg.

Both the counterparties of the swaption agree on certain basic terms of the contract, such as:

- The premium of the swaption (price to be paid by the buyer to the seller of the swaption);
- The strike rate (equal to the fixed rate of the underlying swap);
- Length of the option period (which usually ends two business days prior to the start date of the underlying swap);
- The terms of the underlying swap;
- The notional amount;
- Amortization, if any; and
- Frequency of settlement of payments on the underlying swap.

Swaption—payer's

An interest rate swaption is an option to enter into an interest rate swap agreement on agreed terms at the option of the buyer of the swaption on a future date. The terms of the swaption contract includes among other things the expiration date; option type—payer's swaption or receiver's swaption, exercise style—European or American or Bermudan; the terms of the underlying swap and the type of settlement—cash or physical.

Until the expiration date, the buyer of the swaption contract can either notify the writer of the instrument of the entity's intention to exercise the option contract resulting in the creation of an interest rate swap contract as per the terms already agreed with the writer, or can let the option expire.

A payer's swaption is the right to pay a fixed rate. A payer's swaption is similar to a put on a fixed rate instrument or the fixed rate side of the swap. The main motive in buying a payer's swaption is to obtain protection from paying a substantially higher fixed rate of interest over the life of the swap agreement.

If interest rates rise over the life of the payer's swaption, the swaption buyer will exercise the right to pay the pre-set fixed rate as it will be lower than the market rate. If interest rates fall, the value of the fixed rate payments will fall and the payer's swaption will not be worth exercising.

Swaption—receiver's

A receiver's swaption is the right to receive a fixed rate. A receiver's swaption is similar to a call on a fixed rate instrument or the fixed rate side of the swap. The main motive in buying a receiver's swaption is to obtain protection from receiving a substantially lower fixed rate of interest over the life of the swap agreement.

HEDGED OR HEDGING INSTRUMENT—STATUS OF VARIOUS FINANCIAL INSTRUMENTS

Table 6.4 shows the status of various financial instruments from the perspective of being designated as a hedged item or a hedging instrument.

Table 6.4 Various financial instruments designated as hedged or hedging instrument—status

Sl. No.	Instrument	Risk/reward	Can it be a hedged instrument?	Can it be a hedging instrument?	Type of risks hedged	Remarks
1	Fixed income securities—FVPL	Symmetric	Yes	No	Interest rate risk	
2	Fixed income securities—AFS	Symmetric	Yes	No	Interest rate risk	
3	Fixed income securities—HTM	Symmetric	Yes	Yes	Only FX rate risk Credit risk	@
4	Interest rate swaps	Symmetric	No	Yes	Interest rate risk	#
5	Cross currency interest rate swaps	Symmetric	No	Yes	Interest rate risk, FX rate risk	#
6	Interest rate cap—To pay	Asymmetric	No	No	Interest rate risk	$
7	Interest rate cap—To receive	Asymmetric	No	Yes	Interest rate risk	#
8	Interest rate floor—To pay	Asymmetric	No	No	Interest rate risk	$
9	Interest rate floor—To receive	Asymmetric	No	Yes	Interest rate risk	#
10	Interest rate collar	Asymmetric	No	Yes with restrictions	Interest rate risk	&
11	Interest rate reverse collar	Asymmetric	No	Yes with restrictions	Interest rate risk	&

@: A held-to-maturity investment cannot be a hedged item with respect to interest-rate risk or prepayment risk because designation of an investment as held to maturity requires an intention to hold the investment until maturity without regard to changes in the fair value or cash flows of such an investment attributable to changes in interest rates. However, a held-to-maturity investment can be a hedged item with respect to risks from changes in foreign currency exchange rates and credit risk.

#: This derivative financial instrument may be designated as hedging instrument provided it is with an external party. Intra-group derivatives do not qualify as a hedging instrument in consolidated financial statements, although they may qualify in the separate financial statements of individual entities in the group. A derivative may be designated as a hedging instrument only in its entirety or as a proportion i.e., a percentage of the notional amount.

$: "To pay" type of interest rate cap is like a written option contract where a premium is received and hence cannot be designated as a hedging instrument. A written option cannot be designated as a hedging instrument because the potential loss on an option that an entity writes could be significantly greater than the potential gain in value of a related hedged item.

&: An interest rate collar or other derivative instrument that includes a written option cannot be designated as a hedging instrument if it is a net written option, because the standard precludes the use of a written option as a hedging instrument unless it is designated as an offset to a purchased option. An interest rate collar or other derivative instrument that includes a written option may be designated as a hedging instrument, however, if the combination is a net purchased option or zero cost collar.

SUMMARY

- A derivative instrument is a financial instrument, such as an option or futures contract, whose value depends on the performance of an underlying security or asset. Futures contracts, forward contracts, options, and swaps are the most common types of derivatives.
- Derivatives are generally used by institutional investors to increase overall portfolio return or to hedge portfolio risk. A derivative is a financial instrument that does not constitute ownership, but a promise to convey ownership.
- Over-the-counter (OTC) derivatives are contracts that are traded directly between two parties, without going through an exchange or other intermediary. These are privately negotiated trades and the terms are structured in such a way to suit the parties involved in the trade. Interest rate swaps, forward rate agreements, and other exotic options are usually traded as the over-the-counter derivatives.
- The OTC derivative market is the largest market for derivatives. The OTC market is largely unregulated when it comes to disclosure of information between the parties. The predominant players in this market segment are banks and other unregulated entities like hedge funds. Reporting of OTC contracts is difficult because trades often occur privately between the counterparties and as such these trades are not recorded on any exchange.
- As per the market survey results provided by the International Swaps and Derivatives Association (ISDA), the notional amount outstanding of interest rate derivatives (IRD) was at US$426.75 trillion at the end of Dec 2009.
- Exchange-traded derivative contracts are those derivatives instruments that are traded in specialized derivatives exchanges or other exchanges. A derivatives exchange is a market where different counterparties trade standardized contracts which are defined by the respective exchange.
- A derivatives exchange acts as an intermediary to all related transactions, and takes initial margin as well as variation margin from both sides of the trade to act as a guarantee for the performance of the contract.
- Interest rate swaps are used by a wide range of commercial banks, investment banks, non-financial operating companies, insurance companies, mortgage companies, investment vehicles and trusts, government agencies and sovereign states for one or more of the following reasons:
  - To hedge interest rate exposure;
  - To take speculative positions in relation to future movements in interest rates;
  - To lower the cost of funding;
  - To create new types of investment assets which are not otherwise available;
  - To implement overall asset-liability management strategies.
- A forward rate agreement (FRA) is a contract between two parties to exchange interest payments on a specified notional principal amount for one future period of predetermined length (i.e., one month forward for three months).
- Effectively an FRA is a short-term, single period interest rate swap. Only interest flows are exchanged and no principal is exchanged. In a generic FRA one party pays fixed and the other party pays floating. This exchange allows for conversion of variable rate funding to fixed rate exposure or fixed rate funding to variable rate exposure.
- Interest rate swaps are over-the-counter instruments where two parties agree to "swap" or exchange periodic interest payments. The amount of the interest payments exchanged is based on some predetermined principal, also known as the notional principal. In a generic interest rate swap one party pays fixed and the other party pays floating.
- This exchange allows for conversion of variable rate funding to fixed rate exposure or fixed rate funding to variable rate exposure. The amount one counterparty pays to the other is

the agreed-upon periodic interest rate—either fixed or floating based on some agreed benchmark—applied on the notional principal. Only the interest component on the notional principal is exchanged between the parties and not the notional principal itself.

- An interest rate cap is an interest rate derivative contract, which has a ceiling viz. cap strike—on a floating rate of interest on a specified notional principal amount for a specific term. The cap buyer effectively uses the cap contract to limit the entity's maximum interest rate payable.
- If the buyer's floating rate rises above the cap strike, the cap contract provides for payments from the seller to the buyer of the cap for the difference between the floating rate and the cap strike. If the floating rate remains below the cap strike, no payments are required. The cap buyer is required to pay an upfront fee for the cap, which is known as the premium for the contract. The interest rate cap can be thought of as a series of call options or caplets, which exist for each period the cap agreement is in existence.
- An interest rate floor is a form of interest rate derivative contract that has a minimum value—floor strike—on a floating rate of interest on a specified notional principal amount for a specific term. The floor buyer uses the floor contract to limit his minimum interest rate receivable. The seller of the floor agrees to pay a minimum rate of interest on the notional for which the seller gets a premium. One of the uses for this interest rate derivative is to offset the cost of a purchased interest rate cap.
- If the floating rate drops below the floor strike, the floor contract enables the floor buyer to get from the floor seller the difference between the floor strike and the floating rate. An interest rate floor is a series of put options, or floorlets, on a specified reference rate, usually LIBOR.
- An interest rate collar is a form of interest rate derivative, which is the simultaneous purchase of an interest rate cap and sale of an interest rate floor on the same index for the same maturity and notional principal amount.
- An interest rate collar is a combination of an interest rate cap and an interest rate floor. The buyer of the collar purchases the cap that places a ceiling on the interest rate he will pay, and sells the floor to obtain a premium to pay for all or part of the cap.
- This type of derivative contract is very useful especially because it pegs interest rate payment commitments by the buyer of the collar to a range specified by the strike rates of both the cap and floor. If the floating rate rises above the cap strike, the collar contract ensures receipt from the seller of the collar to the buyer for the difference between the floating rate and the cap strike. On the other hand, if the floating rate falls below the floor strike, the collar buyer pays the collar seller the difference between the floor strike and the floating rate.
- An interest rate reverse collar is a form of interest rate derivative that is the simultaneous sale of an interest rate cap and purchase of an interest rate floor on the same index for the same maturity and notional principal amount.
- An interest rate reverse collar is a combination of an interest rate cap and an interest rate floor. It is similar to that of a collar except that in this case the buyer of the collar sells the cap and buys the floor.
- A swaption is an option granting the buyer the right but not the obligation to enter into an underlying swap. Although swaptions can be traded on a variety of swaps, the term "swaption" typically refers to options on interest rate swaps.
- There are two types of swaption contracts:
  - A payer swaption gives the buyer of the swaption the right to enter into a swap where they pay the fixed leg and receive the floating leg.
  - A receiver swaption gives the buyer of the swaption the right to enter into a swap where they will receive the fixed leg, and pay the floating leg.

EXERCISE

Theory questions

1. Define a derivative instrument as per the accounting standards—both US GAAP as well as IFRS.
2. What are the major differences between US GAAP and IFRS as far as derivative contracts are concerned?
3. What are over-the-counter derivative contracts? How are these different from exchange-traded derivative contracts?
4. What is an interest rate derivative?
5. What are the benefits of interest rate derivatives?
6. What is ISDA and how is it useful to over-the-counter derivative trades?
7. What is meant by close-out netting? Is it really useful for the counterparties to a trade?
8. What is meant by forward rate agreements?
9. Explain the nuances of an interest rate swap contract.
10. What is a cap and floor? Compare and contrast caps vs. floors.
11. What is y an interest rate collar? How is it different from a reverse collar instrument?
12. "An interest collar should always command a premium." Explain this myth.
13. What is a swaption contract, and what are the two types of swaption contracts?

Objective—questions

1. Derivatives are generally used by _____.
   a) Retail investors
   b) Institutional investors
   c) Insurance companies
   d) All of the above
2. All derivatives are based on some underlying _____ product.
   a) Asset
   b) Cash
   c) Credit
   d) All of the above
3. A purchased or written treasury bond option (call or put) is a derivative contract with the underlying as _____.
   a) Currency rates
   b) Commodity prices
   c) Interest rates
   d) None of the above
4. Derivatives are settled at a_____.
   a) Trade date
   b) Forward date
   c) Future date
   d) None of the above
5. An interest rate derivative is measured at _____.
   a) Face value
   b) Fair value
   c) Dirty price
   d) None of the above

6. The OTC market is largely _____when it comes to disclosure of information between the parties.
   a) Regulated
   b) Unregulated
   c) Measured
   d) None of the above
7. An entity that provides fixed rate loans is exposed to pre-payment risk when faced with falling _____.
   a) Bank rates
   b) Interest rates
   c) Currency rates
   d) None of the above
8. A forward rate agreement is a_____, single period interest rate swap.
   a) Long-term
   b) Medium-term
   c) Short-term
   d) None of the above
9. During termination of an interest rate swap, if a party is paying _____ rates and interest rates decline, that party has to pay to terminate the swap.
   a) Floating
   b) Fixed
   c) Nominal
   d) None of the above
10. The cap buyer effectively uses the cap contract to limit the entity's maximum _____.
    a) Interest payable
    b) Interest income
    c) Interest receivable
    d) None of the above
11. An interest rate collar is a form of interest rate derivative which is the simultaneous purchase of an interest rate cap and sale of an _____.
    a) Interest rate cap
    b) Interest rate reverse collar
    c) Interest rate floor
    d) None of the above
12. An interest rate reverse collar is a form of interest rate derivative which is the simultaneous sale of an _____and purchase of an interest rate floor.
    a) Interest rate cap
    b) Interest rate reverse collar
    c) Interest rate floor
    d) None of the above
13. A payer swaption gives the buyer of the swaption the right to enter into a swap where they pay the fixed leg and receive the _____leg.
    a) Fixed
    b) Floating
    c) Nominal
    d) None of the above

14. A receiver swaption gives the buyer of the swaption the right to enter into a swap where they will receive the _____ leg, and pay the floating leg.
    a) Fixed
    b) Floating
    c) Nominal
    d) None of the above

CHAPTER 7

Interest Rate Swaps—Receive Fixed Pay Floating

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Meaning of interest rate swaps
- Meaning of receive fixed and pay floating type of interest rate swap
- Definition of a derivative as per US GAAP and IFRS
- Interest rate swap as a hedging instrument
- Accounting for interest rate swaps
- Interest rate swap instrument—receive fixed and pay floating
- Trade life cycle of interest rate swaps
- Accounting journal entries to be recorded during the different phases of the trade life cycle
- Illustration of investments in interest rate swaps
- Preparation of general ledger accounts
- Preparation of income statement, balance sheet after the investments in interest rate swaps are made
- FX revaluation and FX translation process
- Functional currency, foreign currency and presentation currency

MEANING OF INTEREST RATE SWAP

An interest rate derivative is a derivative where the underlying asset is the right to pay or receive a notional amount of money at a given interest rate. Interest rate swaps are over-the-counter instruments. In an interest rate swap, two parties agree to "swap" or exchange periodic interest payments. The amount of the interest payments exchanged is based on some predetermined principal also known as the notional principal. The amount one counterparty pays to the other is the agreed-upon periodic interest rate—either fixed or floating based on some agreed benchmark—applied on the notional principal. Only the interest component on the notional principal is exchanged between the parties and not the notional principal itself.

Typically, one party agrees to pay the other party fixed interest payments at designated dates for the life of the contract. This party is referred to as the fixed-rate payer. The other party, who agrees to make interest rate payments that float with some reference rate, is referred to as the fixed-rate receiver. Such swaps are referred to as fixed-for-floating rate swaps. The rates used for the floating leg of the interest rate swap are those on various money market instruments viz. treasury bills, the

London interbank offered rate (LIBOR), commercial paper, the prime rate etc. The most common however is the LIBOR.

The notional principal for the swap can vary over the life of the swap. A swap in which the notional principal decreases over time is called an amortizing swap. A swap in which the notional principal increases over time is called an accreting swap. Swaps where both parties pay a floating interest rate is referred to as a basis swap.

Illustration of an interest rate swap

Suppose that for the next five years party B agrees to pay party A 5 percent per year, while party A agrees to pay party B 3-month LIBOR + 50 basis points. Assume that the notional principal is $10 million, and that payments are exchanged every three months for the next five years. Party B is the fixed-rate payer, while party A is the fixed-rate receiver. So every three months, party B (the fixed-rate payer) will pay party A $125,000 (5 percent on $10 million for the quarter). Party A (the fixed-rate receiver) on the other hand will pay party B an amount calculated at 3-month LIBOR + 50 basis points on the same $10 million applicable for the quarter. Assuming that the 3-month LIBOR is say 5.25 percent, party A will pay party B $143,750 (5.25 + 0.50 percent on $10 million for the quarter).

DEFINITION OF A DERIVATIVE

Let us recapitulate the definition of a derivative contract as per the accounting standard and reassure that interest rate swaps are in fact derivative contracts.

As per US GAAP

As per the US GAAP accounting standard, a derivative instrument is defined as follows:

- A derivative instrument is a financial instrument or other contract with all three of the following characteristics:
  - It has (1) one or more underlyings and (2) one or more notional amounts or payment provisions or both. Those terms determine the amount of the settlement or settlements, and, in some cases, whether or not a settlement is required.
  - It requires no initial net investment or an initial net investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors.
  - Its terms require or permit net settlement, it can readily be settled net by a means outside the contract, or it provides for delivery of an asset that puts the recipient in a position not substantially different from net settlement.

As per IFRS

As per IAS 39, the key definitions for derivatives are as follows:

- A derivative is a financial instrument with the following three characteristics:
  - Its value changes in response to a change in price of, or index on, a specified underlying financial or non-financial item or other variable;
  - It requires no, or comparatively little, initial investment; and
  - It is to be settled at a future date.

In the definition of a derivative it has been clarified that a contract will meet the definition of a derivative regardless of whether it is settled net or gross. In this regard this definition is different from the US GAAP, which excludes contracts that are settled gross.

However, an interest rate swap would be a derivative financial instrument even if the parties pay the interest payments to each other on a gross settlement basis or settle the same on a net basis.

Even though the definition of a derivative requires that the instrument is settled at a future date, it is clarified that this criterion is met even if an option is expected not to be exercised—for example, if it is out of the money. This is so because expiry at maturity is a form of settlement even though there is no additional exchange of consideration.

Being derivative contracts these contracts are valued at fair market value as on the valuation date and the net change in the fair market value is treated as profit or loss during the period.

Interest rate swaps are derivatives

Interest rate swaps are derivatives within the scope of accounting standards as they fulfill all the conditions laid down for being a derivative contract. As per US GAAP the net settlement condition laid down in the standard fits the description if its settlement provisions meet the criterion where neither party is required to deliver an asset that is associated with the underlying or has a principal amount, stated amount, face value, number of shares, or other denomination that is equal to the notional amount (or the notional amount plus a premium or minus a discount), as in the case of interest rate swaps which do not require that either party deliver interest-bearing assets with a principal amount equal to the notional amount of the contract.

Interest rate swap as a hedging instrument

Being a derivative instrument, an interest rate swap per se qualifies as a hedging instrument. It should be noted that in an interest rate swap, the risk reward is symmetric and can be more or less compared to an equity futures position. An interest rate swap instrument can be used to hedge primarily interest rate risk.

It should be noted that the derivative financial instrument of an interest rate swap may be designated as a hedging instrument provided it is with an external party. Intra-group derivatives do not qualify as a hedging instrument in consolidated financial statements, although they may qualify in the separate financial statements of individual entities in the group. A derivative may be designated as a hedging instrument only in its entirety or as a proportion—i.e., a percentage of the notional amount. This type of interest rate swap instrument can be used for conversion of fixed rate debt into variable rate debt and fair value hedge accounting is applicable for this case subject to the fulfillment of all other requirements for hedge accounting.

ACCOUNTING FOR INTEREST RATE SWAPS

Table 7.1 provides the list of accounting standards relevant for this chapter. In this chapter we will cover the accounting requirements for investments in interest rate swaps.

Table 7.1 Relevant accounting standards

US GAAP Topics	IFRS
220—Comprehensive Income	IFRS 7—Financial Instruments: Disclosure
815—Derivatives and Hedging	IFRS 9—Financial Instruments
820—Fair Value Measurements and Disclosures	IAS 21—The Effects of Changes in Foreign Exchange Rates
825—Financial Instruments	IAS 32—Financial Instruments: Presentation
830—Foreign Currency Matters	IAS 39—Financial Instruments: Recognition and Measurement
946—Financial Services—Investment Companies	

THE TRADE LIFE CYCLE FOR INTEREST RATE SWAPS

- Recording the trade—contingent
- Account for the upfront fee (premium on the trade)
- Pay or receive the upfront fee for the trade
- Reset the interest rate for the floating leg
- Account for accrued interest on pay leg on valuation date
- Account for accrued interest on receive leg on valuation date
- Reverse the accrued interest on pay leg on coupon date
- Reverse the accrued interest on receive leg on coupon date
- Account for the interest payable on the pay leg on coupon date
- Account for the interest receivable on the receive leg on coupon date
- Pay and receive the interest (net interest if dates coincide)
- Reverse the existing net present value of the trade
- Ascertain the fair value on valuation date
- Termination of the trade and accounting for termination fee
- Payment or receipt of termination fee
- Maturity of the trade
- Reversal of the contingent entry on maturity/termination
- FX revaluation entries (for foreign currency trades)
- FX translation entries (for foreign currency trades)

Let us assume the contract data provided in Table 7.2 for the purpose of understanding the trade life cycle for an interest rate swap:

RECEIVE FIXED & PAY FLOATING—ILLUSTRATION 1

Table 7.2 Details of the interest rate swap contract

IRS contract details:	Receive leg	Pay leg
Terms	Fixed	Floating
Notional amount	20,000,000	20,000,000
Currency	USD	USD
Day count—actual/365; 30/360	365	360
Interest payment terms	Quarterly	Quarterly
Rate of interest	6.80	US 3 months LIBOR + 25 bps
Reset terms	Fixed	Prefix/post paid

	Receive leg—fixed		Pay leg—floating		
Coupon reset dates	Trade date	Settle date	Trade date	Settle date	LIBOR
Inception	–	–	22-Jan-X1	24-Jan-X1	5.36000
Coupon date-1	24-Apr-X1	26-Apr-X1	24-Apr-X1	26-Apr-X1	5.36000
Coupon date-2	24-Jul-X1	26-Jul-X1	24-Jul-X1	26-Jul-X1	5.35500
Coupon date-3	24-Oct-X1	26-Oct-X1	24-Oct-X1	26-Oct-X1	5.36000
				31-Dec-X1	5.09250

Other details	Trade date	Notional amount	Premium	Settle date
IRS Contract position taken (inception)	22-Jan-X1	20,000,000.00	816,738.90	24-Jan-X1
Partial termination	05-Dec-X1	10,000,000.00	555,141.98	07-Dec-X1
Upfront fees paid				

Valuation dates and net present values	Date	Net NPV	Net Interest
Valuation date 1	31-Mar-X1	889,704.39	37,101.14
Valuation date 2	30-Jun-X1	589,716.25	44,127.17
Valuation date 3	30-Sep-X1	864,272.57	47,669.86
Termination	07-Dec-X1	555,141.98	18,159.41
Valuation date 4	31-Dec-X1	543,931.07	27,255.07

Other details	Date	USD
Capital Introduced	01-Jan-X1	2,000,000

Recording the trade—contingent (at the inception of the interest rate swap)

Unlike bonds and equities, in an interest rate swap generally there is no exchange of money taking place of principal during the purchase or at the maturity of the swap. The interest rates to be paid are calculated on a notional amount.

In the current example, fixed interest is receivable on the notional principal and a floating interest is payable based on 3 LIBOR + 25 basis points. This interest rate swap agreement is based on "fixed-for-floating," a series of payments calculated by applying a fixed rate of interest to a notional principal amount in exchange for a stream of payments similarly calculated but using a floating rate of interest.

As this is a notional amount and no physical exchange of money takes place, an off balance sheet entry as shown in Table 7.3 is made to record the transaction.

Table 7.3 On purchase of interest rate swap trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Jan-X1	Interest rate swap account—OBS	20,000,000.00	
	To Interest rate swap (Contra) account—OBS		20,000,000.00
	(Being the recording of interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

Account for the upfront fee at the inception of an interest rate swap trade

The net present value of the trade at the time of entering into the contract is also known as the upfront fee on the trade. The present value of the pay leg and the receive leg is computed separately and discounted back, based on the yield curve to arrive at the net present value of the contract. This may either be a positive or negative value, meaning that the upfront fee may have to be either paid or received depending upon the present value of the two legs. Some also refer to the upfront fee as premium on the trade even though strictly speaking the term "premium" is used for option contracts like an interest rate cap or floor.

In the current example the net present value is a positive value, meaning this amount has to be paid by the investor to enter into this contract. The net present value of the "receive leg" and the "pay leg" is $816,738.90 and the entry to record the upfront fee is as shown in Table 7.4.

Table 7.4 On accounting for upfront fee on purchase of interest rate swap trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Jan-X1	IRS NPV—(Asset/Liability) account	816,738.90	
	To ABC Counterparty account		816,738.90
	(Being the upfront fee payable at the inception of interest rate swap contract representing the net present value of the swap on this date)		

Pay or receive the upfront fee for the trade

The next event in the trade life cycle is the payment or receipt of the upfront fee, as the case may be. In this illustration the upfront fee is payable to the counterparty and as such is paid on the settle date. Assuming that the counterparty is paid on T + 2 then the accounting entry that is recorded in the books of accounts is as shown in Table 7.5.

Table 7.5 On payment of upfront fee on purchase of interest rate swap trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Jan-X1	ABC Counterparty account	816,738.90	
	To bank account		816,738.90
	(Being the upfront fee paid at the inception of interest rate swap contract representing the net present value of the swap on this date)		

Reset the interest rate for the floating leg (pay leg)

Interest based on the benchmark to arrive at the floating rate for the "pay leg" is reset for the next payment period. Usually the interest is prefixed for the next payment period based on the benchmark rate. The frequency of the reset is based on the swap contract.

In this case the payment period is quarterly. The rate of 5.36 percent, which represents the benchmark interest rate 3 months LIBOR, is reset for the next quarter commencing from the date of reset. No accounting entry is recorded at this stage.

Account for accrued interest on pay leg on valuation date

Interest is payable on the pay leg based on the day count and the interest that is reset as determined in the previous step. In this case the interest rate is set at 5.36 percent and 25 basis points is added to this to arrive at the effective interest rate of 5.61 percent and the day count is 30/360. On the valuation date any interest accrued on the pay leg based on the floating rate of interest is computed and accounted for. This entry is reversed on the coupon date when the interest is actually settled.

To account for the interest accrued on the pay leg on the date of valuation, the accounting entry as shown in Table 7.6 is recorded in the book of accounts.

Table 7.6 On accounting for interest on valuation date—pay leg

Calculation of accrued interest—pay leg	**USD**
Previous coupon date	24-Jan-X1
Current valuation date	31-Mar-X1
Number of days	66
Notional amount on which interest is computed	20,000,000.00
Rate of interest p.a.(%)	5.61
Accrued interest on pay leg	205,700.00

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Mar-X1	Interest—pay leg—IRS account	205,700.00	
	To Interest accrued but not due on IRS account		205,700.00
	(Being the interest accrued on pay leg accounted for on the valuation date)		

Account for accrued interest on receive leg on valuation date

Interest is receivable on the receive leg based on the day count and the contracted fixed interest rate. In this case the interest rate for the receive leg is agreed at 6.80 percent and the day count is actual/365.

The accounting entry that is recorded in the books of accounts is as shown in Table 7.7.

Table 7.7 On accounting for interest on valuation date—receive leg

Calculation of accrued interest—receive leg	**USD**
Previous coupon date	24-Jan-X1
Current valuation date	31-Mar-X1
Number of days	66
Notional amount on which interest is computed	20,000,000.00
Rate of interest p.a.(%)	6.8
Accrued interest on pay leg	245,917.81

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Mar-X1	Interest accrued but not due on IRS account	245,917.81	
	To Interest—receive leg—IRS account		245,917.81
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

Reverse the accrued interest on the pay leg on the coupon date

The accrued interest entry for the pay leg recorded in the previous valuation date must be reversed on the next coupon date, when the actual interest until the coupon date will be accounted for. The next coupon date subsequent to the valuation date falls on 24th April and on that date the entry as shown in Table 7.8 will be recorded in the book of accounts for reversal of the accrued interest on the pay leg. Table 7.7 number comes twice, so we change second Table 7.7 to 7.8 and following Tables are renumbered. Please check and advice.

Table 7.8 On accounting for reversal of accrued interest on the pay leg

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Apr-X1	Interest accrued but not due on IRS account	205,700.00	
	To Interest—pay leg—IRS account		205,700.00
	(Being the reversal of interest accrued on pay leg accounted on the valuation date)		

Reverse the accrued interest on the receive leg on the coupon date

The accrued interest entry for the receive leg recorded in the previous valuation date must be reversed on the next coupon date, when the actual interest until the coupon date will be accounted for. The next coupon date subsequent to the valuation date falls on 24th April and on that date the f entry as shown in Table 7.9 will be recorded in the books of accounts for reversal of the accrued interest on the receive leg.

Table 7.9 On accounting for reversal of accrued interest on the receive leg

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Apr-X1	Interest—receive leg—IRS account	245,917.81	
	To Interest accrued but not due on IRS account		245,917.81
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

Account for the interest payable on the pay leg on the coupon date

Interest is payable on the pay leg based on the day count and the interest that is reset as determined in the previous step. In this case the interest rate is set to 5.36 percent and 25 basis points is added to this to arrive at the effective interest rate of 5.61 percent and the day count is 30/360. This entry is recorded after reversing the accrued interest entry passed on the previous valuation date—i.e., 31st March.

The accounting entry that is recorded in the book of accounts is shown in Table 7.10.

Table 7.10 On accounting for interest on coupon date—pay leg

Calculation of interest—pay leg	USD
Previous coupon date	24-Jan-X1
Current coupon date	24-Apr-X1
Number of days	90

Calculation of interest—pay leg	USD
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	5.61
Interest on pay leg	280,500.00

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Apr-X1	Interest—pay leg—IRS account	280,500.00	
	To ABC Counterparty account		280,500.00
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

Account for the interest receivable on the receive leg on the coupon date

Interest is receivable on the receive leg based on the day count and the contracted fixed interest rate. In this case the interest rate for the receive leg is agreed at 6.80 percent and the day count is actual/365. This entry is recorded after reversing the accrued interest entry passed on the previous valuation date—i.e., 31st March.

The accounting entry that is recorded in the book of accounts is shown in Table 7.11.

Table 7.11 On accounting for interest on coupon date—receive leg

Calculation of interest—receive leg	USD
Previous coupon date	24-Jan-X1
Current valuation date	24-Apr-X1
Number of days	90
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	6.80
Accrued interest on receive leg	335,342.47

Date	Particulars	Debit (USD)	Credit (USD)
24-Apr-X1	ABC Counterparty account	335,342.47	
	To Interest—receive leg—IRS account		335,342.47
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

Pay and receive the interest (net interest if dates coincide)

If the dates on which the interest is payable on the pay leg and the interest that is receivable on the receive leg occur at different dates then the payment and receipt of the interest component is completed on the respective settlement dates of the interest. However, where the interest dates occur on the same date then both the interest components are netted and a single payment is either made or received as the case may be. In this case since the receivable is more than the payable, a net amount of $54,842.47 is received on the coupon date. From an accounting perspective, to square off the payable and

receivable entries it is usual to record two separate journal entries: one for the payment of interest and the other for the receipt of interest from the same counter party.

The accounting entries that ares recorded in the book of accounts are shown in Tables 7.12 and 7.13.

Table 7.12 On settlement of interest on pay leg

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Apr-X1	ABC Counterparty account	280,500.00	
	To Bank account		280,500.00
	(Being the payment of interest on pay leg of the interest rate swap)		

Table 7.13 On settlement of interest on receive leg

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Apr-X1	Bank account	335,342.47	
	To ABC Counterparty account		335,342.47
	(Being the receipt of interest on receive leg of the interest rate swap)		

Reverse the existing net present value of the trade

The present value as on the valuation date should be recorded and before that the existing present value in the book of accounts should be reversed. The entry that is reversed is either the entry passed on the date of inception of the trade or the valuation entry passed on the previous valuation date. The entry in Table 7.14 shows the reversal of the entry passed at the inception of the trade.

Table 7.14 On reversal of existing net present value of interest rate swap on valuation date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Unrealized gain/loss on IRS (P&L) account	816,738.90	
	To IRS NPV—(Asset/Liability) account		816,738.90
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

Ascertain the fair value on valuation date

At the end of every reporting period the fair value of the interest rate swap contract is ascertained and the swap contract is mark-to-market to reflect the net present value of the contract. The value of

the swap is computed based on the expected cash inflows and cash outflows on the remaining period of the life of the contract and is discounted based on the yield curve. This value can be either a positive value or a negative value depending upon the movement of the interest rate on the floating leg. If the interest rate moves unfavorably then the net present value of the interest rate swap contract will be a negative value.

The accounting entry that is recorded in the book of accounts is shown in Table 7.15.

Table 7.15 On accounting of fair value on valuation date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	IRS NPV—(asset/liability) account	889,704.39	
	To unrealized gain/loss on IRS (P&L) account		889,704.39
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the receive leg of the interest rate swap)		

Termination of the trade and accounting for termination fee

An interest rate swap can be terminated at any point by either one of the parties to contract. If the parties decide to terminate the contract, then the net present value of the contract at that point would be computed based on the expected cash inflows and outflows for the remaining period of the contract and then discounted back to arrive at the net present value of such cash flows. The net present value of the contract on such date of termination will be the termination fee and will be paid by one party to the other party depending upon which party stands to gain and which party stands to lose if the contract is terminated on the said date without being allowed to subsist during the remaining life of the contract. In this example the present value of the contract on the date of termination viz. 5th December is calculated as a positive number amounting to $555,141.98, and the counterparty to the contract will have to pay this termination fee to the investor. The termination fee paid represents realized gain from the interest rate swap trade and as such is taken to the profit and loss account.

The accounting entry that is recorded in the book of accounts is shown in Table 7.16.

Table 7.16 On accounting for termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
05-Dec-X1	ABC Counterparty account	555,141.98	
	To Realized gain/loss on interest rate swap		555,141.98
	(Being realized gain/loss on termination date)		

Payment or receipt of termination fee

The consideration for such termination is received on T + 2. The accounting entry that is recorded in the books of accounts is shown in Table 7.17.

Table 7.17 On settlement of termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
07-Dec-X1	Bank account	555,141.98	
	To ABC Counterparty account		555,141.98
	(On receipt of the of termination fee)		

Maturity of the trade

If the trade is not terminated before the maturity date, the trade is matured automatically on the maturity date. No interest is payable or receivable after the maturity date. The net present value on the date of maturity of the interest rate swap contract would be zero as no cash flows subsist subsequent to the maturity date, unlike an early termination where subsequent to the termination date, there would be cash flows both receivable and payable. On the maturity date of the trade, the contingent entry passed at the date of inception of the trade is reversed, as mentioned in the next paragraph.

Reversal of the contingent entry on maturity/termination

Upon the termination of the interest rate derivative or upon the maturity of the contract, the original contingent entry passed will have to be reversed. Note that the original entry passed for recording the transaction was an off balance sheet entry and accordingly the reversal of such entry will also be an off balance sheet entry.

The accounting entry that is recorded in the book of accounts is shown in Table 7.18.

Table 7.18 On accounting for reversal of the contingent entry

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
05-Dec-X1	Interest rate swap (Contra) account—OBS	10,000,000.00	
	To interest rate swap account—OBS		10,000,000.00
	(Being the recording of termination of interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

COMPLETE SOLUTION TO ILLUSTRATION 1: INTEREST RATE SWAP—RECEIVE FIXED PAY FLOATING

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Jan-X1	Bank account	2,000,000.00	
	To share capital account		2,000,000.00
	(Being the capital introduced into the entity)		

T-2 *On purchase of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Jan-X1	Interest rate swap account—OBS	20,000,000.00	
	To interest rate swap (Contra) account—OBS		20,000,000.00
	(Being the recording of interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-3 *On accounting for upfront fee on purchase of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Jan-X1	IRS NPV—(Asset/Liability) account	816,738.90	
	To ABC Counterparty account		816,738.90
	(Being the upfront fee payable at the inception of interest rate swap contract representing the net present value of the swap on this date)		

T-4 *On payment of upfront fee on purchase of interest rate swaps trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Jan-X1	ABC Counterparty account	816,738.90	
	To bank account		816,738.90
	(Being the upfront fee paid at the inception of interest rate swap contract representing the net present value of the swap on this date)		

T-5 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Unrealized gain/loss on IRS (P&L) account	816,738.90	
	To IRS NPV—(asset/liability) account		816,738.90
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-6 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	IRS NPV—(asset/liability) account	889,704.39	
	To unrealized gain/loss on IRS (P&L) account		889,704.39
	(Being the unrealized gain/loss on interest rate swap on valuation date representing the net present value of the swap contract)		

T-7 *Accrued interest on valuation date—pay leg:*

Calculation of accrued interest—pay leg	USD
Previous coupon date	24-Jan-X1
Current valuation date	31-Mar-X1
Number of days	66
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	5.61
Accrued interest on pay leg	205,700.00

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Interest—pay leg—IRS account	205,700.00	
	To Interest accrued but not due on IRS account		205,700.00
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-8 *Accrued interest on valuation date—receive leg:*

Calculation of interest—receive leg	USD
Previous coupon date	24-Jan-X1
Current valuation date	31-Mar-X1
Number of days	66
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	6.80
Accrued interest on pay leg	245,917.81

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Interest accrued but not due on IRS account	245,917.81	
	To Interest—receive leg—IRS account		245,917.81
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-9 *On reversal of accrued interest on coupon date—pay leg:*

Date	Particulars	Debit (USD)	Credit (USD)
24-Apr-X1	Interest accrued but not due on IRS account	205,700.00	
	To Interest—pay leg—IRS account		205,700.00
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-10 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	**USD**
Previous coupon date	24-Jan-X1
Current coupon date	24-Apr-X1
Number of days	90
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	5.61
Interest on pay leg	280,500.00

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
24-Apr-X1	Interest—pay leg—IRS account	280,500.00	
	To ABC Counterparty account		280,500.00
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-11 *On settlement of interest on pay leg:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
26-Apr-X1	ABC Counterparty account	280,500.00	
	To Bank account		280,500.00
	(Being the payment of interest on pay leg of the interest rate swap)		

T-12 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
24-Apr-X1	Interest—receive leg—IRS account	245,917.81	
	To Interest accrued but not due on IRS account		245,917.81
	(Being the reversal of interest accrued on the receive leg of the interest rate swap on coupon date)		

T-13 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—receive leg	**USD**
Previous coupon date	24-Jan-X1
Current valuation date	24-Apr-X1
Number of days	90
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	6.80
Accrued interest on receive leg	335,342.47

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Apr-X1	ABC Counterparty account	335,342.47	
	To Interest—receive leg—IRS account		335,342.47
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-14 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Apr-X1	Bank account	335,342.47	
	To ABC Counterparty account		335,342.47
	(Being the receipt of interest on receive leg of the interest rate swap)		

T-15 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	Unrealized gain/loss on IRS (P&L) account	889,704.39	
	To IRS NPV—(Asset/Liability) account		889,704.39
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-16 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	IRS NPV—(Asset/Liability) account	589,716.25	
	To Unrealized gain/loss on IRS (P&L) account		589,716.25
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the swap contract)		

T-17 *Accrued interest on valuation date—pay leg:*

Calculation of interest accrued—pay leg	USD
Previous coupon date	24-Apr-X1
Current valuation date	30-Jun-X1
Number of days	67
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	5.61
Accrued interest on pay leg	208,630.56

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	Interest—pay leg—IRS account	208,630.56	
	To Interest accrued but not due on IRS account		208,630.56
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-18 *Accrued interest on valuation date—receive leg:*

Calculation of interest accrued—receive leg	USD
Previous coupon date	24-Apr-X1
Current coupon date	30-Jun-X1
Number of days	67
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	6.80
Accrued interest on receive leg	249,643.84

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	Interest accrued but not due on IRS account	249,643.84	
	To Interest—receive leg—IRS account		249,643.84
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-19 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Jul-X1	Interest accrued but not due on IRS account	208,630.56	
	To Interest—pay leg—IRS account		208,630.56
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-20 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	USD
Previous coupon date	24-Apr-X1
Current coupon date	24-Jul-X1
Number of days	91
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	5.61
Interest on pay leg	283,363.89

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Jul-X1	Interest—pay leg—IRS account	283,363.89	
	To ABC Counterparty account		283,363.89
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-21 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Jul-X1	ABC Counterparty account	283,363.89	
	To Bank account		283,383.89
	(Being the payment of interest on pay leg of the interest rate swap)		

T-22 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Jul-X1	Interest—receive leg—IRS account	249,643.84	
	To Interest accrued but not due on IRS account		249,643.84
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

T-23 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—receive leg	USD
Previous coupon date	24-Apr-X1
Current coupon date	24-Jul-X1
Number of days	91
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	6.80
Interest on receive leg	339,068.49

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Jul-X1	ABC Counterparty account	339,068.49	
	To Interest—receive leg—IRS account		339,068.49
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-24 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Jul-X1	Bank account	339,068.49	
	To ABC Counterparty account		339,068.49
	(Being the receipt of interest on receive leg of the interest rate swap)		

T-25 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	Unrealized gain/loss on IRS (P&L) account	589,716.25	
	To IRS NPV—(Asset/Liability) account		589,716.25
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-26 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	IRS NPV—(Asset/Liability) account	864,272.57	
	To Unrealized gain/loss on IRS (P&L) account		864,272.57
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the swap contract)		

T-27 *Accrued interest on valuation date—pay leg:*

Calculation of interest accrued—pay leg	USD
Previous coupon date	24-Jul-X1
Current valuation date	30-Sep-X1
Number of days	68
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	5.6100
Accrued interest on pay leg	211,744.44

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	Interest—pay leg—IRS account	211,744.44	
	To Interest accrued but not due on IRS account		211,744.44
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-28 *Accrued interest on valuation date—receive leg:*

Calculation of interest accrued—receive leg	USD
Previous coupon date	24-Jul-X1
Current coupon date	30-Sep-X1
Number of days	68
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	6.80
Accrued interest on receive leg	253,369.86

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	Interest accrued but not due on IRS account	253,369.86	
	To Interest—receive leg—IRS account		253,369.86
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-29 *On reversal of accrued interest on valuation date—pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Oct-X1	Interest accrued but not due on IRS account	211,744.44	
	To Interest—pay leg—IRS account		211,744.44
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-30 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	USD
Previous coupon date	24-Jul-X1
Current coupon date	24-Oct-X1
Number of days	92
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	5.61
Interest on pay leg	286,477.78

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Oct-X1	Interest—pay leg—IRS account	286,477.78	
	To ABC Counterparty account		286,477.78
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-31 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Oct-X1	ABC Counterparty account	286,477.78	
	To Bank account		286,477.78
	(Being the payment made towards the interest)		

T-32 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Oct-X1	Interest—receive leg—IRS account	253,369.86	
	To Interest accrued but not due on IRS account		253,369.86
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

T-33 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—receive leg	USD
Previous coupon date	24-Jul-X1
Current coupon date	24-Oct-X1
Number of days	92
Notional amount on which interest is computed	20,000,000
Rate of interest p.a.(%)	6.80
Interest on receive leg	342,794.52

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Oct-X1	ABC Counterparty account	342,794.52	
	To Interest—receive leg—IRS account		342,794.52
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-34 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Oct-X1	Bank account	342,794.52	
	To ABC Counterparty account		342,794.52
	(Being the receipt of interest on receive leg of the interest rate swap)		

T-35 *On maturity of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
5-Dec-X1	Interest rate swap (contra) account—OBS	10,000,000.00	
	To Interest rate swap account—OBS		10,000,000.00
	(Being the recording of maturity of interest rate swap contract—since the amount isonly notional and there is no exchange of money the entry is off balance sheet)		

T-36 *On reversal of existing net present value of interest rate swap on maturity date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
5-Dec-X1	Unrealized gain/loss on IRS (P&L) account	864,272.57	
	To IRS NPV—(Asset/Liability) account		864,272.57
	(Being the reversal of existing net present value of interest rate swap on maturity date)		

T-37 *On accounting realized gain/loss:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
5-Dec-X1	ABC Counterparty account	555,141.98	
	To Realized gain/loss on interest rate swap		555,141.98
	(Being realized gain/loss on partial termination of the swap trade)		

T-38 *On settlement of gain/loss:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
7-Dec-X1	Bank account	555,141.98	
	To ABC Counterparty account		555,141.98
	(On settlement of gain/Loss on partial termination of the contract)		

T-39 *On accounting of pay leg interest:*

Calculation of accrued interest—pay leg	USD
Previous coupon date	24-Oct-X1
Current valuation date	7-Dec-X1
Number of days	44

Calculation of accrued interest—pay leg	**USD**
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.34
Accrued interest on pay leg	65,297.22

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
5-Dec-X1	Interest—pay leg—IRS account	65,297.22	
	To ABC Counterparty account		65,297.22
	(Being the pay leg interest accounted)		

T-40 *On settlement of pay leg interest:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
7-Dec-X1	ABC Counterparty account	65,297.22	
	To Bank account		65,297.22
	(Being the settlement of pay leg interest)		

T-41 *On accounting of receive leg interest:*

Calculation of interest—receive leg	**USD**
Previous coupon date	24-Oct-X1
Current valuation date	7-Dec-X1
Number of days	44
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	6.80
Accrued interest on receive leg	81,972.60

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
5-Dec-X1	ABC Counterparty account	81,972.60	
	To Interest—receive leg—IRS account		81,972.60
	(Being the interest accrued on receive leg accounted for on partial termination of the contract)		

T-42 *On settlement of receive leg interest:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
7-Dec-X1	Bank account	81,972.60	
	To ABC Counterparty account		81,972.60
	(On receipt of receive leg interest)		

T-43 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X1	IRS NPV—(Asset/Liability) account	543,931.07	
	To Unrealized gain/loss on IRS (P&L) account		543,931.07
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the receive leg of the interest rate swap)		

T-44 *Accrued interest sold on pay leg:*

Calculation of accrued interest sold on pay leg	USD
Previous coupon date	24-Oct-X1
Current coupon date	31-Dec-X1
Number of days	68
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.34
Accrued interest on pay leg	100,913.89

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X1	Interest pay leg—IRS account	100,913.89	
	To Interest accrued but not due on IRS account		100,913.89
	(Being the pay leg interest accounted)		

T-45 *Accrued interest sold on receive leg:*

Calculation of accrued interest sold on receive leg	USD
Previous coupon date	24-Oct-X1
Current coupon date	31-Dec-X1
Number of days	68
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	6.80
Accrued interest on receive leg	126,684.93

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X1	Interest accrued but not due on IRS account	126,684.93	
	To Interest—receive leg—IRS account		126,684.93
	(Being the accrued interest on interest rate swap sold on receive leg—namely the interest from the last coupon date until the date of the contract)		
31-Dec-X1	Realized gain/loss on interest rate swap	408,369.45	
	To Unrealized gain/loss on IRS (P&L) account		408,369.45
	(Being the transfer of unrealized gain/loss to realized gain/loss on termination of IRS contract)		

General Ledger

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			22-Jan-X1	By IRS NPV—(Asset/ Liability) account	816,738.90
24-Jan-X1	To Bank account	816,738.90			
			24-Apr-X1	By Interest—pay leg—IRS account	280,500.00
26-Apr-X1	To Bank account	280,500.00			
24-Apr-X1	To Interest—receive leg—IRS account	335,342.47			
			26-Apr-X1	By Bank account	335,342.47
			24-Jul-X1	By Interest—pay leg—IRS account	283,363.89
26-Jul-X1	To Bank account	283,363.89			
24-Jul-X1	To Interest—receive leg—IRS account	339,068.49			
			26-Jul-X1	By Bank account	339,068.49
			24-Oct-X1	By Interest—pay leg—IRS account	286,477.78
26-Oct-X1	To Bank account	286,477.78			
24-Oct-X1	To Interest—receive leg—IRS account	342,794.52			
			26-Oct-X1	By Bank account	342,794.52
5-Dec-X1	To Realized gain/loss on interest rate swap	555,141.98			
			7-Dec-X1	By Bank account	555,141.98
			5-Dec-X1	By Interest—pay leg—IRS account	65,297.22
7-Dec-X1	To Bank account	65,297.22			
5-Dec-X1	To Interest—receive leg—IRS account	81,972.60			
			7-Dec-X1	By Bank account	81,972.60
31-Dec-X1	Total	**3,386,697.85**	31-Dec-X1	Total	**3,386,697.85**

Interest Rate Swap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
22-Jan-X1	To Interest Rate Swap (Contra) account—OBS	20,000,000.00			
			5-Dec-X1	By Interest Rate Swap (Contra) account—OBS	10,000,000.00
			31-Dec-X1	By Balance	10,000,000.00
31-Dec-X1	Total	**20,000,000.00**	31-Dec-X1	Total	**20,000,000.00**
31-Dec-X1	To Balance	10,000,000.00			

Interest Rate Swap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			22-Jan-X1	By Interest Rate Swap account—OBS	20,000,000.00
5-Dec-X1	To Interest Rate Swap account—OBS	10,000,000.00			
31-Dec-X1	To Balance	10,000,000.00			
31-Dec-X1	Total	**20,000,000.00**	31-Dec-X1	Total	**20,000,000.00**
			31-Dec-X1	By Balance	10,000,000.00

IRS NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
22-Jan-X1	To ABC Counterparty account	816,738.90			
			31-Mar-X1	By Unrealized gain/loss on IRS (P&L) account	816,738.90
31-Mar-X1	To Unrealized gain/loss on IRS (P&L) account	889,704.39			
			30-Jun-X1	By Unrealized gain/loss on IRS (P&L) account	889,704.39
30-Jun-X1	To Unrealized gain/loss on IRS (P&L) account	589,716.25			
			30-Sep-X1	By Unrealized gain/loss on IRS (P&L) account	589,716.25
30-Sep-X1	To Unrealized gain/loss on IRS (P&L) account	864,272.57			
			5-Dec-X1	By Unrealized gain/loss on IRS (P&L) account	864,272.57
31-Dec-X1	To Unrealized gain/loss on IRS (P&L) account	543,931.07			
			31-Dec-X1	By Balance	543,931.07
31-Dec-X1	Total	**3,704,363.18**	31-Dec-X1	Total	**3,704,363.18**
31-Dec-X1	To Balance	543,931.07			

Unrealized gain/loss on IRS (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X1	To IRS NPV—(Asset/Liability) account	816,738.90			
			31-Mar-X1	By IRS NPV—(Asset/Liability) account	889,704.39

Date	Particulars	Debit	Date	Particulars	Credit
30-Jun-X1	To IRS NPV—(Asset/ Liability) account	889,704.39			
			30-Jun-X1	By IRS NPV—(Asset/ Liability) account	589,716.25
30-Sep-X1	To IRS NPV—(Asset/ Liability) account	589,716.25			
			30-Sep-X1	By IRS NPV—(Asset/ Liability) account	864,272.57
5-Dec-X1	To IRS NPV—(Asset/ Liability) account	864,272.57			
			31-Dec-X1	By IRS NPV—(Asset/ Liability) account	543,931.07
31-Dec-X1	To Balance	135,561.62		By Realized gain/loss account on interest rate swap	408,369.45
31-Dec-X1	Total	**3,295,993.73**	31-Dec-X1	Total	**3,295,993.73**
			31-Dec-X1	By Balance	135,561.62

Interest—pay leg—IRS account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X1	To Interest accrued but not due on IRS account	205,700.00			
			24-Apr-X1	By Interest accrued but not due on IRS account	205,700.00
24-Apr-X1	To ABC Counterparty account	280,500.00			
30-Jun-X1	To Interest accrued but not due on IRS account	208,630.56			
			24-Jul-X1	By Interest accrued but not due on IRS account	208,630.56
24-Jul-X1	To ABC Counterparty account	283,363.89			
30-Sep-X1	To Interest accrued but not due on IRS account	211,744.44			
			24-Oct-X1	By Interest accrued but not due on IRS account	211,744.44
24-Oct-X1	To ABC Counterparty account	286,477.78			
5-Dec-X1	To ABC Counterparty account	65,297.22			
31-Dec-X1	To Interest accrued but not due on IRS account	100,913.89			
			31-Dec-X1	By Balance	1,016,552.78
31-Dec-X1	Total	**1,642,627.78**	31-Dec-X1	Total	**1,642,627.78**
31-Dec-X1	To Balance	1,016,552.78			

Interest accrued but not due on IRS account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X1	By Interest—pay leg—IRS account	205,700.00
31-Mar-X1	To Interest—receive leg—IRS account	245,917.81			
24-Apr-X1	To Interest—pay leg—IRS account	205,700.00			
			24-Apr-X1	By Interest—receive leg—IRS account	245,917.81
			30-Jun-X1	By Interest—pay leg—IRS account	208,630.56
30-Jun-X1	To Interest—receive leg—IRS account	249,643.84			
24-Jul-X1	To Interest—pay leg—IRS account	208,630.56			
			24-Jul-X1	By Interest—receive leg—IRS account	249,643.84
			30-Sep-X1	By Interest—pay leg—IRS account	211,744.44
30-Sep-X1	To Interest—receive leg—IRS account	253,369.86			
24-Oct-X1	To Interest—pay leg—IRS account	211,744.44			
			24-Oct-X1	By Interest—receive leg—IRS account	253,369.86
			31-Dec-X1	By Interest—pay leg—IRS account	100,913.89
31-Dec-X1	To Interest—receive leg—IRS account	126,684.93			
			31-Dec-X1	By Balance	25,771.04
31-Dec-X1	Total	**1,501,691.44**	31-Dec-X1	Total	**1,501,691.44**
31-Dec-X1	To Balance	25,771.04			

Interest—receive leg—IRS account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X1	By Interest accrued but not due on IRS account	245,917.81
24-Apr-X1	To Interest accrued but not due on IRS account	245,917.81			
			24-Apr-X1	By ABC Counterparty account	335,342.47
			30-Jun-X1	By Interest accrued but not due on IRS account	249,643.84
24-Jul-X1	To Interest accrued but not due on IRS account	249,643.84			
			24-Jul-X1	By ABC Counterparty account	339,068.49

Date	Particulars	Debit	Date	Particulars	Credit
			30-Sep-X1	By Interest accrued but not due on IRS account	253,369.86
24-Oct-X1	To Interest accrued but not due on IRS account	253,369.86			
			24-Oct-X1	By ABC Counterparty account	342,794.52
			5-Dec-X1	By ABC Counterparty account	81,972.60
			31-Dec-X1	By Interest accrued but not due on IRS account	126,684.93
31-Dec-X1	To Balance	1,225,863.01			
31-Dec-X1	Total	**1,974,794.52**	31-Dec-X1	Total	**1,974,794.52**
			31-Dec-X1	By Balance	1,225,863.01

Realized gain/loss on interest rate swap

Date	Particulars	Debit	Date	Particulars	Credit
31-Dec-X1	To Unrealized gains account	408,369.45	5-Dec-X1	By ABC Counterparty account	555,141.98
31-Dec-X1	To Balance	146,772.53			
31-Dec-X1	Total	**555,141.98**	31-Dec-X1	Total	**555,141.98**
			31-Dec-X1	By Balance	146,772.53

Share Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X1	By Bank account	2,000,000.00
31-Dec-X1	To Balance	**2,000,000.00**			
31-Dec-X1	Total	2,000,000.00	31-Dec-X1	Total	**2,000,000.00**
			31-Dec-X1	By Balance	2,000,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X1	To Share Capital account	2,000,000.00			
			24-Jan-X1	By ABC Counterparty account	816,738.90
			26-Apr-X1	By ABC Counterparty account	280,500.00
26-Apr-X1	To ABC Counterparty account	335,342.47			
			26-Oct-X1	By ABC Counterparty account	283,363.89
26-Jul-X1	To ABC Counterparty account	339,068.49			
			26-Oct-X1	By ABC Counterparty account	286,477.78

Bank account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
26-Oct-X1	To ABC Counterparty account	342,794.52			
7-Dec-X1	To ABC Counterparty account	555,141.98			
			7-Dec-X1	By ABC Counterparty account	65,297.22
7-Dec-X1	To ABC Counterparty account	81,972.60			
			31-Dec-X1	By Balance	1,921,942.27
31-Dec-X1	Total	**3,654,320.06**	31-Dec-X1	Total	**3,654,320.06**
31-Dec-X1	To Balance	1,921,942.27			

Trial Balance

As on 31-Dec-X1

Particulars	Debit	Credit
Capital account		
Share Capital		2,000,000.00
Current Liabilities		NIL
Current Asset		
IRS NPV—(Asset/Liability) account	543,931.07	
Bank account	1,921,942.27	
Interest accrued but not due on IRS account	25,771.04	
Income		
Realized gain/loss on interest rate swap		146,772.53
Interest—receive leg—IRS account		1,225,863.01
Interest—pay leg—IRS account	1,016,552.78	
Unrealized gain/loss on IRS (P&L) account		135,561.62
Total	**3,508,197.16**	**3,508,197.16**

Income Statement

For the period ending 31-Dec-X1

Expenses		Income	
		Direct Income	
		Interest—receive leg—IRS account	1,225,863.01
Interest—pay leg—IRS account	1,016,552.78		
		Realized gain/loss on interest rate swap	146,772.53
		Unrealized gains/loss on IRS(P&L) account	135,561.62
Net Profit C/o	491,644.38		
Total	**1,508,197.16**	Total	**1,508,197.16**

Balance Sheet

As at 31-Dec-X1

Liabilities		**Assets**	
Capital account			
Share Capital	2,000,000.00		
		Investments	NIL
		Current Assets	
		IRS NPV—(Asset/Liability) account	543,931.07
		Bank account	1,921,942.27
Profit & Loss account		Interest accrued but not due account	25,771.04
Opening Balance			
Current Period	491,644.38		
Total	**2,491,644.38**	Total	**2,491,644.38**

PROBLEM1: INTEREST RATE SWAP—RECEIVE FIXED PAY FLOATING

IRS contract details:	**Receive leg**	**Pay leg**	
Terms	Fixed	Floating	
Notional amount	10,000,000	10,000,000	
Currency	USD	USD	
Day count—actual/365; 30/360	365	360	
Interest payment terms	Quarterly	Quarterly	
Rate of interest	5.50	US 3 months LIBOR + 25 bps	25%
Reset terms	Fixed	Prefix/post paid	

	Receive leg—fixed		**Pay leg floating**		
Coupon reset dates	**Trade date**	**Settle date**	**Trade date**	**Settle date**	**LIBOR**
Inception	–	–	08-Jan-X1	10-Jan-X1	5.36000
Coupon date-1	10-Apr-X1	12-Apr-X1	10-Apr-X1	12-Apr-X1	5.36000
Coupon date-2	10-Jul-X1	12-Jul-X1	10-Jul-X1	12-Jul-X1	5.35000
Coupon date-3	10-Oct-X1	12-Oct-X1	10-Oct-X1	12-Oct-X1	5.36000
Coupon date-4				31-Dec-X1	5.25313

Other details	**Trade date**	**Premium**	**Settle date**
IRS Contract position taken (inception)	08-Jan-X1	87,056.41	10-Jan-X1
Upfront fees paid			

Valuation dates and net present values	**Date**	**Net NPV**	**Net interest**
Valuation date 1	31-Mar-X1	110,782.56	(5,677.05)
Valuation date 2	30-Jun-X1	14,594.73	(2,389.35)

Valuation dates and net present values	Date	Net NPV	Net interest
Valuation date 3	30-Sep-X1	151,306.97	(1,105.02)
Valuation date 4	31-Dec-X1	281,723.44	(258.78)

Other details	Date	USD
Capital introduced	01-Jan-X1	2,000,000

SOLUTION TO PROBLEM 1: INTEREST RATE SWAP—RECEIVE FIXED PAY FLOATING

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Jan-X1	Bank account	2,000,000.00	
	To Share Capital account		2,000,000.00
	(Being the capital introduced)		

T-2 *On purchase of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
8-Jan-X1	Interest rate swap account—OBS	10,000,000.00	
	To Interest rate swap (Contra) account—OBS		10,000,000.00
	(Being the recording of interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-3 *On accounting for upfront fee on purchase of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
8-Jan-X1	IRS NPV—(Asset/Liability) account	87,056.41	
	To ABC Counterparty account		87,056.41
	(Being the upfront fee payable at the inception of interest rate swap contract representing the net present value of the swap on this date)		

T-4 *On payment of upfront fee on purchase of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jan-X1	ABC Counterparty account	87,056.41	
	To Bank account		87,056.41
	(Being the upfront fee paid at the inception of interest rate swap contract representing the net present value of the swap on this date)		

T-5 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Unrealized gain/loss on IRS (P&L) account	87,056.41	
	To IRS NPV—(Asset/Liability) account		87,056.41
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-6 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	IRS NPV—(Asset/Liability) account	110,782.56	
	To Unrealized gain/loss on IRS (P&L) account		110,782.56
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the swap trade)		

T-7 *Accrued interest on valuation date—pay leg:*

Calculation of accrued interest—pay Leg	USD
Previous coupon date	10-Jan-X1
Current valuation date	31-Mar-X1
Number of days	80
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.61
Accrued interest on pay leg	**124,666.67**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Interest—pay leg—IRS account	124,666.67	
	To Interest accrued but not due on IRS account		124,666.67
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-8 *Accrued interest on valuation date—receive leg:*

Calculation of interest—receive leg	USD
Previous coupon date	10-Jan-X1
Current valuation date	31-Mar-X1
Number of days	80
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.50
Accrued interest on receive leg	**120,547.95**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Interest accrued but not due on IRS account	120,547.95	
	To Interest—receive leg—IRS account		120,547.95
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-9 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Apr-X1	Interest accrued but not due on IRS account	126,255.00	
	To Interest—pay leg—IRS account		126,255.00
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-10 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	USD
Previous coupon date	10-Jan-X1
Current coupon date	10-Apr-X1
Number of days	90
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.61
Interest on pay leg	**140,250.00**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Apr-X1	Interest—pay leg—IRS account	140,250.00	
	To ABC Counterparty account		140,250.00
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-11 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Apr-X1	ABC Counterparty account	140,250.00	
	To Bank account		140,250.00
	(Being the payment of interest on pay leg of the interest rate swap)		

T-12 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Apr-X1	Interest—receive leg—IRS account	120,547.95	
	To Interest accrued but not due on IRS account		120,547.95
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

T-13 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—receive leg	USD
Previous coupon date	10-Jan-X1
Current valuation date	10-Apr-X1
Number of days	90
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.50
Accrued interest on receive leg	**135,616.44**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Apr-X1	ABC Counterparty account	135,616.44	
	To Interest—receive leg—IRS account		135,616.44
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-14 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Apr-X1	Bank account	135,616.44	
	To ABC Counterparty account		135,616.44
	(Being the receipt of interest on receive leg of the interest rate swap)		

T-15 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	Unrealized gain/loss on IRS (P&L) account	110,782.56	
	To IRS NPV—(Asset/Liability) account		110,782.56
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-16 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	Unrealized gain/loss on IRS (P&L) account	14,594.73	
	To IRS NPV—(Asset/Liability) account		14,594.73
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the swap trade)		

T-17 *Accrued interest on valuation date—pay leg:*

Calculation of interest accrued—pay leg	USD
Previous coupon date	10-Apr-X1
Current valuation date	30-Jun-X1
Number of days	81
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.60
Accrued interest on pay leg	**126,000.00**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	Interest—pay leg—IRS account	126,000.00	
	To Interest accrued but not due on IRS account		126,000.00
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-18 *Accrued interest on valuation date—receive leg:*

Calculation of interest accrued—receive leg	USD
Previous coupon date	24-Apr-X1
Current coupon date	30-Jun-X1
Number of days	81
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.50
Accrued interest on receive leg	**122,054.79**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	Interest accrued but not due on IRS account	122,054.79	
	To Interest—receive leg—IRS account		122,054.79
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-19 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jul-X1	Interest accrued but not due on IRS account	126,000.00	
	To Interest—pay leg—IRS account		126,000.00
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-20 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	USD
Previous coupon date	10-Apr-X1
Current coupon date	10-Jul-X1
Number of days	91
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.60
Accrued interest on pay leg	**141,555.56**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jul-X1	Interest—pay leg—IRS account	141,555.56	
	To ABC Counterparty account		141,555.56
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-21 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Jul-X1	ABC Counterparty account	141,555.56	
	To Bank account		141,555.56
	(Being the payment of interest on pay leg of the interest rate swap)		

T-22 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jul-X1	Interest—receive leg—IRS account	122,054.79	
	To Interest accrued but not due on IRS account		122,054.79
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

T-23 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—receive leg	**USD**
Previous coupon date	10-Apr-X1
Current coupon date	10-Jul-X1
Number of days	91
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.50
Interest on receive leg	**137,123.29**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
10-Jul-X1	ABC Counterparty account	137,123.29	
	To Interest—receive leg—IRS account		137,123.29
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-24 *On settlement of interest on receive leg:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
12-Jul-X1	Bank account	137,123.29	
	To ABC Counterparty account		137,123.29
	(Being the receipt of interest on receive leg of the interest rate swap)		

T-25 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X1	IRS NPV—(Asset/Liability) account	14,594.73	
	To Unrealized gain/loss on IRS (P&L) account		14,594.73
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-26 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X1	IRS NPV—(Asset/Liability) account	151,306.97	
	To Unrealized gain/loss on IRS (P&L) account		151,306.97
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the receive leg of the interest rate swap)		

T-27 *Accrued interest on valuation date—pay leg:*

Calculation of interest accrued—pay leg	**USD**
Previous coupon date	10-Jul-X1
Current valuation date	30-Sep-X1
Number of days	82
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.6100
Accrued interest on pay leg	**127,783.33**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X1	Interest—pay leg—IRS account	127,783.22	
	To Interest accrued but not due on IRS account		127,783.33
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-28 *Accrued interest on valuation date—receive leg:*

Calculation of interest accrued—receive leg	**USD**
Previous coupon date	10-Jul-X1
Current coupon date	30-Sep-X1
Number of days	82
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.50
Accrued interest on receive leg	**123,561.64**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X1	Interest accrued but not due on IRS account	123,561.64	
	To Interest—receive leg—IRS account		123,561.64
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-29 *On reversal of accrued interest on valuation date—pay leg:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
10-Oct-X1	Interest accrued but not due on IRS account	127,783.33	
	To Interest—pay leg—IRS account		127,783.33
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-30 *On accounting for interest on coupon date—pay leg:*

Calculation of Interest—pay leg	**USD**
Previous coupon date	10-Jul-X1
Current coupon date	10-Oct-X1
Number of days	92
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.61
Interest on pay leg	**143,366.67**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
10-Oct-X1	Interest—pay leg—IRS account	143,366.67	
	To ABC Counterparty account		143,366.67
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-31 *On settlement of interest on pay leg:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
12-Oct-X1	ABC Counterparty account	143,366.67	
	To Bank account		143,366.67
	(Being the payment towards the interest accrued at the time of booking the Interest Rate Swap Contract)		

T-32 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
10-Oct-X1	Interest—receive leg—IRS account	123,561.64	
	To Interest accrued but not due on IRS account		123,561.64
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

T-33 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—receive leg	**USD**
Previous coupon date	10-Jul-X1
Current coupon date	10-Oct-X1
Number of days	92
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.50
Accrued interest on receive leg	**138,630.14**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Oct-X1	ABC Counterparty account	138,630.14	
	To Interest—receive leg—IRS account		138,630.14
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-34 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Oct-X1	Bank account	138,630.14	
	To ABC Counterparty account		138,630.14
	(Being the receipt of interest on receive leg of the interest rate swap)		

T-35 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X1	Unrealized gain/loss on IRS (P&L) account	151,306.97	
	To IRS NPV—(Asset/Liability) account		151,306.97
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-36 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X1	IRS NPV—(Asset/Liability) account	281,723.44	
	To Unrealized gain/loss on IRS (P&L) account		281,723.44
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the swap trade)		

T-37 *Accrued Interest sold on pay leg:*

Calculation of accrued interest sold—pay leg	**USD**
Previous coupon date	10-Oct-X1
Current coupon date	31-Dec-X1
Number of days	82
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.50
Accrued interest on pay leg	**125,349.07**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X1	Interest pay leg—IRS account	125,349.07	
	To Interest accrued but not due on IRS account		125,349.07
	(Being the pay leg interest accounted)		

T-38 *Accrued interest sold on receive leg:*

Calculation of accrued interest sold—receive leg	USD
Previous coupon date	10-Oct-X1
Current coupon date	31-Dec-X1
Number of days	82
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.50
Accrued interest on pay leg	**123,561.64**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X1	Interest accrued but not due on IRS account	123,561.64	
	To Interest—receive leg—IRS account		123,561.64
	(Being the accrued interest on IRS buy/sell of receive leg—namely the interest from the last coupon date until the date of the contract)		

General Ledger

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			8-Jan-X1	By IRS NPV—(Asset/Liability) account	87,056.41
10-Jan-X1	To Bank account	87,056.41			
			10-Apr-X1	By Interest—pay leg—IRS account	140,250.00
12-Apr-X1	To Bank account	140,250.00			
10-Apr-X1	To Interest—receive leg—IRS account	135,616.44			
			12-Apr-X1	By Bank account	135,616.44
			10-Jul-X1	By Interest—pay leg—IRS account	141,555.56
12-Jul-X1	To Bank account	141,555.56			
10-Jul-X1	To Interest—receive leg—IRS account	137,123.29			

Date	Particulars	Debit	Date	Particulars	Credit
			12-Jul-X1	By Bank account	137,123.29
			10-Oct-X1	By Interest—pay leg—IRS account	143,366.67
12-Oct-X1	To Bank account	143,366.67			
10-Oct-X1	To Interest—receive leg—IRS account	138,630.14			
			12-Oct-X1	By Bank account	138,630.14
31-Dec-X1	Total	**923,598.51**	31-Dec-X1	Total	**923,598.51**

Interest rate swap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
8-Jan-X1	To Interest rate swap (Contra) account—OBS	10,000,000.00			
			31-Dec-X1	By Balance	10,000,000.00
31-Dec-X1	Total	**10,000,000.00**	31-Dec-X1	Total	**10,000,000.00**
31-Dec-X1	To Balance	10,000,000.00			

Interest rate swap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			8-Jan-X1	By Interest rate swap account—OBS	10,000,000.00
31-Dec-X1	To Balance	10,000,000.00			
31-Dec-X1	Total	**10,000,000.00**	31-Dec-X1	Total	**10,000,000.00**
			31-Dec-X1	By Balance	10,000,000.00

IRS NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
8-Jan-X1	To ABC Counterparty account	87,056.41			
			31-Mar-X1	By Unrealized gain/loss on IRS (P&L) account	87,056.41
31-Mar-X1	To Unrealized gain/loss on IRS (P&L) account	110,782.56			
			30-Jun-X1	By Unrealized gain/loss on IRS (P&L) account	110,782.56
			30-Jun-X1	By Unrealized gain/loss on IRS (P&L) account	14,594.73
30-Sep-X1	To Unrealized gain/loss on IRS (P&L) account	14,594.73			
30-Sep-X1	To Unrealized gain/loss on IRS (P&L) account	151,306.97			
			31-Dec-X1	By Unrealized gain/loss on IRS (P&L) account	151,306.97

IRS NPV—(Asset/Liability) account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
31-Dec-X1	To Unrealized gain/loss on IRS (P&L) account	281,723.44			
			31-Dec-X1	By Balance	281,723.44
31-Dec-X1	Total	**645,464.11**	31-Dec-X1	Total	**645,464.11**
31-Dec-X1	To Balance	281,723.44			

Unrealized gain/loss on IRS (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X1	To IRS NPV—(Asset/ Liability) account	87,056.41			
			31-Mar-X1	By IRS NPV—(Asset/ Liability) account	110,782.56
30-Jun-X1	To IRS NPV—(Asset/ Liability) account	110,782.56			
30-Jun-X1	To IRS NPV—(Asset/ Liability) account	14,594.73			
			30-Sep-X1	By IRS NPV—(Asset/ Liability) account	14,594.73
			30-Sep-X1	By IRS NPV—(Asset/ Liability) account	151,306.97
31-Dec-X1	To IRS NPV—(Asset/ Liability) account	151,306.97			
			31-Dec-X1	By IRS NPV—(Asset/ Liability) account	281,723.44
31-Dec-X1	To Balance	194,667.03			
31-Dec-X1	Total	**558,407.70**	31-Dec-X1	Total	**558,407.70**
			31-Dec-X1	By Balance	194,667.03

Interest—pay leg—IRS account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X1	To Interest accrued but not due on IRS account	124,666.67			
			10-Apr-X1	By Interest accrued but not due on IRS account	124,666.67
10-Apr-X1	To ABC Counterparty account	140,250.00			
30-Jun-X1	To Interest accrued but not due on IRS account	126,000.00			
			10-Jul-X1	By Interest accrued but not due on IRS account	126,000.00
10-Jul-X1	To ABC Counterparty account	140,000.00			
30-Sep-X1	To Interest accrued but not due on IRS account	127,783.33			

Date	Particulars	Debit	Date	Particulars	Credit
			10-Oct-X1	By Interest accrued but not due on IRS account	127,783.33
10-Oct-X1	To ABC Counterparty account	143,366.67			
31-Dec-X1	To Interest accrued but not due on IRS account	125,349.07			
			31-Dec-X1	By Balance	550,521.30
31-Dec-X1	Total	**928,971.30**	31-Dec-X1	Total	**928,971.30**
31-Dec-X1	To Balance	550,521.30			

Interest accrued but not due on IRS account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X1	By Interest—pay leg—IRS account	124,666.67
31-Mar-X1	To Interest—receive leg—IRS account	120,547.95			
10-Apr-X1	To Interest—pay leg—IRS account	124,666.67			
			10-Apr-X1	By Interest—receive leg—IRS account	120,547.95
			30-Jun-X1	By Interest—pay leg—IRS account	126,000.00
30-Jun-X1	To Interest—receive leg—IRS account	122,054.79			
10-Jul-X1	To Interest—pay leg—IRS account	126,000.00			
			10-Jul-X1	By Interest—receive leg—IRS account	122,054.79
			30-Sep-X1	By Interest—pay leg—IRS account	127,783.33
30-Sep-X1	To Interest—receive leg—IRS account	123,561.64			
10-Oct-X1	To Interest—pay leg—IRS account	127,783.33			
			10-Oct-X1	By Interest—receive leg—IRS account	123,561.64
			31-Dec-X1	By Interest—pay leg—IRS account	125,349.07
31-Dec-X1	To Interest—receive leg—IRS account	123,561.64			
31-Dec-X1	To Balance	1,787.43			
31-Dec-X1	Total	**868,176.02**	31-Dec-X1	Total	**868,176.02**
			31-Dec-X1	By Balance	1,787.43

Interest—receive leg—IRS account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X1	By Interest accrued but not due on IRS account	120,547.95
10-Apr-X1	To Interest accrued but not due on IRS account	120,547.95			
			10-Apr-X1	By ABC Counterparty account	135,616.44
			30-Jun-X1	By Interest accrued but not due on IRS account	122,054.79
10-Jul-X1	To Interest accrued but not due on IRS account	122,054.79			
			10-Jul-X1	By ABC Counterparty account	137,123.29
			30-Sep-X1	By Interest accrued but not due on IRS account	123,561.64
10-Oct-X1	To Interest accrued but not due on IRS account	123,561.64			
			10-Oct-X1	By ABC Counterparty account	138,630.14
			31-Dec-X1	By Interest accrued but not due on IRS account	123,561.64
31-Dec-X1	To Balance	534,931.51			
31-Dec-X1	Total	**901,095.89**	31-Dec-X1	Total	**901,095.89**
			31-Dec-X1	By Balance	534,931.51

Share Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X1	By Bank account	2,000,000.00
31-Dec-X1	To Balance	2,000,000.00			
31-Dec-X1	Total	**2,000,000.00**	31-Dec-X1	Total	**2,000,000.00**
			31-Dec-X1	By Balance	2,000,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X1	To Share Capital account	2,000,000.00			
			10-Jan-X1	By ABC Counterparty account	87,056.41
			12-Apr-X1	By ABC Counterparty account	140,250.00
12-Apr-X1	To ABC Counterparty account	135,616.44			

Date	Particulars	Debit	Date	Particulars	Credit
			12-Jul-X1	By ABC Counterparty account	141,555.56
12-Jul-X1	To ABC Counterparty account	137,123.29			
			12-Oct-X1	By ABC Counterparty account	143,366.67
12-Oct-X1	To ABC Counterparty account	138,630.14			
			31-Dec-X1	By Balance	1,899,141.23
31-Dec-X1	Total	**2,411,369.87**	31-Dec-X1	Total	**2,411,369.87**
31-Dec-X1	To Balance	1,899,141.23			

Trial Balance

As on 31-Dec-X1

Particulars	Debit	Credit
Capital account		
Share Capital		2,000,000.00
Current Liabilities		
Interest accrued but not due on IRS account		1,787.43
Current Asset		
IRS NPV—(Asset/Liability) account	281,723.44	
Bank account	1,899,141.23	
Income		
Interest—receive leg—IRS account		534,931.51
Interest—pay leg—IRS account	550,521.30	
Unrealized gain/loss on IRS (P&L) account		194,667.03
Total	**2,731,385.97**	**2,731,385.97**

Income Statement

For the period ending 31-Dec-X1

Expenses		Income	
		Direct Income	
		Interest—receive leg—IRS account	534,931.51
Interest—pay leg—IRS account	550,521.30		
		Unrealized gain/loss on IRS (P&L) account	194,667.03
Net Profit C/o	179,077.24		
Total	**729,598.54**	Total	**729,598.54**

Balance Sheet

As at 31-Dec-X1

Liabilities		Assets	
Capital account		Current Assets	
Share capital	2,000,000.00	Bank account	1,899,141.23
Current Liabilities			
Interest accrued but not due on IRS account	1,787.43		
		IRS NPV—(Asset/Liability) account	281,723.44
Profit & Loss account			
Opening Balance			
Current Period	179,077.24		
Total	**2,180,864.67**	Total	**2,180,864.67**

SUMMARY

- An interest rate derivative is a derivative where the underlying asset is the right to pay or receive a notional amount of money at a given interest rate. Interest rate swaps are over-the-counter instruments. In an interest rate swap, two parties agree to "swap," or exchange, periodic interest payments. The amount of the interest payments exchanged is based on some predetermined principal also known as the notional principal.
- The notional principal for the swap can vary over the life of the swap. A swap in which the notional principal decreases over time is called an amortizing swap. A swap in which the notional principal increases over time is called an accreting swap. Swaps where both parties pay a floating interest rate is referred to as a basis swap.
- Being a derivative instrument, an interest rate swap per se qualifies as a hedging instrument. It should be noted that in an interest rate swap the risk reward is symmetric and can be more or less compared to an equity futures position. An interest rate swap instrument can be used to hedge primarily interest rate risk.
- This type of interest rate swap instrument can be used for conversion of fixed rate debt into variable rate debt, and fair value hedge accounting is applicable for this case subject to the fulfillment of all other requirements for hedge accounting.

QUESTIONS

Theory questions

1. What do you mean by an interest rate swap? What are the different types of interest rate swaps?
2. Are interest rate swaps part of interest rate derivatives? Justify.
3. Can an interest rate swap be designated as a hedging instrument?
4. Explain the significant events in the trade life cycle of an interest rate swap. What journal entries are passed in each of such events?

Journal questions

1. Interest rate swap—Exercise 1

IRS contract details:	**Receive leg**	**Pay leg**
Terms	Fixed	Floating
Notional amount	12,000,000	12,000,000
Currency	USD	USD
Day count—actual/365; 30/360	365	360
Interest payment terms	Quarterly	Quarterly
Rate of interest	5.30	US 3 months LIBOR + 25 bps
Reset terms	Fixed	Prefix/post paid

	Receive leg—fixed		**Pay leg floating**		
Coupon reset dates	**Trade date**	**Settle date**	**Trade date**	**Settle date**	**LIBOR**
Inception	–	–	15-Jan-X8	17-Jan-X8	5.36025
Coupon date-1	17-Apr-X8	19-Apr-X8	17-Apr-X8	19-Apr-X8	5.36025
Coupon date-2	17-Jul-X8	19-Jul-X8	17-Jul-X8	19-Jul-X8	5.35688
Coupon date-3	17-Oct-X8	19-Oct-X8	17-Oct-X8	19-Oct-X8	5.36000
Coupon date-4				31-Dec-X8	5.21438

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**	**FX rate**
IRS Contract position taken (inception)	15-Jan-X8	12,000,000.00	–165,898.36	17-Jan-X8	1.0000
	12-Dec-X8	8,000,000.00		14-Dec-X8	
Upfront fees paid					

Valuation dates and net present values	**Date**	**Net NPV**	**Net interest**
Valuation date 1	31-Mar-X8	–93,933.78	–23,186.17
Valuation date 2	30-Jun-X8	–217,920.93	–19,656.00
Valuation date 3	30-Sep-X8	–5,435.71	–18,153.84
Termination	14-Dec-X8	79,407.55	–7,871.80
Valuation date 4	31-Dec-X8	59,447.09	–5,477.29

Other details	**Date**	**USD**	**FX rate**
Capital introduced	01-Jan-X1	1,000,000	1.000000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

2. Interest rate swap—Exercise 2

IRS contract details:	Receive leg	Pay leg
Terms	Fixed	Floating
Notional amount	10,000,000	10,000,000
Currency	EUR	EUR
Day Count—Actual/365; 30/360	365	360
Interest payment terms	Quarterly	Quarterly
Rate of interest	5.35	US 3 months LIBOR + 15 bps
Reset terms	Fixed	Prefix/Post paid

	Receive leg—fixed		Pay leg floating		
Coupon reset dates	**Trade date**	**Settle date**	**Trade date**	**Settle date**	**LIBOR**
Inception	–	–	20-Jan-X1	22-Jan-X1	3.75400
Coupon date-1	20-Apr-X1	22-Apr-X1	20-Apr-X1	22-Apr-X1	3.75400
Coupon date-2	20-Jul-X1	22-Jul-X1	20-Jul-X1	22-Jul-X1	3.97900
Coupon date-3	20-Oct-X1	22-Oct-X1	20-Oct-X1	22-Oct-X1	4.22100
Coupon date-4				31-Dec-X1	4.65300

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
IRS Contract position taken (inception)	18-Jan-X1	10,000,000.00	280,878.15	20-Jan-X1
	05-Dec-X1	6,000,000.00	105,792.68	07-Dec-X1
Upfront fees paid				

Valuation dates and net present values	**Date**	**Net NPV**	**Net interest**
Valuation date 1	31-Mar-X1	252,054.80	27,313.33
Valuation date 2	30-Jun-X1	110,343.54	153,372.50
Valuation date 3	30-Sep-X1	148,487.54	281,135.56
Termination	07-Dec-X1	105,792.68	244,052.00
Valuation date 4	31-Dec-X1	52,683.40	163,565.56

Other details	**Date**	**USD**	**FX rate**
Capital introduced	01-Jan-X1	2,000,000	1.000000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

3. Interest rate swap—Exercise 3

IRS contract details:	Receive leg	pay leg
Terms	Fixed	Floating
Notional Amount	25,000,000	25,000,000
Currency	GBP	GBP

IRS contract details:	**Receive leg**	**pay leg**
Day Count—Actual/365; 30/360	365	365
Interest payment terms	Quarterly	Quarterly
Rate of interest	5.5	US 3 months LIBOR + 20 bps
Reset terms	Fixed	Prefix/Post paid

	Receive leg—fixed		**Pay leg floating**		
Coupon reset dates	**Trade date**	**Settle date**	**Trade date**	**Settle date**	**LIBOR**
Inception	–	–	20-Jan-X8	22-Jan-X8	5.5275
Coupon date-1	22-Apr-X8	24-Apr-X8	22-Apr-X8	24-Apr-X8	5.5275
Coupon date-2	22-Jul-X8	24-Jul-X8	22-Jul-X8	24-Jul-X8	5.88375
Coupon date-3	22-Oct-X8	24-Oct-X8	22-Oct-X8	24-Oct-X8	5.79688
Coupon date-4				31-Dec-X8	6.03875

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
IRS Contract position taken (inception)	20-Jan-X8	25,000,000.00	186,986.37	22-Jan-X8
	17-Dec-X8	20,000,000.00		19-Dec-X8
Upfront fees paid				

Valuation dates and net present values	**Date**	**Net NPV**	**Net interest**
Valuation date 1	31-Mar-X8	113,416.98	–10,751.71
Valuation date 2	30-Jun-X8	–285,789.06	–27,588.18
Valuation date 3	30-Sep-X8	–6,345.13	–23,823.01
Termination	17-Dec-X8	618,329.52	–23,478.08
Valuation date 4	31-Dec-X8	161,035.98	–7,083.90

Other details	**Date**	**USD**	**FX Rate**
Capital Introduced	01-Jan-X8	2,000,000	1.000000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

4. Interest rate swap—Exercise 4

IRS contract details:	**Receive leg**	**Pay leg**
Terms	Fixed	Floating
Notional amount	7,000,000	7,000,000
Currency	USD	USD
Day Count—Actual/365; 30/360	365	360
Interest payment terms	Quarterly	Quarterly
Rate of interest	5.23	US 3 months LIBOR + 25 bps
Reset terms	Fixed	Prefix/Post paid

	Receive leg—fixed		Pay leg floating		
Coupon reset dates	**Trade date**	**Settle date**	**Trade date**	**Settle date**	**LIBOR**
Inception	–	–	06-Jan-X1	08-Jan-X1	4.62
Coupon date-1	08-Apr-X1	10-Apr-X1	08-Apr-X1	10-Apr-X1	4.62
Coupon date-2	08-Jul-X1	10-Jul-X1	08-Jul-X1	10-Jul-X1	2.72750
Coupon date-3	08-Oct-X1	10-Oct-X1	08-Oct-X1	10-Oct-X1	2.78938
Coupon date-4				31-Dec-X1	4.28875

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**	**FX rate**
IRS Contract position taken (inception)	06-Jan-X1	7,000,000.00	205,326.85	08-Jan-X1	1.0000
	12-Dec-X1	7,000,000.00	179,635.23	14-Dec-X1	
Upfront fees paid					

Valuation dates and net present values	**Date**	**Net NPV**	**Net interest**
Valuation date 1	31-Mar-X1	307,800.79	5,810.00
Valuation date 2	30-Jun-X1	164,722.50	36,352.85
Valuation date 3	30-Sep-X1	112,322.43	35,780.13
Termination	08-Dec-X1	179,635.23	9,005.45

Other details	**Date**	**USD**	**FX rate**
Capital introduced	01-Jan-X1	2,000,000	1.000000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

CHAPTER 8

Interest Rate Swaps—Pay Fixed Receive Floating

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Meaning of receive floating and pay fixed type of interest rate swap
- Interest rate swap as a hedging instrument
- Accounting for interest rate swaps
- Interest rate swap instrument—pay fixed and receive floating
- Trade life cycle of interest rate swaps
- Accounting journal entries to be recorded during the different phases of the trade life cycle
- Illustration of investments in interest rate swaps
- Preparation of general ledger accounts
- Preparation of income statement, balance sheet after the investments in interest rate swaps are made
- FX revaluation and FX translation process
- Functional currency, foreign currency and presentation currency

MEANING OF RECEIVE FLOATING AND PAY FIXED TYPE OF INTEREST RATE SWAP

Pay fixed and receive floating swap

In this type of interest rate derivative, the pay leg will be a fixed rate and the receive leg will be based on some benchmark interest rate like LIBOR. Suppose that for the next five years party A agrees to pay party B 5 percent per year, while party B agrees to pay party A three-month LIBOR + 50 basis points. Assume that the notional principal is $10 million, and that payments are exchanged every three months for the next five years. Party A is the fixed-rate payer, while party B is the fixed-rate receiver. So every three months, party A (the fixed-rate payer) will pay party B $125,000 (5 percent on $10 million for the quarter). Party B (the fixed-rate receiver) on the other hand will pay party A an amount calculated at 3-month LIBOR + 50 basis points on the same $10 million applicable for the quarter. Assuming that the 3-month LIBOR is say 5.25 percent, party B will pay party A $143,750 (5.25 + 0.50 percent on $10 million for the quarter).

Interest rate swap as a hedging instrument

Being a derivative instrument, an interest rate swap per se qualifies as a hedging instrument. It should be noted that in an interest rate swap, the risk reward is symmetric and can be more or less compared to an equity futures position. An interest rate swap instrument can be used to hedge primarily interest rate risk.

It should be noted that the derivative financial instrument of an interest rate swap may be designated as a hedging instrument provided it is with an external party. Intra-group derivatives do not qualify as a hedging instrument in consolidated financial statements, although they may qualify in the separate financial statements of individual entities in the group. A derivative may be designated as a hedging instrument only in its entirety or as a proportion i.e., a percentage of the notional amount. This type of interest rate swap instrument can be used for conversion of a variable rate debt into a fixed rate debt, and cash flow hedge accounting is applicable for this case subject to the fulfillment of all other requirements for hedge accounting.

ACCOUNTING STANDARDS

In this chapter we will cover the accounting requirements for investments in interest rate swaps. Table 8.1 provides the relevant accounting standards for this chapter.

Table 8.1 Relevant accounting standards

US GAAP Topics	IFRS
220—Comprehensive Income	IFRS 7—Financial Instruments: Disclosure
815—Derivatives and Hedging	IFRS 9—Financial Instruments
820—Fair Value Measurements and Disclosures	IAS 21—The Effects of Changes in Foreign Exchange Rates
825—Financial Instruments	IAS 32—Financial Instruments: Presentation
830—Foreign Currency Matters	IAS 39—Financial Instruments: Recognition and Measurement
946—Financial Services—Investment Companies	

THE TRADE LIFE CYCLE FOR INTEREST RATE SWAPS

- Recording the trade—contingent
- Account for the upfront fee (premium on the trade)
- Pay or receive the upfront fee for the trade
- Reset the interest rate for the floating leg
- Account for accrued interest on pay leg on valuation date
- Account for accrued interest on receive leg on valuation date
- Reverse the accrued interest on pay leg on coupon date
- Reverse the accrued interest on receive leg on coupon date
- Account for the interest payable on pay leg on coupon date
- Account for the interest receivable on the receive leg on coupon date
- Pay and receive the interest (net interest if dates coincide)
- Reverse the existing net present value of the trade
- Ascertain the fair value on valuation date
- Termination of the trade and accounting for termination fee
- Payment or receipt of termination fee
- Maturity of the trade
- Reversal of the contingent entry on maturity/termination
- FX revaluation entries (for foreign currency trades)
- FX translation entries (for foreign currency trades)

Let us assume the following contract data for the purpose of understanding the trade life cycle for an interest rate swap:

PAY FIXED AND RECEIVE FLOATING—ILLUSTRATION 1

The details of the interest rate swap contract for Illustration 1 are given in Table 8.2.

Table 8.2 Details of IRS contract

IRS contract details:	**Pay leg**	**Receive leg**
Terms	Fixed	Floating
Notional amount	10,000,000	10,000,000
Currency	USD	USD
Day count—actual/365; 30/360	365	360
Interest payment terms	Quarterly	Quarterly
Rate of interest	5.70	US 3 months LIBOR + 100 bps
Reset terms	Fixed	Prefix/post paid

	Pay leg—fixed			**Receive leg floating**				
Coupon reset dates	**Trade date**	**FX rate**	**Settle date**	**Trade date**	**FX rate**	**Settle date**	**FX rate**	**LIBOR**
Inception	–	–	–	09-Jan-X1	–	11-Jan-X1	1.00	4.56000
Coupon date-1	11-Apr-X1		13-Apr-X1	11-Apr-X1	1.00	13-Apr-X1	1.00	4.56000
Coupon date-2	11-Jul-X1		13-Jul-X1	11-Jul-X1	1.00	13-Jul-X1	1.00	5.02813
Coupon date-3	11-Oct-X1		13-Oct-X1	11-Oct-X1	1.00	13-Oct-X1	1.00	5.51000
Coupon date-4						28-Dec-X1		5.37000

Other details	**Trade date**	**Notional amount**	**Upfront fees**	**Settle date**
IRS Contract position taken (inception)	09-Jan-X1	10,000,000	(11,355.95)	11-Jan-X1
IRS Contract termination (unwind)	26-Dec-X1	10,000,000	48,762.61	28-Dec-X1

Valuation dates and net present values	**Date**	**NPV net**	**Interest net**
Valuation date 1	31-Mar-X1	105,902.43	185.69
Valuation date 2	30-Jun-X1	213,031.77	7,352.46
Valuation date 3	30-Sep-X1	56,099.14	16,365.18
Termination date	28-Dec-X1	48,762.61	14,439.00

Other details	**Date**	**USD**
Capital introduced	06-Jan-X1	20,000,000

Recording the trade—contingent (at the inception of the interest rate swap)

Unlike bonds and equities, in an interest rate swap generally there is no exchange of money taking place of principal during the purchase and at expiry of the swap. The interest rates to be paid are calculated on a notional amount.

In the current example, where the interest rate swap agreement is based on fixed-for-floating, a series of payments calculated by applying a fixed rate of interest to a notional principal amount is exchanged for a stream of payments similarly calculated but using a floating rate of interest.

As this is a notional amount and no physical exchange of money takes place, an off balance sheet entry is recorded. The accounting entry that is recorded in the books of accounts is as shown in Table 8.3.

Table 8.3 On purchase of interest rate swap trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
9-Jan-X1	Interest rate swap account—OBS	10,000,000.00	
	To Interest rate swap (Contra) account—OBS		10,000,000.00
	(Being the recording of interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

Account for upfront fee on purchase of interest rate swap trade

The net present value of a time series of cash flows, both incoming and outgoing, is calculated by arriving at the sum of the present values of the individual cash flows. The net present value of the interest rate swap trade at the time of inception of the contract is the upfront fee that is paid to enter into the contract. If it is a positive number then the buyer has to pay the upfront fee. If the net present value is a negative number then the buyer of the contract receives such upfront fees from the seller of the instrument. Some also refer to the upfront fee as premium on the trade even though strictly "premium" is used for option contracts like interest rate cap or floor. Even though this is termed an "upfront fee," for all practical purposes this represents an asset or a liability as the case may be. At each subsequent valuation date the net present value is calculated and the existing net present value is updated by accounting for the unrealized gain/loss.

In the illustration, the interest on the swap contract is calculated on the notional principal amount of $10,000,000. Here, for the payments the fixed interest rate of 5.7 percent is used and for the receivables the floating interest rate of LIBOR + 100bps is used. In the above example, on 11th January, the fixed rate of interest is 5.7 percent and floating rate of interest is 5.56 percent (LIBOR rate of 4.56 percent plus 100bps) as on that date. The interest rate calculation is spread across quarters as per the interest rate payment terms from the first coupon date. The day count for fixed payment is taken as actual/365 and for floating payment taken as 30/360 days. The net present value is found out for the same after discounting the net payments (difference between payments and receivables) with the discounting factor applicable for that tenor.

The accounting entry that is recorded in the books of accounts for upfront fee is as shown in Table 8.4.

Table 8.4 On accounting for upfront free

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
9-Jan-X1	ABC Counterparty account	11,355.95	
	To IRS NPV—(Asset/Liability) account		11,355.95
	(Being the upfront fee to be received from ABC counterparty at the inception of interest rate swap contract representing the net present value of the swap on this date)		

Payment/receipt of upfront fee on purchase of interest rate swap trade

The next event in the trade life cycle is the receipt or payment of the upfront fee on purchase of an interest rate swap trade as the case may be. Usually the settlement of upfront fee happens two days after the date of the trade.

Assuming that the upfront fee is received on T + 2, then the accounting entry that is recorded in the book of accounts is as shown in Table 8.5.

Table 8.5 On receipt of upfront fee on purchase of interest rate swap trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Jan-X1	Bank account	11,355.95	
	To ABC Counterparty account		11,355.95
	(Being the upfront fee received at the inception of interest rate swap contract representing the net present value of the swap on this date)		

Reset the interest rate for the floating leg

The next event in the trade life cycle is to determine the interest rate for the floating leg for the ensuing quarter. Usually the interest is prefixed for the next quarter based on the benchmark rate. The frequency of the reset is based on the swap contract.

In this case the rate of 4.56 percent, which represents the benchmark interest rate 3-months LIBOR is reset for the next quarter commencing from the date of reset. No accounting entry is recorded at this stage.

Account for the accrued interest on pay leg on valuation date

Interest is payable on the "pay leg" based on the day count and the fixed interest that is agreed at the time entering into the swap contract. In this case the fixed interest rate is 5.70 percent and the interest accrued for the period of 79 days works out to $123,369.86 until 31st March-X1.

To account for the interest accrued on the pay leg on the date of valuation, the accounting entry is recorded in the book of accounts as shown in Table 8.6.

Table 8.6 Accrued interest on valuation date—pay leg

Calculation of accrued interest—pay leg	USD
Previous coupon date	11-Jan-X1
Current valuation date	31-Mar-X1
Number of days	79
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.70
Accrued interest on pay leg	**123,369.86**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Interest—pay leg—IRS account	123,369.86	
	To Interest accrued but not due on IRS account		123,369.86
	(Being the interest accrued on pay leg accounted for on the valuation date)		

Account for the accrued interest on the receive leg on valuation date

Interest is receivable on the "receive leg" based on the day count and the floating interest rate based on the bench mark interest rate. In this case the floating interest rate for the ensuing period is 4.56 percent and together with the 100 basis points, an effective interest rate of 5.56 percent is receivable, the day count being 30/360.

The accounting entry that is recorded in the book of accounts is as shown in Table 8.7.

Table 8.7 Accrued interest on valuation date—receive leg

Calculation of interest—receive leg	**USD**
Previous coupon date	11-Jan-X1
Current valuation date	31-Mar-X1
Number of days	79
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.56
Accrued interest on receive leg	**122,011.11**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Mar-X1	Interest accrued but not due on IRS account	122,011.11	
	To Interest—receive leg—IRS account		122,011.11
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

Reverse the accrued interest on the pay leg on the coupon date

The accrued interest entry for the pay leg recorded in the previous valuation date must be reversed on the next coupon date, when the actual interest until the coupon date will be accounted for. The next coupon date subsequent to the valuation date falls on 24th April and on that date the entry, as shown in Table 8.8, will be recorded in the book of accounts for reversal of accrued interest on the pay leg:

Table 8.8 On reversal of accrued interest on coupon date—pay leg

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
11-Apr-X1	Interest accrued but not due on IRS account	123,369.86	
	To Interest—pay leg—IRS account		123,369.86
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

Reverse the accrued interest on the receive leg on the coupon date

The accrued interest entry for the receive leg recorded in the previous valuation date must be reversed on the next coupon date, when the actual interest until the coupon date will be accounted for. The next coupon date subsequent to the valuation date falls on 24th April and on that date the entry, as shown in Table 8.9, will be recorded in the book of accounts for reversal of accrued interest on the receive leg.

Table 8.9 On reversal of accrued interest on the coupon date—receive leg

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Apr-X1	Interest—receive leg—IRS account	122,011.11	
	To interest accrued but not due on IRS account		122,011.11
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

Account for the interest payable on coupon date—pay leg

At the end of every coupon date the interest to be received is calculated between the previous coupon date and current coupon date of the pay leg. The interest is calculated on the notional principal amount of $10,000,000. Here, the payment of interest is based on the fixed interest rate of 5.7 percent. In the example, the previous coupon date was 11th January and current coupon date is 11th April. Thus, the number of days for the calculation of interest is 90. The day count for fixed payment is taken as actual/365.

The accounting entry that is recorded in the books of accounts is as shown in Table 8.10.

Table 8.10 On accounting for interest on coupon date—pay leg

Calculation of interest—pay leg	USD
Previous coupon date	11-Jan-X1
Current coupon date	11-Apr-X1
Number of days	90
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.70
Interest on pay leg	**140,547.95**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Apr-X1	Interest—pay leg—IRS account	140,547.95	
	To ABC Counterparty account		140,547.95
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

Account for the interest receivable on the coupon date—receive leg

At the end of every coupon date the interest to be received is calculated between the previous coupon date and the current coupon date of the receive leg. The interest is calculated on the notional principal amount of $10,000,000. Here, the interest is received based on the floating interest rate of LIBOR + 100bps of 5.56 percent (LIBOR rate-4.56 percent and 100bps) as on the coupon date. In the example, the previous coupon date was 11th January and the current coupon date is 11th April. Thus, the number of days for calculation of interest is 90. The day count for floating payment is taken as 30/360 days.

The accounting entry that is recorded in the book of accounts is as shown in Table 8.11.

Table 8.11 On accounting for interest on coupon date—receive leg

Calculation of interest—receive leg	**USD**
Previous coupon date	11-Jan-X1
Current valuation date	11-Apr-X1
Number of days	90
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.56
Accrued interest on receive leg	**139,000.00**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
11-Apr-X1	ABC Counterparty account	139,000.00	
	To Interest—receive leg—IRS account		139,000.00
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

Settlement for the interest on coupon date—pay leg and receive leg

The next event in the trade life cycle is the settlement of the interest on the pay leg and the receive leg on the coupon dates.

Assuming that the payment and receipt happens on T + 2 then the accounting entry that is recorded in the books of accounts is as shown in Table 8.12 and Table 8.13.

Table 8.12 On settlement of interest on pay leg

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
13-Apr-X1	ABC Counterparty account	140,547.95	
	To bank account		140,547.95
	(Being the payment of interest on pay leg of the interest rate swap)		

Table 8.13 On settlement of interest on receive leg

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
13-Apr-X1	Bank account	139,000.00	
	To ABC Counterparty account		139,000.00
	(Being the payment of interest on receive leg of the interest rate swap)		

Reverse the existing net present value of the trade

The present value as on the valuation date should be recorded and before that the existing present value in the books of accounts should be reversed. This is either the entry passed on the date of inception

of the trade or the entry passed on the previous valuation date. Table 8.14 shows the reversal of the entry passed at the inception of the trade.

The net present value recorded at the time of upfront fee paid or received, as the case may be, on inception of the interest rate swap is reversed on the valuation day and the value is transferred to the unrealized gain or loss account in the profit and loss account as is shown in Table 8.14.

Table 8.14 On reversal of existing net present value of interest rate swap on valuation date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	IRS NPV—(Asset/Liability) account	11,355.95	
	To unrealized gain/loss on IRS (P&L) account		11,355.95
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

The net present value is found calculating the interest, both for the receive and pay leg as on the valuation date, then discounting it with the discounting factor. This value also includes the net difference between the accrued interest pay leg and the receive leg for the current valuation date.

Ascertain the fair value at every valuation date

At the end of every reporting period the fair value of the interest rate swap contract is ascertained and the swap contract is marked-to-market to reflect the net present value of the contract. The value of the swap is computed based on the expected cash inflows and cash outflows on the remaining period of the life of the contract and discounted based on the yield curve. This value can be either a positive value or a negative value depending upon the movement of the interest rate on the floating leg. If the interest rate moves unfavorably then the net present value of the interest rate swap contract will be a negative value. The accounting entry that is recorded in the books of accounts is shown in Table 8.15.

Table 8.15 On valuation of interest rate swap on valuation date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	IRS NPV—(asset/liability) account	105,902.43	
	To unrealized gain/loss on IRS (P&L) account		105,902.43
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the receive leg of the interest rate swap)		

Termination of the trade and accounting for termination fee

If the parties decide to terminate the contract, then the net present value of the contract at that point of time would be computed based on the expected cash inflows and outflows for the remaining period of life of the contract and discounted back to arrive at the net present value of such cash flows. The net present value of the contract on such date of termination will be the termination fee and will be paid by one party to the other party depending upon which party stands to gain and which party stands to lose if the contract is terminated on the said date without being allowed to subsist during the remaining life of the contract.

In this example the present value of the contract on the date of termination viz. 26th December is calculated as a positive number amounting to $48,762.61 and the counterparty to the contract will

have to pay this termination fee to the investor. The termination fee paid represents realized gain from the interest rate swap trade and as such is taken to the profit and loss account.

The accounting entry that is recorded in the book of accounts is as shown in Table 8.16.

Table 8.16 On accounting for termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Dec-X1	ABC Counterparty account	48,762.61	
	To Realized gain/loss on interest rate swap		48,762.61
	(Being realized gain/loss on termination date)		

Payment or receipt of termination fee

The consideration for such termination is received on T + 2. The accounting entry that is recorded in the books of accounts is as shown in Table 8.17.

Table 8.17 On settlement of termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
28-Dec-X1	Bank account	48,762.61	
	To ABC Counterparty account		48,762.61
	(Being realized gain/loss on termination date)		

Accounting for realized gain/loss on termination of interest rate swap contract

On the termination of the interest rate swap contract the realized gain/loss should be calculated and accounted for. It also includes the difference (net-off) between interest accrued of the pay leg and the receive leg until that date. The settlement happens on T+2 days.

The accounting entries recorded in the book of accounts are as shown in Table 8.18 and Table 8.19.

Table 8.18 On accounting realized gain/loss

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Dec-X1	ABC Counterparty account	48,762.61	
	To Realized gain/loss on interest rate swap		48,762.61
	(Being realized gain/loss on termination date)		

Table 8.19 On settlement of gain/loss

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
28-Dec-X1	Bank account	48,762.61	
	To ABC Counterparty account		48,762.61
	(Being realized gain/loss on termination date)		

Maturity of the trade

If the trade is not terminated before the maturity date, the trade matures automatically on the maturity date. No interest is payable or receivable after the maturity date. The net present value on the date of maturity of the interest rate swap contract would be zero as no cash flows subsist subsequent to the maturity date, unlike an early termination where subsequent to the termination date there would be cash flows both receivable and payable. On the maturity date of the trade, the contingent entry passed at the date of inception of the trade is reversed as mentioned in the next paragraph.

Reversal of the contingent entry

Upon the termination of the interest rate derivative or upon the maturity of the contract, the original contingent entry passed will have to be reversed. Note that the original entry passed for recording the transaction was an off-balance sheet entry and accordingly the reversal of such entry will also be an off balance sheet entry.

The accounting entry that is recorded in the book of accounts is as shown in Table 8.20.

Table 8.20 On termination of interest rate swap trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Dec-X1	Interest rate swap (Contra) account—OBS	10,000,000.00	
	To interest rate swap account—OBS		10,000,000.00
	(Being the recording of termination of interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

COMPLETE SOLUTION TO ILLUSTRATION 1: INTEREST RATE SWAP—RECEIVE FLOATING PAY FIXED

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
6-Jan-X1	Bank account	20,000,000.00	
	To share capital account		20,000,000.00
	(Being the capital introduced)		

T-2 *On purchase of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
9-Jan-X1	Interest rate swap account—OBS	10,000,000.00	
	To interest rate swap (Contra) account—OBS		10,000,000.00
	(Being the recording of interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-3 *On accounting for upfront fee on purchase of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
9-Jan-X1	ABC Counterparty account	11,355.95	
	To IRS NPV—(Asset/Liability) account		11,355.95
	(Being the upfront fee to be received from ABC counterparty at the inception of interest rate swap contract representing the net present value of the swap on this date)		

T-4 *On receipt of upfront fee on purchase of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Jan-X1	Bank account	11,355.95	
	To ABC counterparty account		11,355.95
	(Being the upfront fee received at the inception of interest rate swap contract representing the net present value of the swap on this date)		

T-5 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	IRS NPV—(Asset/Liability) account	11,355.95	
	To Unrealized gain/loss on IRS (P&L) account		11,355.95
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-6 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	IRS NPV—(Asset/Liability) account	105,902.43	
	To unrealized gain/loss on IRS (P&L) account		105,902.43
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the receive leg of the interest rate swap)		

T-7 *Accrued interest on valuation date—pay leg:*

Calculation of accrued interest—pay leg	USD
Previous coupon date	11-Jan-X1
Current valuation date	31-Mar-X1
Number of days	79
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.70
Accrued interest on pay leg	**123,369.86**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Interest—pay leg—IRS account	123,369.86	
	To Interest accrued but not due on IRS account		123,369.86
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-8 *Accrued interest on valuation date—receive leg:*

Calculation of interest—receive leg	**USD**
Previous coupon date	11-Jan-X1
Current valuation date	31-Mar-X1
Number of days	79
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.56
Accrued interest on receive leg	**122,011.11**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Interest accrued but not due on IRS account	122,011.11	
	To Interest—receive leg—IRS account		122,011.11
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-9 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Apr-X1	Interest accrued but not due on IRS account	123,369.86	
	To Interest—pay leg—IRS account		123,369.86
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-10 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	**USD**
Previous coupon date	11-Jan-X1
Current coupon date	11-Apr-X1
Number of days	90
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.70
Interest on pay leg	**140,547.95**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Apr-X1	Interest—pay leg—IRS account	140,547.95	
	To ABC Counterparty account		140,547.95
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-11 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Apr-X1	ABC Counterparty account	140,547.95	
	To Bank account		140,547.95
	(Being the payment of interest on pay leg of the interest rate swap)		

T-12 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Apr-X1	Interest—receive leg—IRS account	122,011.11	
	To Interest accrued but not due on IRS account		122,011.11
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

T-13 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—receive leg	**USD**
Previous coupon date	11-Jan-X1
Current valuation date	11-Apr-X1
Number of days	90
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.56
Accrued interest on receive leg	**139,000.00**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Apr-X1	ABC Counterparty account	139,000.00	
	To Interest—receive leg—IRS account		139,000.00
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-14 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Apr-X1	Bank account	139,000.00	
	To ABC Counterparty account		139,000.00
	(Being the payment of interest on receive leg of the interest rate swap)		

T-15 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	Unrealized gain/loss on IRS (P&L) account	105,902.43	
	To IRS NPV—(Asset/Liability) account		105,902.43
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-16 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	IRS NPV—(Asset/Liability) account	213,031.77	
	To Unrealized gain/loss on IRS (P&L) account		213,031.77
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the receive leg of the interest rate swap)		

T-17 *Accrued interest on valuation date—pay leg:*

Calculation of accrued interest—pay leg	**USD**
Previous coupon date	11-Apr-X1
Current valuation date	30-Jun-X1
Number of days	80
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.70
Accrued Interest on pay leg	**124,931.51**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	Interest—pay leg—IRS account	124,931.51	
	To Interest accrued but not due on IRS account		124,931.51
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-18 *Accrued interest on valuation date—receive leg:*

Calculation of interest—receive leg	**USD**
Previous coupon date	11-Apr-X1
Current valuation date	30-Jun-X1
Number of days	80
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	6.03
Accrued interest on receive leg	**133,958.44**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Jun-X1	Interest accrued but not due on IRS account	133,958.44	
	To Interest—receive leg—IRS account		133,958.44
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-19 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
11-Jul-X1	Interest accrued but not due on IRS account	124,931.51	
	To Interest—pay leg—IRS account		124,931.51
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-20 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	**USD**
Previous coupon date	11-Apr-X1
Current coupon date	11-Jul-X1
Number of days	91
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.70
Interest on pay leg	**142,109.59**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
11-Jul-X1	Interest—pay leg—IRS account	142,109.59	
	To ABC Counterparty account		142,109.59
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-21 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Jul-X1	ABC Counterparty account	142,109.59	
	To Bank account		142,109.59
	(Being the payment of interest on pay leg of the interest rate swap)		

T-22 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Jul-X1	Interest—receive leg—IRS account	133,958.44	
	To Interest accrued but not due on IRS account		133,958.44
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

T-23 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—receive leg	USD
Previous coupon date	11-Apr-X1
Current valuation date	11-Jul-X1
Number of days	91
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	6.03
Accrued interest on receive leg	**152,377.73**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Jul-X1	ABC Counterparty account	152,377.73	
	To Interest—receive leg—IRS account		152,377.73
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-24 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Jul-X1	Bank account	152,377.73	
	To ABC Counterparty account		152,377.73
	(Being the payment of interest on receive leg of the interest rate swap)		

T-25 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	Unrealized gain/loss on IRS (P&L) account	213,031.77	
	To IRS NPV—(Asset/Liability) account		213,031.77
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-26 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	IRS NPV—(Asset/Liability) account	56,099.14	
	To Unrealized gain/loss on IRS (P&L) account		56,099.14
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the receive leg of the interest rate swap)		

T-27 *Accrued interest on valuation date—pay leg:*

Calculation of accrued interest—pay leg	**USD**
Previous coupon date	11-Jul-X1
Current valuation date	30-Sep-X1
Number of days	81
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.70
Accrued Interest on pay leg	**126,493.15**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	Interest—pay leg—IRS account	126,493.15	
	To Interest accrued but not due on IRS account		126,493.15
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-28 *Accrued interest on valuation date—receive leg:*

Calculation of interest—receive leg	**USD**
Previous coupon date	11-Jul-X1
Current valuation date	30-Sep-X1
Number of days	81
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	6.51
Accrued interest on receive leg	**146,475.00**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	Interest accrued but not due on IRS account	146,475.00	
	To Interest—receive leg—IRS account		146,475.00
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-29 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Oct-X1	Interest accrued but not due on IRS account	126,493.15	
	To Interest—pay leg—IRS account		126,493.15
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-30 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	**USD**
Previous coupon date	11-Jul-X1
Current coupon date	11-Oct-X1
Number of days	92
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.70
Interest on pay leg	**143,671.23**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Oct-X1	Interest—pay leg—IRS account	143,671.23	
	To ABC Counterparty account		143,671.23
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-31 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Oct-X1	ABC Counterparty account	143,671.23	
	To Bank account		143,671.23
	(Being the payment of interest on pay leg of the interest rate swap)		

T-32 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Oct-X1	Interest—receive leg—IRS account	146,475.00	
	To Interest accrued but not due on IRS account		146,475.00
	(Being the reversal of interest accrued but not due on the receive leg of the interestrate swap)		

T-33 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—receive leg	USD
Previous coupon date	11-Jul-X1
Current valuation date	11-Oct-X1
Number of days	92
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	6.51
Accrued interest on receive leg	**166,366.67**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
11-Oct-X1	ABC Counterparty account	166,366.67	
	To Interest—receive leg—IRS account		166,366.67
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-34 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
13-Oct-X1	Bank account	166,366.67	
	To ABC Counterparty account		166,366.67
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

T-35 *On termination of interest rate swap trade:*

On termination of the contract the notional amount entry passed at the start of the contract is reversed. As it's just the notional amount and no physical delivery has taken place, the entry is an off balance sheet.

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Dec-X1	Interest rate swap (Contra) account—OBS	10,000,000.00	
	To Interest rate swap account—OBS		10,000,000.00
	(Being the recording of termination of interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-36 *On reversal of existing net present value of interest rate swap on termination date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Dec-X1	Unrealized gain/loss on IRS (P&L) account	56,099.14	
	To IRS NPV—(Asset/Liability) account		56,099.14
	(Being the reversal of existing net present value of interest rate swap on termination date)		

T-37 *On accounting realized gain/loss:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Dec-X1	ABC Counterparty account	48,762.61	
	To Realized gain/loss on interest rate swap		48,762.61
	(Being realized gain/loss on termination date)		

T-38 *On settlement of gain/loss:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
28-Dec-X1	Bank account	48,762.61	
	To ABC Counterparty account		48,762.61
	(Being realized gain/loss on termination date)		

T-39 *On accounting of pay leg interest:*

Calculation of accrued interest—pay leg	**USD**
Previous coupon date	11-Oct-X1
Current coupon date	28-Dec-X1
Number of days	78
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	5.70
Accrued Interest on pay leg	**121,808.22**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Dec-X1	Interest—pay leg—IRS account	121,808.22	
	To ABC Counterparty account		121,808.22
	(Being the pay leg interest accounted)		

T-40 *On settlement of pay leg interest:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
28-Dec-X1	ABC Counterparty account	121,808.22	
	To Bank account		121,808.22
	(Being the settlement of pay leg interest)		

T-41 *On accounting of pay leg interest:*

Calculation of interest—receive leg	USD
Previous coupon date	11-Oct-X1
Current valuation date	28-Dec-X1
Number of days	78
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	6.37
Accrued interest on receive leg	**138,016.67**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Dec-X1	ABC Counterparty account	138,016.67	
	To Interest—receive leg—IRS account		138,016.67
	(Being the interest accrued on receive leg accounted for on the termination date)		

T-42 *On settlement of receive leg interest:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
28-Dec-X1	Bank account	138,016.67	
	To ABC Counterparty account		138,016.67
	(on settlement of receive leg interest)		
31-Dec-X1	Realized gain/loss on interest rate swap	11.355.95	
	To Unrealized gain/loss on IRS (P&L) account		11.355.95
	(Being the transfer of unrealized gain/loss to realized gain/loss on termination of IRS contract)		

General Ledger

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
9-Jan-X1	To IRS NPV—(Asset/ Liability) account	11,355.95			
			11-Jan-X1	By Bank account	11,355.95
			11-Apr-X1	By Interest—pay leg—IRS account	140,547.95
13-Apr-X1	To Bank account	140,547.95			
11-Apr-X1	To Interest—receive leg—IRS account	139,000.00			
			13-Apr-X1	By Bank account	139,000.00
			11-Jul-X1	By Interest—pay leg—IRS account	142,109.59
13-Jul-X1	To Bank account	142,109.59			
11-Jul-X1	To Interest—receive leg—IRS account	152,377.73			
			13-Jul-X1	By Bank account	152,377.73
			11-Oct-X1	By Interest—pay leg—IRS account	143,671.23
13-Oct-X1	To Bank account	143,671.23			
11-Oct-X1	To Interest—receive leg—IRS account	166,366.67			
			13-Oct-X1	By Bank account	166,366.67
26-Dec-X1	To Realized gain/l oss on interest rate swap	48,762.61			
			28-Dec-X1	By Bank account	48,762.61
			26-Dec-X1	By Interest—pay leg—IRS account	121,808.22
28-Dec-X1	To Bank account	121,808.22			
26-Dec-X1	To Interest—receive leg—IRS account	138,016.67			
			28-Dec-X1	By Bank account	138,016.67
31-Dec-X1	Total	**1,204,016.62**	31-Dec-X1	Total	**1,204,016.62**

Interest rate swap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
9-Jan-X1	To Interest rate swap (Contra) account—OBS	10,000,000.00			
			26-Dec-X1	By Interest rate swap (Contra) account—OBS	10,000,000.00
31-Dec-X1	Total	**10,000,000.00**	31-Dec-X1	Total	**10,000,000.00**

Interest rate swap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			9-Jan-X1	By Interest rate swap account—OBS	10,000,000.00
26-Dec-X1	To Interest rate swap account—OBS	10,000,000.00			
31-Dec-X1	Total	**10,000,000.00**	31-Dec-X1	Total	**10,000,000.00**

IRS NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			9-Jan-X1	By ABC Counterparty account	11,355.95
31-Mar-X1	To Unrealized gain/loss on IRS (P&L) account	11,355.95			
31-Mar-X1	To Unrealized gain/loss on IRS (P&L) account	105,902.43			
			30-Jun-X1	By Unrealized gain/loss on IRS (P&L) account	105,902.43
30-Jun-X1	To Unrealized gain/loss on IRS (P&L) account	213,031.77			
30-Sep-X1	To Unrealized gain/loss on IRS (P&L) account	56,099.14			
			30-Sep-X1	By Unrealized gain/loss on IRS (P&L) account	213,031.77
			26-Dec-X1	By Unrealized gain/loss on IRS (P&L) account	56,099.14
31-Dec-X1	Total	**386,389.29**	31-Dec-X1	Total	**386,389.29**

Unrealized gain/loss on IRS (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X1	By IRS NPV—(Asset/Liability) account	11,355.95
			31-Mar-X1	By IRS NPV—(Asset/Liability) account	105,902.43
30-Jun-X1	To IRS NPV—(Asset/Liability) account	105,902.43			
			30-Jun-X1	By IRS NPV—(Asset/Liability) account	213,031.77
			30-Sep-X1	By IRS NPV—(Asset/Liability) account	56,099.14
30-Sep-X1	To IRS NPV—(Asset/Liability) account	213,031.77			
26-Dec-X1	To IRS NPV—(Asset/Liability) account	56,099.14			
31-Dec-X1	To Realized gain/loss on interest rate swap	11,355.95			
31-Dec-X1	Total	**386,389.29**	31-Dec-X1	Total	**386,389.29**

Interest—pay leg—IRS account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X1	To Interest accrued but not due on IRS account	123,369.86			
			11-Apr-X1	By Interest accrued but not due on IRS account	123,369.86
11-Apr-X1	To ABC Counterparty account	140,547.95			
30-Jun-X1	To Interest accrued but not due on IRS account	124,931.51			
			11-Jul-X1	By Interest accrued but not due on IRS account	124,931.51
11-Jul-X1	To ABC Counterparty account	142,109.59			
30-Sep-X1	To Interest accrued but not due on IRS account	126,493.15			
			11-Oct-X1	By Interest accrued but not due on IRS account	126,493.15
11-Oct-X1	To ABC Counterparty account	143,671.23			
26-Dec-X1	To ABC Counterparty account	121,808.22			
			31-Dec-X1	By Balance	548,136.99
31-Dec-X1	Total	**922,931.51**	31-Dec-X1	Total	**922,931.51**
31-Dec-X1	To Balance	548,136.99			

Interest accrued but not due on IRS account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X1	By Interest—pay leg—IRS account	123,369.86
31-Mar-X1	To Interest—receive leg—IRS account	122,011.11			
11-Apr-X1	To Interest—pay leg—IRS account	123,369.86			
			11-Apr-X1	By Interest—receive leg—IRS account	122,011.11
			30-Jun-X1	By Interest—pay leg—IRS account	124,931.51

Interest accrued but not due on IRS account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
30-Jun-X1	To Interest—receive leg—IRS account	133,958.44			
11-Jul-X1	To Interest—pay leg—IRS account	124,931.51			
			11-Jul-X1	By Interest—receive leg—IRS account	133,958.44
			30-Sep-X1	By Interest—pay leg—IRS account	126,493.15
30-Sep-X1	To Interest—receive leg—IRS account	146,475.00			
11-Oct-X1	To Interest—pay leg—IRS account	126,493.15			
			11-Oct-X1	By Interest—receive leg—IRS account	146,475.00
31-Dec-X1	Total	**777,239.07**	31-Dec-X1	Total	**777,239.07**

Interest—receive leg—IRS account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X1	By Interest accrued but not due on IRS account	122,011.11
11-Apr-X1	To Interest accrued but not due on IRS account	122,011.11			
			11-Apr-X1	By ABC Counterparty account	139,000.00
			30-Jun-X1	By Interest accrued but not due on IRS account	133,958.44
11-Jul-X1	To Interest accrued but not due on IRS account	133,958.44			
			11-Jul-X1	By ABC Counterparty account	152,377.73
			30-Sep-X1	By Interest accrued but not due on IRS account	146,475.00
11-Oct-X1	To interest accrued but not due on IRS account	146,475.00			
			11-Oct-X1	By ABC Counterparty account	166,366.67

Date	Particulars	Debit	Date	Particulars	Credit
			26-Dec-X1	By ABC Counterparty account	138,016.67
31-Dec-X1	To Balance	595,761.07			
31-Dec-X1	Total	**998,205.62**	31-Dec-X1	Total	**998,205.62**
			31-Dec-X1	By Balance	595,761.07

Realized Gain/Loss on Interest Rate Swap

Date	Particulars	Debit	Date	Particulars	Credit
			26-Dec-X1	By ABC Counterparty account	48,762.61
31-Dec-X1	To Balance	60,118.56	31-Dec-X1	By Unrealized gain/ loss on IRS (P&L) account	11,355.95
31-Dec-X1	Total	**60,118.56**	31-Dec-X1	Total	**60,118.56**
			31-Dec-X1	By Balance	60,118.56

Share Capital Account

Date	Particulars	Debit	Date	Particulars	Credit
			6-Jan-X1	By Bank account	20,000,000.00
31-Dec-X1	To Balance	20,000,000.00			
31-Dec-X1	Total	**20,000,000.00**	31-Dec-X1	Total	**20,000,000.00**
			31-Dec-X1	By Balance	20,000,000.00

Bank Account

Date	Particulars	Debit	Date	Particulars	Credit
6-Jan-X1	To Share Capital account	20,000,000.00			
11-Jan-X1	To ABC Counterparty account	11,355.95			
			13-Apr-X1	By ABC Counterparty account	140,547.95
13-Apr-X1	To ABC Counterparty account	139,000.00			
			13-Jul-X1	By ABC Counterparty account	142,109.59
13-Jul-X1	To ABC Counterparty account	152,377.73			
			13-Oct-X1	By ABC Counterparty account	143,671.23
13-Oct-X1	To ABC Counterparty account	166,366.67			

Bank Account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
			28-Dec-X1	By ABC Counterparty account	121,808.22
28-Dec-X1	To ABC Counterparty account	48,762.61			
28-Dec-X1	To ABC Counterparty account	138,016.67			
			31-Dec-X1	By Balance	20,107,742.64
31-Dec-X1	Total	**20,655,879.33**	31-Dec-X1	Total	**20,655,879.33**
31-Dec-X1	To Balance	20,107,742.64			

Trial Balance

As on 31-Dec-X1

Particulars	Debit	Credit
Capital account		
Share Capital		20,000,000.00
Current Liabilities		
Investments		
Current Asset		
Bank account	20,107,742.64	
Income		
Realized gain/loss on interest rate swap		60,118.56
Interest—receive leg—IRS account		595,761.07
Interest—pay leg—IRS account	548,136.99	
Total	**20,655,879.63**	**20,655,879.63**

Income Statement

For the period ending 31-Dec-X1

Expenses		Income	
		Direct Income	
		Interest—receive leg—IRS account	595,761.07
Interest—pay leg—IRS account	548,136.99		
		Realized gain/loss on interest rate swap	60,118.56
Net Profit C/o	107,742.64		
Total	**655,879.63**	Total	**655,879.63**

Balance Sheet

As at 31-Dec-X1

Liabilities		**Assets**	
Capital account			
Share Capital	20,000,000.00		
Investments			
		Current Assets	
		Bank account	20,107,742.64
Profit & Loss account			
Opening Balance			
Current Period	107,742.64		
Total	**20,107,742.64**	Total	**20,107,742.64**

PAY FIXED TO RECEIVE FLOATING—USD

IRS contract details:	**Pay leg**	**Receive leg**	
Terms	Fixed	Floating	
Notional amount	50,000,000	50,000,000	
Currency	USD	USD	
Day count—Actual/365; 30/360	365	360	
Interest payment terms	Quarterly	Quarterly	
Rate of interest	4.50	US 3 months LIBOR + 50 bps	50%
Reset terms	Fixed	Prefix/post paid	

	Pay leg—fixed			**Receive leg floating**				
Coupon reset dates	**Trade date**	**FX rate**	**Settle date**	**Trade date**	**FX rate**	**Settle date**	**FX rate**	**LIBOR**
Inception	–	–	–	22-Jan-X8	–	24-Jan-X1	1.00	3.71750
Coupon date-1	24-Apr-X1		26-Apr-X1	24-Apr-X8	1.00	26-Apr-X1	1.00	3.71750
Coupon date-2	24-Jul-X1		26-Jul-X1	24-Jul-X8	1.00	26-Jul-X1	1.00	2.92000
Coupon date-3	24-Oct-X1		26-Oct-X1	24-Oct-X8	1.00	26-Oct-X1	1.00	2.79625
Coupon date-4						26-Dec-X1		3.54125
Coupon date-5						31-Dec-X1		3.54125

Other Details	**Trade date**	**Notional amount**	**Upfront fees**	**Settle date**	**FX rate**
IRS contract position taken (inception)	22-Jan-X1	50,000,000.00	(1,663,556.92)	24-Jan-X1	1.0000
IRS contract termination (unwind)	24-Dec-X1	35,000,000.00	(1,660,865.24)	26-Dec-X1	1.0000
Upfront fees paid					

Valuation dates and net present values	Date	NPV net	Interest net
Valuation date 1	31-Mar-X1	(1,702,877.43)	(20,551.89)
Valuation date 2	30-Jun-X1	(340,065.14)	(99,513.70)
Valuation date 3	30-Sep-X1	(554,619.47)	(117,021.83)
Termination date	24-Dec-X1	(1,660,865.24)	(28,251.75)
Valuation date 4	31-Dec-X1	(750,287.49)	(12,935.20)

Other Details	Date	USD	FX rate
Capital introduced	20-Jan-X1	10,000,000	1.000000 Assume for this problem year X1 is a leap year.

SOLUTION

T-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Jan-X1	Bank account	10,000,000.00	
	To Share Capital account		10,000,000.00
	(Being the capital introduced)		

T-2 *On purchase of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Jan-X1	Interest rate swap account—OBS	50,000,000.00	
	To Interest rate swap (Contra) account—OBS		50,000,000.00
	(Being the recording of interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-3 *On accounting for upfront fee on purchase of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Jan-X1	ABC Counterparty account	1,663,556.92	
	To IRS NPV—(Asset/Liability) account		1,663,556.92
	(Being the upfront fee received at the inception of interest rate swap contract representing the net present value of the swap on this date)		

T-4 *On payment of upfront fee on purchase of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Jan-X1	Bank account	1,663,556.92	
	To ABC Counterparty account		1,663,556.92
	(Being the upfront fee received at the inception of interest rate swap contract representing the net present value of the swap on this date)		

T-5 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	IRS NPV—(Asset/Liability) account	1,663,556.92	
	To Unrealized gain/loss on IRS (P&L) account		1,663,556.92
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-6 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Unrealized gain/loss on IRS (P&L) account	1,702,877.43	
	To IRS NPV—(Asset/Liability) account		1,702,877.43
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the receive leg of the interest rate swap)		

T-7 *Accrued interest on valuation date—pay leg:*

Calculation of accrued interest—pay leg	USD
Previous coupon date	24-Jan-X1
Current valuation date	31-Mar-X1
Number of days	67
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	4.50
Accrued Interest on pay leg	**413,013.70**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Interest—pay leg—IRS account	413,013.70	
	To Interest accrued but not due on IRS account		413,013.70
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-8 *Accrued interest on valuation date—receive leg:*

Calculation of interest—receive leg	USD
Previous coupon date	24-Jan-X1
Current valuation date	31-Mar-X1
Number of days	67
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	4.22
Accrued Interest on receive leg	**392,461.81**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X1	Interest accrued but not due on IRS account	392,461.81	
	To Interest—receive leg—IRS account		392,461.81
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-9 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Apr-X1	Interest accrued but not due on IRS account	413,013.70	
	To Interest—pay leg—IRS account		413,013.70
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-10 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—Pay Leg	USD
Previous coupon date	24-Jan-X1
Current valuation date	24-Apr-X1
Number of days	91
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	4.50
Accrued Interest on pay leg	**560,958.90**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Apr-X1	Interest—pay leg—IRS account	560,958.90	
	To ABC Counterparty account		560,958.90
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-11 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Apr-X1	ABC Counterparty account	560,958.90	
	To Bank account		560,958.90
	(Being the payment of interest on pay leg of the interest rate swap)		

T-12 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Apr-X1	Interest—receive leg—IRS account	392,461.81	
	To Interest accrued but not due on IRS account		392,461.81
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

T-13 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—Receive Leg	**USD**
Previous coupon date	24-Jan-X1
Current valuation date	24-Apr-X1
Number of days	91
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	4.22
Accrued Interest on receive leg	**533,045.14**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Apr-X1	ABC Counterparty account	533,045.14	
	To Interest—receive leg—IRS account		533,045.14
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-14 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Apr-X1	Bank account	533,045.14	
	To ABC Counterparty account		533,045.14
	(Being the payment of interest on receive leg of the interest rate swap)		

T-15 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	IRS NPV—(Asset/Liability) account	1,702,877.43	
	To Unrealized gain/loss on IRS (P&L) account		1,702,877.43
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-16 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	Unrealized gain/loss on IRS (P&L) account	340,065.14	
	To IRS NPV—(Asset/Liability) account		340,065.14
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the receive leg of the interest rate swap)		

T-17 *Accrued interest on valuation date—pay leg:*

Calculation of interest—Pay Leg	USD
Previous coupon date	24-Apr-X1
Current valuation date	30-Jun-X1
Number of days	67
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	4.50
Accrued Interest on pay leg	**413,013.70**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X1	Interest—pay leg—IRS account	413,013.70	
	To Interest accrued but not due on IRS account		413,013.70
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-18 *Accrued interest on valuation date—receive leg:*

Calculation of interest—Receive Leg	**USD**
Previous coupon date	24-Apr-X1
Current valuation date	30-Jun-X1
Number of days	67
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	3.42
Accrued Interest on receive leg	**318,250.00**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Jun-X1	Interest accrued but not due on IRS account	318,250.00	
	To Interest—receive leg—IRS account		318,250.00
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-19 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
24-Jul-X1	Interest accrued but not due on IRS account	413,013.70	
	To Interest—pay leg—IRS account		413,013.70
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-20 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—Pay Leg	**USD**
Previous coupon date	24-Apr-X1
Current coupon date	24-Jul-X1
Number of days	91
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	4.50
Accrued Interest on pay leg	**560,958.90**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
24-Jul-X1	Interest—pay leg—IRS account	560,958.90	
	To ABC Counterparty account		560,958.90
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-21 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Jul-X1	ABC Counterparty account	560,958.90	
	To Bank account		560,958.90
	(Being the payment of interest on pay leg of the interest rate swap)		

T-22 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Jul-X1	Interest—receive leg—IRS account	318,250.00	
	To Interest accrued but not due on IRS account		318,250.00
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

T-23 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—Receive Leg	USD
Previous coupon date	24-Apr-X1
Current valuation date	24-Jul-X1
Number of days	91
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	3.42
Accrued Interest on receive leg	**432,250.00**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Jul-X1	ABC Counterparty account	432,250.00	
	To Interest—receive leg—IRS account		432,250.00
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-24 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Jul-X1	Bank account	432,250.00	
	To ABC Counterparty account		432,250.00
	(Being the payment of interest on receive leg of the interest rate swap)		

T-25 *On reversal of existing net present value of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	IRS NPV—(Asset/Liability) account	340,065.14	
	To Unrealized gain/loss on IRS (P&L) account		340,065.14
	(Being the reversal of existing net present value of interest rate swap on valuation date)		

T-26 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	Unrealized gain/loss on IRS (P&L) account	554,619.47	
	To IRS NPV—(Asset/Liability) account		554,619.47
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the receive leg of the interest rate swap)		

T-27 *Accrued interest on valuation date—pay leg:*

Calculation of accrued interest—Pay Leg	USD
Previous coupon date	24-Jul-X1
Current valuation date	30-Sep-X1
Number of days	68
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	4.50
Accrued Interest on pay leg	**419,178.08**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	Interest—pay leg—IRS account	419,178.08	
	To Interest accrued but not due on IRS account		419,178.08
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-28 *Accrued interest on valuation date—receive leg:*

Calculation of interest—Receive Leg	USD
Previous coupon date	24-Jul-X1
Current valuation date	30-Sep-X1
Number of days	68
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	3.30
Accrued Interest on receive leg	**311,312.50**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X1	Interest accrued but not due on IRS account	311,312.50	
	To Interest—receive leg—IRS account		311,312.50
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-29 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Oct-X1	Interest accrued but not due on IRS account	419,178.08	
	To Interest—pay leg—IRS account		419,178.08
	(Being the reversal of interest accrued on the pay leg of the interest rate swap on coupon date)		

T-30 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—Pay Leg	USD
Previous coupon date	24-Jul-X1
Current coupon date	24-Oct-X1
Number of days	92
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	4.50
Interest on pay leg	**567,123.29**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Oct-X1	Interest—pay leg—IRS account	567,123.29	
	To ABC Counterparty account		567,123.29
	(Being the interest accounted on the pay leg of the interest rate swap on coupon date)		

T-31 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Oct-X1	ABC Counterparty account	567,123.29	
	To Bank account		567,123.29
	(Being the payment of interest on pay leg of the interest rate swap)		

T-32 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Oct-X1	Interest—receive leg—IRS account	302,156.25	
	To Interest accrued but not due on IRS account		302,156.25
	(Being the reversal of interest accrued but not due on the receive leg of the interest rate swap)		

T-33 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—Receive Leg	USD
Previous coupon date	24-Jul-X1
Current valuation date	24-Oct-X1
Number of days	92
Notional amount on which interest is computed	50,000,000
Rate of interest p.a.(%)	3.30
Accrued Interest on receive leg	**421,187.50**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Oct-X1	ABC Counterparty account	421,187.50	
	To Interest—receive leg—IRS account		421,187.50
	(Being the interest accounted on the receive leg of the interest rate swap on coupon date)		

T-34 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Oct-X1	Bank account	421,187.50	
	To ABC Counterparty account		421,187.50
	(Being the payment of interest on receive leg of the interest rate swap)		

T-35 *On termination of interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Dec-X1	Interest rate swap (Contra) account—OBS	35,000,000.00	
	To Interest rate swap account—OBS		35,000,000.00
	(Being the recording of termination of interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-36 *On reversal of existing net present value of interest rate swap on termination date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Dec-X1	IRS NPV—(Asset/Liability) account	554,619.47	
	To Unrealized gain/loss on IRS (P&L) account		554,619.47
	(Being the reversal of existing net present value of interest rate swap on termination date)		

T-37 *On accounting realized gain/loss:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Dec-X1	Realized gain/loss on interest rate swap	1,660,865.24	
	To ABC Counterparty account		1,660,865.24
	(Being realized gain/loss on termination date)		
24-Dec-X1	Unrealized gain/loss on IRS (P&L) account	1,164489.84	
	To Realized gain/loss on interest rate swap		1,164489.84
	(Being the unrealized gain/loss transferred to realized gain/loss on partial termination of the IRS contract)		

T-38 *on settlement of gain/loss:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Dec-X1	ABC Counterparty account	1,660,865.24	
	To Bank account		1,660,865.24
	(on settlement of gain/Loss)		

T-39 *On accounting of pay leg interest:*

Calculation of accrued interest—pay leg	**USD**
Previous coupon date	24-Oct-X1
Current valuation date	26-Dec-X1
Number of days	63
Notional amount on which interest is computed	35,000,000
Rate of interest p.a.(%)	4.50
Accrued Interest on pay leg	**271,849.32**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Dec-X1	Interest—pay leg—IRS account	271,849.32	
	To ABC Counterparty account		271,849.32
	(Being the pay leg interest accounted)		

T-40 *On settlement of pay leg interest:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Dec-X1	ABC Counterparty account	271,849.32	
	To Bank account		271,849.32
	(Being the settlement of pay leg interest)		

T-41 *On accounting for interest on coupon date—receive leg:*

Calculation of interest—Receive Leg	USD
Previous coupon date	24-Oct-X1
Current valuation date	26-Dec-X1
Number of days	63
Notional amount on which interest is computed	35,000,000
Rate of interest p.a.(%)	4.04
Accrued Interest on receive leg	**247,526.56**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
24-Dec-X1	ABC Counterparty account	247,526.56	
	To Interest—receive leg—IRS account		247,526.56
	(Being the interest accrued on receive leg accounted for on the termination date)		

T-42 *on settlement of receive leg interest:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
26-Dec-X1	Bank account	247,526.56	
	To ABC Counterparty account		247,526.56
	(on settlement of receive leg interest)		

T-43 *On valuation of interest rate swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Dec-X1	Unrealized gain/loss on IRS (P&L) account	750,287.49	
	To IRS NPV—(Asset/Liability) account		750,287.49
	(Being the unrealized gain/loss on interest rate swap as on valuation date representing the net present value of the receive leg of the interest rate swap)		

T-44 *Accrued interest on valuation date—pay leg:*

Calculation of accrued interest—Pay Leg	**USD**
Previous coupon date	24-Oct-X1
Current valuation date	31-Dec-X1
Number of days	68
Notional amount on which interest is computed	15,000,000
Rate of interest p.a.(%)	4.50
Accrued Interest on pay leg	**125,753.42**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Dec-X1	Interest—pay leg—IRS account	125,753.42	
	To Interest accrued but not due on IRS account		125,753.42
	(Being the interest accrued on pay leg accounted for on the valuation date)		

T-45 *Accrued interest on valuation date—receive leg:*

Calculation of interest—Receive Leg	**USD**
Previous coupon date	24-Oct-X1
Current valuation date	31-Dec-X1
Number of days	68
Notional amount on which interest is computed	15,000,000
Rate of interest p.a.(%)	4.04
Accrued Interest on receive leg	**114,502.08**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Dec-X1	Interest accrued but not due on IRS account	114,502.08	
	To Interest—receive leg—IRS account		114,502.08
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

General Ledger

ABC Counterparty account

Date	**Particulars**	**Debit**	**Date**	**Particulars**	**Credit**
22-Jan-X1	To IRS NPV—(Asset/ Liability) account	1,663,556.92			
			24-Jan-X1	By Bank account	1,663,556.92

Date	Particulars	Debit	Date	Particulars	Credit
			24-Apr-X1	By Interest—pay leg—IRS account	560,958.90
26-Apr-X1	To Bank account	560,958.90			
24-Apr-X1	To Interest—receive leg—IRS account	533,045.14			
			26-Apr-X1	By Bank account	533,045.14
			24-Jul-X1	By Interest—pay leg—IRS account	560,958.90
26-Jul-X1	To Bank account	560,958.9			
24-Jul-X1	To Interest—receive leg—IRS account	432,250.00			
			24-Jul-X1	By Bank account	432,250.00
			24-Oct-X1	By Interest—pay leg—IRS account	567,123.29
26-Oct-X1	To Bank account	567,123.29			
24-Oct-X1	To Interest—receive leg—IRS account	421,187.50			
			26-Oct-X1	By Bank account	421,187.50
			24-Dec-X1	By Realized gain/loss on interest Zrate swap	1,660,865.24
26-Dec-X1	To Bank account	1,660,865.24			
			24-Dec-X1	By Interest—pay leg—IRS account	271,849.32
26-Dec-X1	To Bank account	271,849.32			
24-Dec-X1	To Interest—receive leg—IRS account	247,526.56			
			26-Dec-X1	By Bank account	247,526.56
31-Dec-X1	Total	**6,919,321.77**	31-Dec-X1	Total	**6,919,321.77**

Interest rate swap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
22-Jan-X1	To Interest rate swap (Contra) account—OBS	50,000,000.00			
			24-Dec-X1	By Interest rate swap (Contra) account—OBS	35,000,000.00
			31-Dec-X1	By Balance	15,000,000.00
31-Dec-X1	Total	**50,000,000.00**	31-Dec-X1	Total	**50,000,000.00**
31-Dec-X1	To Balance	15,000,000.00			

Interest rate swap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			22-Jan-X1	By Interest rate swap account—OBS	50,000,000.00
24-Dec-X1	To Interest rate swap account—OBS	35,000,000.00			
31-Dec-X1	To Balance	15,000,000.00			
31-Dec-X1	Total	**50,000,000.00**	31-Dec-X1	Total	**50,000,000.00**
			31-Dec-X1	By Balance	15,000,000.00

IRS NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			22-Jan-X1	By ABC Counterparty account	1,663,556.92
31-Mar-X1	To Unrealized gain/ loss on IRS (P&L) account	1,663,556.92			
			31-Mar-X1	By Unrealized gain/ loss on IRS (P&L) account	1,702,877.43
30-Jun-X1	To Unrealized gain/ loss on IRS (P&L) account	1,702,877.43			
			30-Jun-X1	By Unrealized gain/ loss on IRS (P&L) account	340,065.14
30-Sep-X1	To Unrealized gain/ loss on IRS (P&L) account	340,065.14			
			30-Sep-X1	By Unrealized gain/ loss on IRS (P&L) account	554,619.47
24-Dec-X1	To Unrealized gain/ loss on IRS (P&L) account	554,619.47			
			31-Dec-X1	By Unrealized gain/ loss on IRS (P&L) account	750,287.49
31-Dec-X1	To Balance	750,287.49			
31-Dec-X1	Total	**5,011,406.45**	31-Dec-X1	Total	**5,011,406.45**
			31-Dec-X1	By Balance	750,287.49

Unrealized gain/loss on IRS (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X1	By IRS NPV—(Asset/ Liability) account	1,663,556.92
31-Mar-X1	To IRS NPV—(Asset/ Liability) account	1,702,877.43			

Date	Particulars	Debit	Date	Particulars	Credit
			30-Jun-X1	By IRS NPV—(Asset/Liability) account	1,702,877.43
30-Jun-X1	To IRS NPV—(Asset/Liability) account	340,065.14			
			30-Sep-X1	By IRS NPV—(Asset/Liability) account	340,065.14
30-Sep-X1	To IRS NPV—(Asset/Liability) account	554,619.47			
24-Dec-X1	To Realized gain/loss on IRS (P&L) account	1,164,489.84	24-Dec-X1	By IRS NPV—(Asset/Liability) account	554,619.47
31-Dec-X1	To IRS NPV—(Asset/Liability) account	750,287.49			
			31-Dec-X1	By Balance	251,220.41
31-Dec-X1	Total	**4,512,339.37**	31-Dec-X1	Total	**4,512,339.37**
31-Dec-X1	To Balance	251,220.41			

Interest—pay leg—IRS account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X1	To Interest accrued but not due on IRS account	413,013.70			
			24-Apr-X1	By Interest accrued but not due on IRS account	413,013.70
24-Apr-X1	To ABC Counterparty account	560,958.90			
30-Jun-X1	To Interest accrued but not due on IRS account	413,013.70			
			24-Jul-X1	By Interest accrued but not due on IRS account	413,013.70
24-Jul-X1	To ABC Counterparty account	560,958.90			
30-Sep-X1	To Interest accrued but not due on IRS account	419,178.08			
			24-Oct-X1	By Interest accrued but not due on IRS account	419,178.08
24-Oct-X1	To ABC Counterparty account	567,123.29			

Interest—pay leg—IRS account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
24-Dec-X1	To ABC Counterparty account	271,849.32			
31-Dec-X1	To Interest accrued but not due on IRS account	125,753.42			
			31-Dec-X1	By Balance	2,086,643.83
31-Dec-X1	Total	**3,331,849.31**	31-Dec-X1	Total	**3,331,849.31**
31-Dec-X1	To Balance	2,086,643.83			

Interest accrued but not due on IRS account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X1	By Interest—pay leg—IRS account	413,013.70
31-Mar-X1	To Interest—receive leg—IRS account	392,461.81			
24-Apr-X1	To Interest—pay leg—IRS account	413,013.70			
			24-Apr-X1	By Interest—receive leg—IRS account	392,461.81
			30-Jun-X1	By Interest—pay leg—IRS account	413,013.70
30-Jun-X1	To Interest—receive leg—IRS account	318,250.00			
24-Jul-X1	To Interest—pay leg—IRS account	413,013.70			
			24-Jul-X1	By Interest—receive leg—IRS account	318,250.00
			30-Sep-X1	By Interest—pay leg—IRS account	419,178.08
30-Sep-X1	To Interest—receive leg—IRS account	311,312.50			
24-Oct-X1	To Interest—pay leg—IRS account	419,178.08			
			24-Oct-X1	By Interest—receive leg—IRS account	311,312.50
			31-Dec-X1	By Interest—pay leg—IRS account	125,753.42
31-Dec-X1	To Interest—receive leg—IRS account	114,502.08			
31-Dec-X1	To Balance	11,251.34			
31-Dec-X1	Total	**2,392,983.21**	31-Dec-X1	Total	**2,392,983.21**
			31-Dec-X1	By Balance	11,251.34

Interest—receive leg—IRS account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X1	By Interest accrued but not due on IRS account	392,461.81
24-Apr-X1	To Interest accrued but not due on IRS account	392,461.81			
			24-Apr-X1	By ABC Counterparty account	533,045.14
			30-Jun-X1	By Interest accrued but not due on IRS account	318,250.00
24-Jul-X1	To Interest accrued but not due on IRS account	318,250.00			
			24-Jul-X1	By ABC Counterparty account	432,250.00
			30-Sep-X1	By Interest accrued but not due on IRS account	311,312.50
24-Oct-X1	To Interest accrued but not due on IRS account	311,312.50			
			24-Oct-X1	By ABC Counterparty account	421,187.50
			24-Dec-X1	By ABC Counterparty account	247,526.56
			31-Dec-X1	By Interest accrued but not due on IRS account	114,502.08
31-Dec-X1	To Balance	1,748,511.28			
31-Dec-X1	Total	**2,770,535.59**	31-Dec-X1	Total	**2,770,535.59**
			31-Dec-X1	By Balance	1,748,511.28

Realized gain/loss on interest rate swap

Date	Particulars	Debit	Date	Particulars	Credit
24-Dec-X1	To ABC Counterparty account	1,660,865.24	24-Dec-X1	By Unrealized gain/loss on interest rate swap	1,164,489.84
			31-Dec-X1	By Balance	496,375.40
31-Dec-X1	Total	**1,660,865.24**	31-Dec-X1	Total	**1,660,865.24**
31-Dec-X1	To Balance	496,375.40			

Share Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			20-Jan-X1	By Bank account	10,000,000.00
31-Dec-X1	To Balance	10,000,000.00			
31-Dec-X1	Total	**10,000,000.00**	31-Dec-X1	Total	**10,000,000.00**
			31-Dec-X1	By Balance	10,000,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
20-Jan-X1	To Share Capital account	10,000,000.00			
24-Jan-X1	To ABC Counterparty account	1,663,556.92			
			26-Apr-X1	By ABC Counterparty account	560,958.90
26-Apr-X1	To ABC Counterparty account	533,045.14			
			26-Jul-X1	By ABC Counterparty account	560,958.90
24-Jul-X1	To ABC Counterparty account	432,250.00			
			26-Oct-X1	By ABC Counterparty account	567,123.29
26-Oct-X1	To ABC Counterparty account	421,187.50			
			26-Dec-X1	By ABC Counterparty account	1,660,865.24
			26-Dec-X1	By ABC Counterparty account	271,849.32
26-Dec-X1	To ABC Counterparty account	247,526.56			
			31-Dec-X1	By Balance	9,675,810.47
31-Dec-X1	Total	**13,297,566.12**	31-Dec-X1	Total	**13,297,566.12**
31-Dec-X1	To Balance	9,675,810.47			

Trial Balance

As on 31-Dec-X1

Particulars	Debit	Credit
Capital account		
Share Capital		10,000,000.00
Current Liabilities		
Interest accrued but not due on IRS account		11,251.34
IRS NPV—(Asset/Liability) account		750,287.49
Current Asset		
Bank account	9,675,810.47	
Income		
Realized gain/loss on interest rate swap	496,375.40	
Interest—receive leg—IRS account		1,748,511.28
Interest—pay leg—IRS account	2,086,643.83	
Unrealized gain/loss on IRS (P&L) account	251,220.41	
Total	**12,510,050.11**	**12,510,050.11**

Income Statement

For the period ending 31-Dec-X1

Expenses		Income	
		Direct Income	
		Interest—receive leg—IRS account	1,748,511.28
Interest—pay leg—IRS account	2,086,643.83		
Realized gain/loss on interest rate swap	496,375.40		
Unrealized gain/loss on IRS (P&L) account	251,220.41		
		Net Loss C/o	1,085,728.36
Total	**2,834,239.64**	Total	**2,834,239.64**

Balance Sheet

As at 31-Dec-X1

Liabilities		Assets	
Capital account			
Share Capital	10,000,000.00		
Current Liabilities			
IRS NPV—(Asset/ Liability) account	750,287.49		
Interest accrued but not due account	11,251.34	**Current Assets**	
		Bank account	9,675,810.47
		Profit & Loss account	
		Opening Balance	
		Current Period	1,085,728.36
Total	**10,761,538.83**	Total	**10,761,538.83**

SUMMARY

- In this type of interest rate derivative, the pay leg will be a fixed rate and the receive leg will be based on some benchmark interest rate like LIBOR.
- Being a derivative instrument, an interest rate swap per se qualifies as a hedging instrument. It should be noted that in an interest rate swap, the risk reward is symmetric and can be more or less compared to an equity futures position. An interest rate swap instrument can be used to hedge primarily interest rate risk.
- A derivative may be designated as a hedging instrument only in its entirety or as a proportion, i.e., a percentage of the notional amount. This type of interest rate swap instrument can be used for conversion of a variable rate debt into a fixed rate debt, and cash flow hedge accounting is applicable for this case subject to the fulfillment of all other requirements for hedge accounting.

QUESTIONS

Theory questions

1. What do you mean by an interest rate swap? What are the different types of interest rate swap?
2. Can an interest rate swap be designated as a hedging instrument?
3. Explain the significant events in the trade life cycle of an interest rate swap. What journal entries are passed in each of such event?

Journal questions

1. Interest rate swap—Exercise 1

IRS contract details:	**Pay leg**	**Receive leg**	
Terms	Fixed	Floating	
Notional amount	15,000,000	15,000,000	
Currency	USD	USD	
Day count—Actual/365; 30/360	365	360	
Interest payment terms	Quarterly	Quarterly	
Rate of interest	3.8	US 3 months LIBOR + 25bps	25%
Reset terms	Fixed	Prefix/post paid	

	Pay leg—fixed			**Receive leg—floating**				
Coupon reset dates	**Trade date**	**FX rate**	**Settle date**	**Trade date**	**FX rate**	**Settle date**	**FX rate**	**LIBOR**
Inception				16-Jan-X8		18-Jan-X8	1.00	3.95125
Coupon date-1	18-Apr-X8	1.00	20-Apr-X8	18-Apr-X8	1.00	20-Apr-X8	1.00	3.95125
Coupon date-2	18-Jul-X8	1.00	20-Jul-X8	18-Jul-X8	1.00	20-Jul-X8	1.00	2.73375
Coupon date-3	18-Oct-X8	1.00	20-Oct-X8	18-Oct-X8	1.00	20-Oct-X8	1.00	2.785
Coupon date-4						22-Dec-X8		4.50250
Coupon date-5						31-Dec-X8		4.50250

Other details	**Trade date**	**Notional amount**	**Upfront fees**	**Settle date**
IRS contract position taken (inception)	16-Jan-X8	15,000,000.00	(139,736.71)	18-Jan-X8
IRS contract termination (unwind)	20-Dec-X8	5,000,000.00	(189,974.79)	22-Dec-X8
Upfront fees paid				

Valuation dates and net present values	**Date**	**NPV net**	**Interest net**
Valuation date 1	31-Mar-X8	(335,747.96)	13,788.02
Valuation date 2	30-Jun-X8	47,317.28	(24,487.50)
Valuation date 3	30-Sep-X8	(12,837.26)	(24,511.64)
Termination date	20-Dec-X8	(189,974.79)	(8,129.79)
Valuation date 4	31-Dec-X8	(400,714.67)	18,770.96

Other details	**Date**	**USD**	**FX rate**
Capital introduced	20-Jan-X7	10,000,000	1.000000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

2. Interest rate swap—Exercise 2

IRS contract details:	**Pay leg**	**Receive leg**	
Terms	Fixed	Floating	
Notional amount	8,000,000	8,000,000	
Currency	USD	USD	
Day count—Actual/365; 30/360	365	360	
Interest payment terms	Quarterly	Quarterly	
Rate of interest	4.25	US 3 months LIBOR + 15 bps	15%
Reset terms	Fixed	Prefix/post paid	

	Pay leg—fixed		**Receive leg—floating**			
Coupon reset dates	**Trade date**	**Settle date**	**Trade date**	**FX rate**	**Settle date**	**LIBOR**
Inception			24-Jan-X8		26-Jan-X8	3.95125
Coupon date-1	26-Apr-X8	28-Apr-X8	26-Apr-X8	1.00	28-Apr-X8	3.95125
Coupon date-2	26-Jul-X8	28-Jul-X8	26-Jul-X8	1.00	28-Jul-X8	2.73375
Coupon date-3	26-Oct-X8	28-Oct-X8	26-Oct-X8	1.00	28-Oct-X8	2.785
Coupon date-4					26-Dec-X8	4.50250
Coupon date-5					31-Dec-X8	4.50250

Other details	**Trade date**	**Notional amount**	**Upfront fees**	**Settle date**
IRS contract position taken (inception)	24-Jan-X8	8,000,000.00	(52,529.04)	26-Jan-X8
IRS contract termination (unwind)	24-Dec-X8	3,000,000.00	(173,679.19)	26-Dec-X8
Upfront fees paid				

Valuation dates and net present values	**Date**	**NPV net**	**Interest net**
Valuation date 1	31-Mar-X8	(158.932.54)	(848.24)
Valuation date 2	30-Jun-X8	(79,276.31)	(11,618.65)
Valuation date 3	30-Sep-X8	(147,962.52)	(11,282.09)
Termination date	24-Dec-X8	((173,679.19)	(6,918.21)
Valuation date 4	31-Dec-X8	(300,058.11)	(12,491.22)

Other details	**Date**	**USD**	**FX rate**
Capital introduced	20-Jan-X7	10,000,000	1.000000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

3. Interest rate swap—Exercise 3

IRS contract details:	Pay leg	Receive leg	
Terms	Fixed	Floating	
Notional amount	25,000,000	25,000,000	
Currency	USD	USD	
Day count—actual/365; 30/360	365	360	
Interest payment terms	Quarterly	Quarterly	
Rate of interest	4.75	US 3 months LIBOR + 20 bps	20%
Reset terms	Fixed	Prefix/post paid	

	Pay leg—fixed		Receive leg floating			
Coupon reset dates	**Trade date**	**Settle date**	**Trade date**	**FX rate**	**Settle date**	**LIBOR**
Inception			18-Jan-X8		20-Jan-X8	4.26429
Coupon date-1	20-Apr-X8	22-Apr-X8	20-Apr-X8	1.00	22-Apr-X8	4.26429
Coupon date-2	20-Jul-X8	22-Jul-X8	20-Jul-X8	1.00	22-Jul-X8	1.87143
Coupon date-3	20-Oct-X8	22-Oct-X8	20-Oct-X8	1.00	22-Oct-X8	2.4000
Coupon date-4					18-Dec-X8	4.64688
Coupon date-5					31-Dec-X8	4.64688

Other details	**Trade date**	**Notional amount**	**Upfront fees**	**Settle date**
IRS contract position taken (inception)	18-Jan-X8	25,000,000.00	(864,635.58)	20-Jan-X8
IRS contract termination (unwind)	15-Dec-X8	12,000,000.00	(415,182.60)	18-Dec-X8
Upfront fees paid				

Valuation dates and net present values	**Date**	**NPV net**	**Interest net**
Valuation date 1	31-Mar-X8	(812,855.42)	(14,087.10)
Valuation date 2	30-Jun-X8	(349,067.88)	(432,241.99)
Valuation date 3	30-Sep-X8	(14,754.18)	(707,847.22)
Termination date	24-Dec-X8	(415,182.60)	(431,928.02)
Valuation date 4	31-Dec-X8	(356,007.24)	(467,467.23)

Other details	**Date**	**USD**	**FX rate**
Capital introduced	20-Jan-X7	10,000,000	1.000000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

4. Interest rate swap—Exercise 4

IRS contract details:	**Pay leg**	**Receive leg**	
Terms	Fixed	Floating	
Notional amount	10,000,000	10,000,000	
Currency	USD	USD	
Day count—Actual/365; 30/360	365	360	
Interest payment terms	Quarterly	Quarterly	
Rate of interest	4.29	US 3 months LIBOR + 50 bps	50%
Reset terms	Fixed	Prefix/post paid	

	Pay leg—fixed			**Receive leg floating**				
Coupon reset dates	**Trade date**	**FX rate**	**Settle date**	**Trade date**	**FX rate**	**Settle date**	**FX rate**	**LIBOR**
Inception				22-Jan-X8		24-Jan-X8	1.00	3.71750
Coupon date-1	24-Apr-X8		26-Apr-X8	24-Apr-X8	1.00	26-Apr-X8	1.00	3.71750
Coupon date-2	24-Jul-X8		26-Jul-X8	24-Jul-X8	1.00	26-Jul-X8	1.00	2.92000
Coupon date-3	24-Oct-X8		26-Oct-X8	24-Oct-X8	1.00	26-Oct-X8	1.00	2.79625
Coupon date-4						26-Dec-X8		3.54125
Coupon date-5						31-Dec-X8		3.54125

Other details	**Trade date**	**Notional amount**	**Upfront fees**	**Settle date**	**FX rate**
IRS contract position taken (inception)	22-Jan-X7	10,000,000.00	(274,039.77)	24-Jan-X7	1.0000
IRS contract termination (unwind)	24-Dec-X8	10,000,000.00	(419,534.42)	26-Dec-X8	1.0000
Upfront fees paid					

Valuation dates and net present values	**Date**	**NPV net**	**Interest net**
Valuation date 1	31-Mar-X8	(271,660.27)	(1,349.31)
Valuation date 2	30-Jun-X8	(7,049.98)	(15,000)
Valuation date 3	30-Sep-X8	(48,097.94)	(16,387.50)
Termination date	24-Dec-X8	(419,534.42)	(3,161.46)
Valuation date 4			

Other details	**Date**	**USD**	**FX rate**
Capital introduced	20-Jan-X7	10,000,000	1.000000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

CHAPTER 9

Interest Rate Caps

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Meaning of interest rate caps
- Interest rate cap—to pay
- Interest rate cap—to receive
- Benefits of interest rate caps
- Risks of a cap instrument
- Accounting for interest rate caps
- Trade life cycle of interest rate caps
- Accounting journal entries to be recorded during the different phases of the trade life cycle
- Illustration of investments in interest rate caps
- Preparation of general ledger accounts
- Preparation of income statement, balance sheet after the investments in interest rate caps are made
- FX revaluation and FX translation process
- Functional currency, foreign currency and presentation currency

INTEREST RATE CAPS—DESCRIPTION OF THE PRODUCT

An interest rate cap is a form of interest rate derivative. It is also an over-the-counter interest rate derivative instrument. An interest rate cap is an interest rate management tool for an entity wanting to cap the interest commitment on its debt. It serves as a protection against increases in interest rates by limiting the maximum interest rate payable on its debt. This maximum interest rate is known as the cap rate or strike rate. In exchange for the protection of the cap instrument, the entity pays a premium. This is paid as a one-off up-front premium. If the reference interest rate rises above the cap rate then to that extent the seller of the contract would compensate the buyer. For example, if the strike rate of a cap contract is, say, 3 percent on a notional amount of say US$10 million, then if the interest rate shoots up to, say, 3.52 percent on the rate reset date, then the buyer of the cap would be compensated by the seller of the cap to the extent of the difference between the reference interest rate and the strike rate for the period starting from the rate reset date to the next interest payment date.

Interest rate cap—to pay

Interest rate caps are of two types—the first type being "to pay." This means that for receiving an agreed premium, the buyer of this type of instrument agrees to compensate the seller of the instrument on the pay date any interest over and above the cap rate, if the benchmark interest rate is above the cap rate on the reset date. The premium is computed like any other option premium based on some mathematical model that takes into account several factors including the strike rate (cap rate), the present benchmark interest rate, the historical volatility of interest rates, the time period of the contract, among other factors. The premium received is actually a liability that represents the net present value of the contract as on the date of inception of the contract.

Interest rate cap—to receive

The second type of interest rate caps is known as "to receive." This means that for paying an agreed premium, the seller of this type of instrument agrees to compensate the buyer of the instrument on the pay date any interest over and above the cap rate, if the benchmark interest rate is above the cap rate on the reset date. The premium paid is actually an asset that represents the net present value of the contract as on the date of inception of the contract.

Benefits of an interest rate cap instrument

- Caps provide the entity with protection against unfavorable interest rate movements above the strike rate, while allowing the entity to participate in favorable interest rate movements by paying a small premium.
- Cap contracts are flexible as they are over-the-counter products and are customized to suit the requirements of the parties to the trade. The strike rate can be positioned to reflect the level of protection sought by the buyer or willing to be written by the seller.
- Similarly, the term of the cap is also flexible and can be customized to match the term of the underlying liability to be protected.
- A cap may be used as a form of short-term interest rate protection tool in times of uncertainty.
- The cost is limited to the premium paid and theoretically like any other option contract the upward potential is unlimited.

Risks of a cap instrument

- For the buyer of the cap instrument there are no risks associated with this instrument other than the counter-party risk.
- The premium is not refundable by the seller of the contract and is a sunk cost as in any other option contract, including situations where the reference rate never exceeds the strike rate and no interest payments are ever made under the cap contract.
- If the entity's premium has been amortized, the full amount of the premium is payable even in the case of early termination.
- The entity purchasing protection in terms of the interest rate cap will be exposed to interest rate movements if the term of the cap is shorter than that of the underlying debt obligation.
- For a seller of the cap instrument, theoretically the potential loss is unlimited as for a small premium; the risk exposure will be huge. The seller has to compensate the buyer for any increase in the reference interest rate over and above the strike cap rate.

Interest rate cap as a hedging instrument

Being a derivative instrument, an interest rate cap per se qualifies as a hedging instrument. It should be noted that in an interest rate cap, the risk reward is asymmetric and can be more or less compared to an equity options position. An interest rate cap instrument can be used to hedge primarily interest rate risk.

It should be noted that the derivative financial instrument of an interest rate cap may be designated as a hedging instrument provided it is with an external party. Intra-group derivatives do not qualify as a hedging instrument in consolidated financial statements, although they may qualify in the separate financial statements of individual entities in the group. A derivative may be designated as a hedging instrument only in its entirety or as a proportion i.e., a percentage of the notional amount.

The to pay interest rate cap is like a written option contract where a premium is received and hence cannot be designated as a hedging instrument. A written option cannot be designated as a hedging instrument because the potential loss on an option that an entity writes could be significantly greater than the potential gain in value of a related hedged item.

The to receive interest rate cap is like a purchased option contract where a premium is paid to get protection from the rising interest rate and as such can be designated as a hedging instrument.

ACCOUNTING FOR INTEREST RATE CAPS

In this chapter we will cover the accounting requirements for investments in interest rate swaps. The list of relevant accounting standards are shown in Table 9.1.

Table 9.1 Relevant accounting standards

US GAAP Topics	IFRS
220—Comprehensive Income	IFRS 7—Financial Instruments: Disclosure
815—Derivatives and Hedging	IFRS 9—Financial Instruments
820—Fair Value Measurements and Disclosures	IAS 21—The Effects of Changes in Foreign Exchange Rates
825—Financial Instruments	IAS 32—Financial Instruments: Presentation
830—Foreign Currency Matters	IAS 39—Financial Instruments: Recognition and Measurement
946—Financial Services—Investment Companies	

THE TRADE LIFE CYCLE FOR INTEREST RATE CAPS

- Recording the trade—contingent
- Account for the premium on the trade
- Receive or pay the premium for the trade
- Reset the interest rate for the ensuing period
- Account for accrued interest if any on the valuation date
- Reverse the accrued interest if any on the coupon date
- Ascertain and account for the fair value on the valuation date
- Pay or receive interest on the pay date
- Termination of the trade and accounting for termination fee
- Payment or receipt of termination fee
- Maturity of the trade
- Reversal of the contingent entry on maturity/termination
- FX revaluation entries (for foreign currency trades)
- FX translation entries (for foreign currency trades)

To understand the different events in the trade life cycle of an interest rate cap contract let us assume the following trade data as an illustration:

INTEREST RATE CAP INSTRUMENT—AN ILLUSTRATION

The details of the CAP instrument is shown in Table 9.2 for the purpose of this illustration.

Table 9.2 Details of the cap instrument

Cap contract details:	**To pay**			
Cap strike	2.85 %			
Notional amount	10,000,000			
Currency	USD			
Day count—30/360	360			
Interest payment terms	Quarterly			
Reset frequency and tenor	US 3 months LIBOR			
Reset terms	Prefix/Post paid			
		Cap—reset dates		
Coupon reset dates	**Reset date**		**Pay date**	**LIBOR**
Coupon date-1	29-Feb-X8		20-Mar-X8	3.05750
Coupon date-2	18-Mar-X8		20-Jun-X8	2.54188
Coupon date-3	18-Jun-X8		22-Sep-X8	2.80250
Coupon date-4	18-Sep-X8		22-Dec-X8	3.20375
Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Cap Contract position taken (inception)	04-Mar-X8	10,000,000.00	(16,556.15)	06-Mar-X8
Maturity	22-Dec-X8	10,000,000.00		
Valuation dates and net present values	**Date**	**NPV Net**	**LIBOR**	
Valuation date 1	31-Mar-X8	(4,767.97)	2.49310	
Valuation date 2	30-Jun-X8	(15,567.94)	3.10065	
Valuation date 3	30-Sep-X8	(8,865.34)	3.20375	
Termination date	20-Dec-X8	–	3.20375	

Recording the trade—contingent

Here in this contract, which is a 'a pay' interest rate cap, the contract is based on making a payment to the buyer of the contract when the reference rate exceeds the specified cap rate on the reset date calculated on the notional amount of the contract. However, since this is just a notional amount and no physical exchange of money takes place, the off balance sheet entry to record the transaction is made in the book of accounts, as shown in Table 9.3.

Table 9.3 At the inception of interest rate cap contract

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
4-Mar-X8	Interest Rate Derivative—Cap account—OBS	10,000,000.00	
	To Interest Rate Derivative—Cap (Contra) account—OBS		10,000,000.00
	(Being the recording of interest rate cap—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

Account for the premium on the trade

In a 'to pay' interest rate cap trade, the buyer of the contract receives a non-refundable premium from the seller of the contract. If the interest rate rises above the cap rate, interest payment has to be made to the buyer as specified in the previous paragraph. The premium is calculated at the time the cap is established on the basis of the cap rate, the reference interest rate, the notional amount, the maturity period, and market volatility of interest rates. The premium for an interest rate cap also depends on several other factors as this type of contract is very similar to that of an option contract, where the premium is based on the strike interest rate (cap rate), current interest rate, time to maturity of the contract, volatility—both historical and implied. In the to pay contract a premium is received and the investor will have to pay interest whenever it rises above the cap rate. Similarly, in a to receive contract a premium is paid by the buyer and will receive interest whenever the interest rate rises above the cap rate.

The premium received in a to pay contract actually represents a liability and this is also the net present value of the contract as at the inception of the trade. But this is treated as an income on the date of entering into the contract, and at every valuation date the actual liability or the net present value of the contract is ascertained and an unrealized gain or loss entry passed for the same. This ensures that the income statement is eventually credited only with the real profit from the contract. To illustrate with our present example, the premium of 16,556.15 is taken to the income statement at the inception of the contract. But during the next valuation date viz. 31st March, the actual liability of this trade is ascertained as amounting to 4,767.97, which is then taken to the debit side of the income statement. So the net gain from this trade for the period ending 31st March would be 16,556.15 less 4,767.97, i.e., 11,788.18. In other words, the real gain of 11,788.18 represents the reduction in the liability from 16,556.15 at the inception to 4,767.97 on the valuation date.

In this illustration, as this is a to pay contract the investor will receive a premium at inception of the trade. The premium is calculated as $16,556.15 and the accounting entry for recording the same is given in Table 9.4.

Table 9.4 On recording the premium received on IRD cap

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Mar-X8	ABC Counterparty account	16,556.15	
	To IRD Cap premium received account		16,556.15
	(Being the premium received on Interest Rate cap contract representing the net present value of the cap on the date of inception)		

Receive/pay the premium for the trade

Premiums are usually paid or received within two business days of entering into the transaction. In a to pay interest rate cap, a premium is received by the buyer of the contract.

The entry that is passed to record the transaction is as shown in Table 9.5.

Table 9.5 On receipt of the premium for the trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
6-Mar-X8	Bank account	16,556.15	
	To ABC Counterparty account		16,556.15
	(Being the premium received on the interest rate cap contract)		

Reset the interest rate for the ensuing period

Interest reset dates are agreed upon between the counterparties at the inception of the trade. On the reset dates the reference rate is compared with the cap rate to determine if interest is required to be paid at all by one party to the other. If the reference interest rate is above the strike rate then interest is payable by the buyer of this cap contract. Since only reset happens, no accounting entry is passed on this date.

Ascertain the interest accrued—payable/receivable on cap

If the reference interest rate is above the cap rate, then the buyer of the cap instrument should compensate the seller interest calculated as per the previous paragraphs. When it is ascertained on the reset date that the reference interest rate is above the cap rate and if the valuation date occurs before the pay date then interest accrued on such cap instrument from the reset date to the valuation date should be computed and accounted for. This entry, however, will be reversed on the pay date when the actual interest calculated untill the pay date from the reset date is accounted for, as shown in Table 9.6.

Table 9.6 Calculation of interest accrued on valuation date

Calculation of interest accrued on valuation date	USD
Previous coupon date	22-Sep-X8
Current coupon date	30-Sep-X8
Number of days	8
Notional amount on which interest is computed	10,000,000
Cap strike rate	2.8500 %
Floating interest rate	3.20375 %
Interest accounted for on valuation date	786.11

The entry for accounting the accrued interest payable on the valuation date is as shown in Table 9.7.

Table 9.7 On accounting of interest accrued on valuation date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest Expense—Interest rate cap	786.11	
	To Interest accrued but not due on interest rate cap account		786.11
	(Being the interest expense accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

Reverse the accrued interest if any on coupon date

The accrued interest entry for the to pay interest rate cap contract recorded in the previous valuation date must be reversed on the next coupon date, when the actual interest untill the coupon date will be accounted for. The next coupon date subsequent to the valuation date falls on 22nd December and on that date the following entry will be recorded in the account for reversal of accrued interest, as shown in Table 9.8.

Table 9.8 On reversal of interest accrued on valuation date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Dec-X8	Interest accrued but not due on interest rate cap account	786.11	
	To Interest Expense—Interest rate cap		786.11
	(Being reversal of interest accrued on valuation date)		

Ascertain and account for the fair value on the valuation date

At the end of every reporting period the net present value of the cap contract is ascertained and entries recorded in the books accordingly. The net present value of the cap contract on 31st March amounts to a negative number of 4,767.97, meaning it is a liability. This is accounted for as unrealized loss on the interest rate cap instrument. Table 9.9 shows the entry is passed for the same:

Table 9.9 On valuation of interest rate cap as on date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Unrealized gain/loss on IRD Cap (P&L) account	4,767.97	
	To IRD Cap NPV—(Asset/Liability) account		4,767.97
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

Pay/receive interest on pay date

On each pay date, subsequent to the reset date, interest will be paid by the buyer of the cap contract if the prevailing reference rate exceeds the cap rate. In other words, if the reference rate is below the cap rate, then nothing is received or paid under the cap contract and no settlement takes place. At the inception of the contract, the reference rate is 3.0575 percent and since this is above the cap rate of 2.85 percent, interest is payable by the buyer of the contract on the pay date from the date of inception of the cap contract. Table 9.10 shows the calculation of interest.

Table 9.10 Calculation of interest on coupon date

Calculation of interest on coupon date	USD
Previous coupon date	4-Mar-X8
Current coupon date	20-Mar-X8
Number of days	16
Notional amount on which interest is computed	10,000,000
Cap strike rate	2.8500 %
Floating interest rate	3.0575 %
Interest accounted for on coupon date	922.22

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Mar-X8	Interest Expense—Interest rate cap account	922.22	
	To Bank account		922.22
	(Being the interest paid on pay date as the reference rate is greater than the cap rate on the date of inception of the contract)		

Note that on 18th March and 18th June, the next two reset dates, interest rate was below the cap rate and hence no interest is paid or received on the pay dates of 20th June and 22nd September. The interest rate on 18th September, which is the next reset date, is 3.20375 and since this rate is above the cap rate, interest is payable by the buyer of the instrument on the pay date viz. 22nd December.

Termination of the trade and accounting for the termination fee

An interest rate cap contract can be terminated at any time by either one of the parties to contract. If the parties decide to terminate the contract, then the net present value of the contract at that point would be computed based on the net present value of the contract on such date of termination and the termination fee will be paid by one party to the other party depending upon which party stands to gain and which party stands to lose if the contract is terminated on the said date without being allowed to subsist during the remaining life of the contract. Assuming in this example the present value of the contract on the date of termination, say, 25th September, is calculated as a positive number amounting to $5,141.98 then the counterparty to the contract will have to pay this termination fee to the investor.

The accounting entry that is recorded in the books of accounts is shown in Table 9.11.

Table 9.11 On accounting for termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Sep-X8	ABC Counterparty account	5,141.98	
	To Realized gain/loss on interest rate cap		5,141.98
	(Being realized gain/loss on termination date)		

Payment or receipt of termination fee

The consideration for such termination is received on T + 2. The accounting entry that is recorded in the book of accounts is shown in Table 9.12.

Table 9.12 On settlement of termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
27-Sep-X8	Bank account	5,141.98	
	To ABC Counterparty account		5,141.98
	(On receipt of the of termination fee)		

Maturity of the trade

If the trade is not terminated before the maturity date, the trade is matured automatically on the maturity date. No interest is payable or receivable after the maturity date. The net present value on the date of maturity of the interest rate cap contract would be zero as no cash flows subsist subsequent to the maturity date, unlike an early termination where subsequent to the termination date, there would be cash flows both receivable and payable. On the maturity date of the trade, the contingent entry passed at the date of inception of the trade is reversed, as mentioned in the next paragraph.

Reversal of the contingent entry on termination or maturity

The cap can be terminated anytime before the maturity date. On termination, the cap contract will be cancelled and the original off balance sheet entry passed at the time of inception of the contract is reversed. Even at the time of maturity the same entry is recorded, as shown in Table 9.13.

Table 9.13 On reversal of the contingent entry

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	Interest Rate Derivative—Cap (Contra) account—OBS account	10,000,000.00	
	To Interest Rate Derivative—Cap account—OBS account		10,000,000.00
	(Being reversal of the contingent entry on maturity of the contract)		

COMPLETE SOLUTION TO THE ILLUSTRATION—INTEREST RATE CAP

Cap contract details:	**Pay**
Cap Strike	2.85
Notional Amount	10,000,000
Currency	USD
Day Count—30/360	Actual/360
Interest payment terms	Quarterly
Reset Frequency and Tenor	US 3 months LIBOR
Reset terms	Prefix/Post Paid

		Cap—reset dates	
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	29-Feb-X8	20-Mar-X8	3.05750
Coupon date-2	18-Mar-X8	20-Jun-X8	2.54188
Coupon date-3	18-Jun-X8	22-Sep-X8	2.80250
Coupon date-4	18-Nov-X8	22-Dec-X8	3.20375

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Cap contract position taken (inception)	04-Mar-X8	10,000,000.00	(16,556.15)	06-Mar-X8
Cap contract termination (unwind)	22-Dec-X8	10,000,000.00	–	24-Dec-X8

Capital was $100,000 at the beginning of the year represented by bank balance

Valuation dates and net present values	Date	NPV Net	LIBOR
Valuation date 1	31-Mar-X8	(4,767.97)	2.49310
Valuation date 2	30-Jun-X8	(15,567.94)	3.10065
Valuation date 3	30-Sep-X8	(8,865.34)	3.20375
Termination Date	20-Dec-X8	–	3.20375

T-1 *On recording the interest rate cap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Mar-X8	Interest Rate Derivative—Cap account—OBS	10,000,000.00	
	To Interest Rate Derivative—Cap (Contra) account—OBS		10,000,000.00
	(Being the recording of interest rate cap—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium on interest rate cap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Mar-X8	ABC Counterparty account	16,556.15	
	To IRD Cap premium received account		16,556.15
	(Being the premium received at the inception of interest rate derivative cap contract representing the net present value of the cap on this date)		

T-3 *On accounting of receipt of the premium:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
6-Mar-X8	Bank account	16,556.15	
	To ABC Counterparty account		16,556.15
	(Being the premium received from the counter-party)		

T-4 *On accounting for interest payable on interest rate cap:*

Calculation of interest on coupon date	USD
Previous coupon date	4-Mar-X8
Current coupon date	20-Mar-X8
Number of days	16
Notional amount on which interest is computed	10,000,000
Cap strike rate	2.8500 %
Floating interest rate	3.0575 %
Interest accounted for on coupon date	922.22

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Mar-X8	Interest Expense—Interest rate cap	922.22	
	To Bank account		922.22
	(Being the interest paid on increase in reference rate than the cap rate)		

T-5 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Unrealized gain/loss on IRD Cap (P&L) account	4,767.97	
	To IRD Cap NPV—(Asset/Liability) account		4,767.97
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-6 *On reversal of existing net present value of interest rate cap on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Cap NPV—(Asset/Liability) account	4,767.97	
	To Unrealized gain/loss on IRD Cap (P&L) account		4,767.97
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-7 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Cap (P&L) account	15,567.94	
	To IRD Cap NPV—(Asset/Liability) account		15,567.94
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-8 *On reversal of existing net present value of interest rate cap on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD Cap NPV—(Asset/Liability) account	15,567.94	
	To Unrealized gain/loss on IRD Cap (P&L) account		15,567.94
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-9 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Cap (P&L) account	8,865.34	
	To IRD Cap NPV—(Asset/Liability) account		8,865.34
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-10 *On reversal of existing net present value on maturity of cap contract:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	IRD Cap NPV—(Asset/Liability) account	8,865.34	
	To Unrealized gain/loss on IRD Cap (P&L) account		8,865.34
	(Being the reversal of the existing net present value of the interest rate cap contract on maturity)		

T-11 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	22-Sep-X8
Current coupon date	30-Sep-X8
Number of days	8
Notional amount on which interest is computed	10,000,000
Cap strike rate	2.8500 %
Floating interest rate	3.20375 %
Interest accounted for on valuation date	786.11

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest Expense—Interest rate cap	786.11	
	To Interest accrued but not due on interest rate cap account		786.11
	(Being the interest expense accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-12 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Dec-X8	Interest accrued but not due on interest rate cap account	786.11	
	To Interest Expense—Interest rate cap		786.11
	(Being reversal of interest accrued on valuation date)		

T-13 *On accounting for interest on pay date:*

Calculation of interest on coupon date	**USD**
Previous coupon date	22-Sep-X8
Current coupon date	22-Dec-X8
Number of days	91
Notional amount on which interest is computed	10,000,000
Cap strike rate	2.85 %
Floating interest rate	3.20 %
Interest accounted for on coupon date	8,942.01

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
22-Dec-X8	Interest Expense—Interest rate cap account	8,942.01	
	To Bank account		8,942.01
	(Being the interest paid on increase in reference rate than the cap rate)		

General Ledger accounts

Interest Rate Derivative—Cap account—OBS

Date	**Particulars**	**Debit**	**Date**	**Particulars**	**Credit**
4-Mar-X8	To Interest Rate Derivative—Cap (Contra) account—OBS	10,000,000.00			
			20-Dec-X8	By Interest Rate Derivative—Cap (Contra) account—OBS	10,000,000.00
31-Dec-X8	Total	10,000,000.00	31-Dec-X8	Total	10,000,000.00

Interest Rate Derivative—Cap (Contra) account—OBS

Date	**Particulars**	**Debit**	**Date**	**Particulars**	**Credit**
			4-Mar-X8	By Interest Rate Derivative—Cap account—OBS	10,000,000.00
20-Dec-X8	To Interest Rate Derivative—Cap account—OBS	10,000,000.00			
31-Dec-X8	Total	10,000,000.00	31-Dec-X8	Total	10,000,000.00

IRD Cap premium received account

Date	**Particulars**	**Debit**	**Date**	**Particulars**	**Credit**
			4-Mar-X8	By ABC Counterparty account	16,556.15
31-Dec-X8	To Balance	16,556.15			
31-Dec-X8	Total	**16,556.15**	31-Dec-X8	Total	**16,556.15**
			31-Dec-X8	By Balance	16,556.15

Interest accrued but not due on interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
			30-Sep-X8	By Interest Expense—Interest rate cap account	786.11
22-Dec-X8	To Interest Expense—Interest rate cap account	786.11			
31-Dec-X8	Total	786.11	31-Dec-X8	Total	786.11

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
4-Mar-X8	To IRD Cap premium received account	16,556.15			
			6-Mar-X8	By Bank account	16,556.15
31-Dec-X8	Total	16,556.15	31-Dec-X8	Total	16,556.15

Interest Expense—Interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
20-Mar-X8	To Bank account	922.22			
30-Sep-X8	To Interest accrued but not due on interest rate cap account	786.11			
			22-Dec-X8	By Interest accrued but not due on interest rate cap account	786.11
22-Dec-X8	To Bank account	8,942.01			
			31-Dec-X8	To Balance	9,864.23
31-Dec-X8	Total	**10,650.34**	31-Dec-X8	Total	**10,650.34**
31-Dec-X8	By Balance	9,864.23			

IRD Cap NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Unrealized gain/loss on IRD Cap (P&L) account	4,767.97
30-Jun-X8	To Unrealized gain/loss on IRD Cap (P&L) account	4,767.97			
			30-Jun-X8	By Unrealized gain/loss on IRD Cap (P&L) account	15,567.94
30-Sep-X8	To Unrealized gain/loss on IRD Cap (P&L) account	15,567.94			

Date	Particulars	Debit	Date	Particulars	Credit
			30-Sep-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	8,865.34
20-DecX8	To Unrealized gain/ loss on IRD Cap (P&L) account	8,865.34			
31-Dec-X8	Total	29,201.25	31-Dec-X8	Total	29,201.25

Unrealized gain/loss on IRD Cap (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To IRD Cap NPV—(Asset/Liability) account	4,767.97			
			30-Jun-X8	By IRD Cap NPV—(Asset/Liability) account	4,767.97
30-Jun-X8	To IRD Cap NPV—(Asset/Liability) account	15,567.94			
			30-Sep-X8	By IRD Cap NPV—(Asset/Liability) account	15,567.94
30-Sep-X8	To IRD Cap NPV—(Asset/Liability) account	8,865.34			
			20-Dec-X8	By IRD Cap NPV—(Asset/Liability) account	8,865.34
31-Dec-X8	Total	29,201.25	31-Dec-X8	Total	29,201.25

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	100,000.00
31-Dec-X8	To Balance	100,000.00			
31-Dec-X8	Total	**100,000.00**	31-Dec-X8	Total	**100,000.00**
			31-Dec-X8	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	100,000.00			
6-Mar-X8	To ABC Counterparty account	16,556.15			
			20-Mar-X8	By Interest Expense—Interest rate cap account	922.22

Bank account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
			22-Dec-X8	By Interest Expense—Interest rate cap account	8,942.01
			31-Dec-X8	By Balance	106,691.92
31-Dec-X8	Total	**116,556.15**	31-Dec-X8	Total	**116,556.15**
31-Dec-X8	To Balance	106,691.92			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Capital account		100,000.00
Current Asset		
Bank account	106,691.92	
Income		
IRD Cap premium received account		16,556.15
Interest Expense—Interest rate cap account	9,864.23	
Totals	116,556.15	116,556.15

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
Direct Expenses		**Direct Income**	
Interest Expense—Interest rate cap account	9,864.23	IRD Cap premium received account	16,556.15
Net profit C/o	6,691.92		
Total	9,864.23	Total	9,864.23

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
Capital account	100,000.00	**Current Assets**	
		Bank account	106,691.92
Profit & Loss account			
Opening balance			
Current period	6,691.92		
Total	106,691.92	Total	106,691.92

PROBLEM 1: INTEREST RATE CAP—PAY

Cap contract details:	**Pay**
Cap strike	5.3586 %
Notional amount	15,000,000
Currency	USD
Day count—30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/Post paid

		Cap—reset dates	
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	08-Jan-X7	20-Mar-X7	5.3600 %
Coupon date-2	18-Mar-X7	20-Jun-X7	5.3500 %
Coupon date-3	18-Jun-X7	20-Sep-X7	5.3600 %
Coupon date-4	18-Dec-X7	20-Dec-X7	5.5875 %

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Cap Contract position taken (inception)	10-Jan-X7	15,000,000.00	(10,715.28)	12-Jan-X7
Maturity	20-Dec-X7	15,000,000.00		

Capital was $100,000 at the beginning of the year represented by bank balance

Valuation dates and net present values	**Date**	**NPV Net**	**LIBOR**
Valuation date 1	31-Mar-X7	(5,894.13)	
Valuation date 2	30-Jun-X7	(2,788.62)	
Valuation date 3	30-Sep-X7	(8,578.83)	
Maturity	20-Dec-X7		

SOLUTION TO PROBLEM 1: INTEREST RATE CAP—PAY

T-1 *On entering into interest rate cap trade (off balance sheet entry):*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
10-Jan-X7	Interest Rate Derivative—Cap account—OBS	15,000,000.00	
	To Interest Rate Derivative—Cap (Contra) account—OBS		15,000,000.00
	(Being the recording of interest rate cap—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium on interest rate cap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jan-X7	ABC Counterparty account	10,715.28	
	To IRD Cap premium received account		10,715.28
	(Being the premium received at the inception of interest rate derivative cap contract representing the net present value of the cap on this date)		

T-3 *On accounting for receipt of the premium:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Jan-X7	Bank account	10,715.28	
	To ABC Counterparty account		10,715.28
	(Being the premium received from the counter party at the inception of interest rate cap trade)		

T-4 *On accounting for interest payable on interest rate cap:*

Calculation of interest on coupon date	USD
Previous coupon date	10-Jan-X7
Current coupon date	20-Mar-X7
Number of days	69
Notional amount on which interest is computed	15,000,000
Cap strike rate	5.3586 %
Floating interest rate	5.3600 %
Interest accounted for on coupon date	40.25

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Mar-X7	Interest Expense—Interest rate cap	40.25	
	To Bank account		40.25
	(Being the interest paid on increase in reference rate than the cap rate)		

T-5 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Unrealized gain/loss on IRD Cap (P&L) account	5,894.13	
	To IRD Cap NPV—(Asset/Liability) account		5,894.13
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-6 *On reversal of existing net present value of interest rate cap on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	IRD Cap NPV—(Asset/Liability) account	5,894.13	
	To Unrealized gain/loss on IRD Cap (P&L) account		5,894.13
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-7 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Unrealized gain/loss on IRD Cap (P&L) account	2,788.62	
	To IRD Cap NPV—(Asset/Liability) account		2,788.62
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-8 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	20-Jun-X7
Current coupon date	30-Jun-X7
Number of days	10
Notional amount on which interest is computed	15,000,000
Cap strike rate	5.3586 %
Floating interest rate	5.3600 %
Interest accounted for on valuation date	5.83

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest Expense—Interest rate cap account	5.83	
	To Interest accrued but not due on interest rate cap account		5.83
	(Being the interest expense accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-9 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Sep-X7	Interest accrued but not due on interest rate cap account	5.83	
	To Interest Expense—Interest rate cap account		5.83
	(Being reversal of interest accrued on valuation date)		

T-10 *On accounting for interest on interest rate cap:*

Calculation of interest on coupon date	USD
Previous coupon date	20-Jun-X7
Current coupon date	20-Sep-X7
Number of days	92
Notional amount on which interest is computed	15,000,000
Cap strike rate	5.3586 %
Floating interest rate	5.3600 %
Interest accounted for on coupon date	53.67

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Sep-X7	Interest Expense—Interest rate cap	53.67	
	To Bank account		53.67
	(Being the interest paid on increase in reference rate than the cap rate)		

T-11 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	20-Sep-X7
Current coupon date	30-Sep-X7
Number of days	10
Notional amount on which interest is computed	15,000,000
Cap strike rate	5.3586 %
Floating interest rate	5.58750 %
Interest accounted for on valuation date	953.75

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Interest Expense—Interest rate cap account	953.75	
	To Interest accrued but not due on interest rate cap account		953.75
	(Being the interest expense accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-12 *On reversal of existing net present value of interest rate cap on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	IRD Cap NPV—(Asset/Liability) account	2,788.62	
	To Unrealized gain/loss on IRD Cap (P&L) account		2,788.62
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-13 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Unrealized gain/loss on IRD Cap (P&L) account	8,578.83	
	To IRD Cap NPV—(Asset/Liability) account		8,578.83
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-14 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X7	Interest accrued but not due on interest rate cap account	953.75	
	To Interest Expense—Interest rate cap account		953.75
	(Being reversal of interest accrued on valuation date)		

T-15 *On accounting for interest on interest rate cap:*

Calculation of interest on coupon date	USD
Previous coupon date	20-Sep-X7
Current coupon date	20-Dec-X7
Number of days	91
Notional amount on which interest is computed	15,000,000
Cap strike rate	5.3586 %
Floating interest rate	5.5875 %
Interest accounted for on coupon date	8,679.13

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X7	Interest Expense—Interest rate cap	8,679.13	
	To Bank account		8,679.13
	(Being the interest paid on increase in reference rate than the cap rate)		

T-16 *On reversal of existing net present value of interest rate cap on the next valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X7	IRD Cap NPV—(Asset/Liability) account	8,578.83	
	To Unrealized gain/loss on IRD Cap (P&L) account		8,578.83
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-17 *On reversal of the off balance sheet contingent entry on maturity of the contract:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X7	Interest Rate Derivative—Cap (Contra) account—OBS account	15,000,000.00	
	To Interest Rate Derivative—Cap account—OBS account		15,000,000.00
	(Being reversal of the off balance sheet contingent entry on maturity of the cap contract)		

General Ledger Accounts

Interest Rate Derivative—Cap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
10-Jan-X7	To Interest Rate Derivative—Cap (Contra) account—OBS	15,000,000.00			
			20-Dec-X7	By Interest Rate Derivative—Cap (Contra) account—OBS	15,000,000.00
31-Dec-X7	Total	15,000,000.00	31-Dec-X7	Total	15,000,000.00

Interest Rate Derivative—Cap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			10-Jan-X7	By Interest Rate Derivative—Cap account—OBS	15,000,000.00
20-Dec-X7	To Interest Rate Derivative—Cap account—OBS	15,000,000.00			
31-Dec-X7	Total	15,000,000.00	31-Dec-X7	Total	15,000,000.00

IRD Cap premium received account

Date	Particulars	Debit	Date	Particulars	Credit
			10-Jan-X7	By ABC Counterparty account	10,715.28
31-Dec-X7	To Balance	10,715.28			
31-Dec-X7	Total	**10,715.28**	31-Dec-X7	Total	**10,715.28**
			31-Dec-X7	By Balance	10,715.28

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
10-Jan-X7	To IRD Cap premium received account	10,715.28			
			12-Jan-X7	By Bank account	10,715.28
31-Dec-X7	Total	10,715.28	31-Dec-X7	Total	10,715.28

Interest accrued but not due on interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
			30-Jun-X7	By Interest Expense—Interest rate cap account	5.83
20-Sep-X7	To Interest Expense—Interest rate cap account	5.83			
			30-Sep-X7	By Interest Expense—Interest rate cap account	953.75
20-Dec-X7	To Interest Expense—Interest rate cap account	953.75			
31-Dec-X7	Total	959.58	31-Dec-X7	Total	959.58

Interest Expense—Interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
20-Mar-X7	To Bank account	40.25			
30-Jun-X7	To Interest accrued but not due on interest rate cap account	5.83			
			20-Sep-X7	By Interest accrued but not due on interest rate cap account	5.83
20-Sep-X7	To Bank account	53.67			
30-Sep-X7	To Interest accrued but not due on interest rate cap account	953.75			
20-Dec-X7	To Bank account	8,679.13			
			20-Dec-X7	By Interest accrued but not due on interest rate cap account	953.75
			31-Dec-X7	To Balance	8,773.05
31-Dec-X7	Total	**9,732.63**	31-Dec-X7	Total	**9,732.63**
31-Dec-X7	By Balance	8,773.05			

IRD Cap NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X7	By Unrealized gain/ loss on IRD Cap (P&L) account	5,894.13
30-Jun-X7	To Unrealized gain/ loss on IRD Cap (P&L) account	5,894.13			
			30-Jun-X7	By Unrealized gain/ loss on IRD Cap (P&L) account	2,788.62
30-Sep-X7	To Unrealized gain/ loss on IRD Cap (P&L) account	2,788.62			
			30-Sep-X7	By Unrealized gain/ loss on IRD Cap (P&L) account	8,578.83
20-Dec-X7	To Unrealized gain/ loss on IRD Cap (P&L) account	8,578.83			
31-Dec-X7	Total	17,261.58	31-Dec-X7	Total	17,261.58

Unrealized gain/loss on IRD Cap (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To IRD Cap NPV—(Asset/ Liability) account	5,894.13			
			30-Jun-X7	By IRD Cap NPV—(Asset/Liability) account	5,894.13
30-Jun-X7	To IRD Cap NPV—(Asset/ Liability) account	2,788.62			
			30-Sep-X7	By IRD Cap NPV—(Asset/Liability) account	2,788.62
30-Sep-X7	To IRD Cap NPV—(Asset/ Liability) account	8,578.83			
			20-Dec-X7	By IRD Cap NPV—(Asset/Liability) account	8,578.83
31-Dec-X7	Total	17,261.58	31-Dec-X7	Total	17,261.58

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X7	By Balance	100,000.00
31-Dec-X7	To Balance	100,000.00			
31-Dec-X7	Total	**100,000.00**	31-Dec-X7	Total	**100,000.00**
			31-Dec-X7	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X7	To Balance	100,000.00			
12-Jan-X7	To ABC Counterparty account	10,715.28			
			20-Mar-X7	By Interest Expense—Interest rate cap account	40.25
			20-Sep-X7	By Interest Expense—Interest rate cap account	53.67
			20-Dec-X7	By Interest Expense—Interest rate cap account	8,679.13
			31-Dec-X7	By Balance	101,942.23
31-Dec-X7	Total	**110,715.28**	31-Dec-X7	Total	**110,715.28**
31-Dec-X7	To Balance	101,942.23			

Trial Balance

As on 31-Dec-X7

Particulars	Debit	Credit
Capital account		
Capital account		100,000.00
Current Asset		
Bank account	101,942.23	
Income		
IRD Cap premium received account		10,715.28
Interest Expense—Interest rate cap account	8,773.05	
Totals	110,715.28	110,715.28

Income Statement

For the period ending 31-Dec-X7

Expenses		Income	
Direct Expenses		**Direct Income**	
Interest Expense—Interest rate cap account	8,773.05	IRD Cap premium received account	10,715.28
Net profit C/o	1,942.23		
Total	**10,715.28**	Total	**10,715.28**

Balance Sheet

As at 31-Dec-X7

Liabilities		**Assets**	
Capital account			
Capital account	100,000.00	Current Assets	
		Bank account	101,942.23
Profit & Loss account			
Opening balance			
Current period	1,942.23		
Total	101,942.23	Total	101,942.23

PROBLEM 2: INTEREST RATE CAP—PAY

Cap contract details:	**Pay**
Cap strike	3.56 %
Notional amount	10,000,000
Currency	EUR
Day count—30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/Post paid

		Cap—reset dates		
Coupon reset dates	**Reset date**	**FX rates**	**Pay date**	**LIBOR**
Coupon date-1	10-Jan-X7	0.781692	12-Mar-X7	3.74500
Coupon date-2	8-Mar-X7	0.780308	12-Jun-X7	3.87800
Coupon date-3	12-Jun-X7	0.787687	12-Sep-X7	4.13800
Coupon date-4	10-Sep-X7	0.757566	12-Dec-X7	4.74800

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Cap Contract position taken (inception)	12-Jan-X7	10,000,000.00	(39,656.82)	14-Jan-X7
Maturity	12-Dec-X7	10,000,000.00		14-Dec-X7

Valuation dates and net present values	**Date**	**NPV Net**	**LIBOR**
Valuation date 1	31-Mar-X7	(36,352.20)	
Valuation date 2	30-Jun-X7	(33,947.07	
Valuation date 3	30-Sep-X7	(29,751.70)	
Maturity			

SOLUTION TO PROBLEM 2: INTEREST RATE CAP—PAY

T-1 *On entering into interest rate cap trade (off balance sheet entry):*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
12-Jan-X7	Interest Rate Derivative—Cap account—OBS	10,000,000.00	
	To Interest Rate Derivative—Cap (Contra) account—OBS		10,000,000.00
	(Being the recording of interest rate cap—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium received on interest rate cap trade:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
12-Jan-X7	ABC Counterparty account	39,656.82	
	To IRD Cap premium received account		39,656.82
	(Being the premium received at the inception of interest rate derivative cap contract representing the net present value of the cap on this date)		

T-3 *On accounting for premium received:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
14-Jan-X7	Bank account	39,656.82	
	To ABC Counterparty account		39,656.82
	(Being the premium received from the counterparty on entering into interest rate cap trade)		

T-4 *On accounting for interest expense on interest rate cap:*

Calculation of interest on coupon date	EUR
Previous coupon date	12-Jan-X7
Current coupon date	12-Mar-X7
Number of days	59
Notional amount on which interest is computed	10,000,000
Cap strike rate	3.560 %
Floating interest rate	3.745 %
Interest accounted for on coupon date	3,031.94

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
12-Mar-X7	Interest expense—Interest rate cap	3,031.94	
	To Bank account		3,031.94
	(Being the interest expense paid on increase in reference rate than the cap rate)		

T-5 *On accounting for interest accrued on valuation date on interest rate cap:*

Calculation of interest accrued on valuation date	EUR
Previous coupon date	12-Mar-X7
Current coupon date	31-Mar-X7
Number of days	19
Notional amount on which interest is computed	10,000,000
Cap strike rate	3.560 %
Floating interest rate	3.87800 %
Interest accounted for on valuation date	1,678.33

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
31-Mar-X7	Interest expense—Interest rate cap	1,678.33	
	To Interest accrued but not due on interest rate cap account		1,678.33
	(Being the interest expense accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-6 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
31-Mar-X7	Unrealized gain/loss on IRD Cap (P&L) account	36,352.20	
	To IRD Cap NPV—(Asset/Liability) account		36,352.20
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-7 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
12-Jun-X7	Interest accrued but not due on interest rate cap account	1,678.33	
	To Interest expense—Interest rate cap		1,678.33
	(Being reversal of interest accrued on valuation date)		

T-8 *On accounting for interest expense on interest rate cap:*

Calculation of interest on coupon date	**EUR**
Previous coupon date	12-Mar-X7
Current coupon date	12-Jun-X7
Number of days	92
Notional amount on which interest is computed	10,000,000
Cap strike rate	3.560 %
Floating interest rate	3.878 %
Interest accounted for on coupon date	8,126.67

Journal Entry

Date	**Particulars**	**Debit (EUR)**	**Credit (EUR)**
12-Jun-X7	Interest expense—Interest rate cap	8,126.67	
	To Bank account		8,126.67
	(Being the interest expense paid on increase in reference rate than the cap rate)		

T-9 *On reversal of existing net present value of interest rate cap on the next valuation date:*

Journal Entry

Date	**Particulars**	**Debit (EUR)**	**Credit (EUR)**
30-Jun-X7	IRD Cap NPV—(Asset/Liability) account	36,352.20	
	To Unrealized gain/loss on IRD Cap (P&L) account		36,352.20
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-10 *On accounting for interest accrued on valuation date on interest rate cap:*

Calculation of interest accrued on valuation date	**EUR**
Previous coupon date	12-Jun-X7
Current coupon date	30-Jun-X7
Number of days	18
Notional amount on which interest is computed	10,000,000
Cap strike rate	3.560 %
Floating interest rate	4.13800 %
Interest accounted for on valuation date	2,890.00

Journal Entry

Date	**Particulars**	**Debit (EUR)**	**Credit (EUR)**
30-Jun-X7	Interest expense—Interest rate cap	2,890.00	
	To Interest accrued but not due on interest rate cap account		2,890.00
	(Being the interest expense accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-11 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
30-Jun-X7	Unrealized gain/loss on IRD Cap (P&L) account	33,947.07	
	To IRD Cap NPV—(Asset/Liability) account		33,947.07
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-12 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
12-Sep-X7	Interest accrued but not due on interest rate cap account	2,890.00	
	To Interest expense—Interest rate cap		2,890.00
	(Being reversal of interest accrued on valuation date)		

T-13 *On accounting for interest expense on interest rate cap:*

Calculation of interest on coupon date	EUR
Previous coupon date	12-Jun-X7
Current coupon date	12-Sep-X7
Number of days	92
Notional amount on which interest is computed	10,000,000
Cap strike rate	3.5600
Floating interest rate	4.138000
Interest accounted for on coupon date	14,771.11

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
12-Sep-X7	Interest expense—Interest rate cap account	14,771.11	
	To Bank account		14,771.11
	(Being the interest expense paid on increase in reference rate than the cap rate)		

T-14 *On reversal of existing net present value of interest rate cap on the next valuation date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
30-Sep-X7	IRD Cap NPV—(Asset/Liability) account	33,947.07	
	To Unrealized gain/loss on IRD Cap (P&L) account		33,947.07
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-15 *On accounting for interest accrued on valuation date on interest rate cap:*

Calculation of interest accrued on valuation date	**EUR**
Previous coupon date	12-Sep-X7
Current coupon date	30-Sep-X7
Number of days	18
Notional amount on which interest is computed	10,000,000
Cap strike rate	3.560 %
Floating interest rate	4.748%
Interest accounted for on valuation date	5,940.00

Journal Entry

Date	**Particulars**	**Debit (EUR)**	**Credit (EUR)**
30-Sep-X7	Interest expense—Interest rate cap	5,940.00	
	To Interest accrued but not due on interest rate cap account		5,940.00
	(Being the interest expense accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-16 *On valuation of interest rate cap as on date:*

Journal Entry

Date	**Particulars**	**Debit (EUR)**	**Credit (EUR)**
30-Sep-X7	Unrealized gain/loss on IRD Cap (P&L) account	29,751.70	
	To IRD Cap NPV—(Asset/Liability) account		29,751.70
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-17 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	**Particulars**	**Debit (EUR)**	**Credit (EUR)**
14-Dec-X7	Interest accrued but not due on interest rate cap account	5,940.00	
	To Interest expense—Interest rate cap		5,940.00
	(Being reversal of interest accrued on valuation date)		

T-18 *On accounting for interest expense on interest rate cap:*

Calculation of interest on coupon date	**EUR**
Previous coupon date	12-Sep-X7
Current coupon date	12-Dec-X7
Number of days	91

Calculation of interest on coupon date	EUR
Notional amount on which interest is computed	10,000,000
Cap strike rate	3.560 %
Floating interest rate	4.748%
Interest accounted for on coupon date	30,030.00

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
14-Dec-X7	Interest expense—Interest rate cap	30,030.00	
	To Bank account		30,030.00
	(Being the interest expense paid on increase in reference rate than the cap rate)		

T-19 *On reversal of existing net present value of interest rate cap on the maturity date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
20-Dec-X7	IRD Cap NPV—(Asset/Liability) account	29,751.70	
	To Unrealized gain/loss on IRD Cap (P&L) account		29,751.70
	(Being the reversal of the existing net present value of the interest rate cap contract on maturity date)		

T-20 *On reversal of contingent entry on maturity date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
20-Dec-X7	Interest Rate Derivative—Cap (Contra) account—OBS	10,000,000.00	
	To Interest Rate Derivative—Cap account—OBS		10,000,000.00
	(Being the reversal of contingent entry on maturity date)		

General Ledger accounts

Interest Rate Derivative—Cap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			12-Jan-X7	By Interest Rate Derivative—Cap account—OBS	10,000,000.00
20-Dec-X7	To Interest Rate Derivative—Cap account—OBS	10,000,000.00			
31-Dec-X7	Total	10,000,000.00	31-Dec-X7	Total	10,000,000.00

Interest Rate Derivative—Cap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
12-Jan-X7	To Interest Rate Derivative—Cap (Contra) account—OBS	10,000,000.00			
			20-Dec-X7	By Interest Rate Derivative—Cap (Contra) account—OBS	10,000,000.00
31-Dec-X7	Total	10,000,000.00	31-Dec-X7	Total	10,000,000.00

IRD Cap premium received account

Date	Particulars	Debit	Date	Particulars	Credit
			12-Jan-X7	By ABC Counterparty account	39,656.82
31-Dec-X7	To Balance	39,656.82			
31-Dec-X7	Total	**39,656.82**	31-Dec-X7	Total	**39,656.82**
			31-Dec-X7	By Balance	39,656.82

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
12-Jan-X7	To IRD Cap premium received account	39,656.82			
			14-Jan-X7	By Bank account	39,656.82
31-Dec-X7	Total	39,656.82	31-Dec-X7	Total	39,656.82

Interest Expense—Interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
12-Mar-X7	To Bank account	3,031.94			
31-Mar-X7	To Interest accrued but not due on interest rate cap account	1,678.33			
			12-Jun-X7	By Interest accrued but not due on interest rate cap account	1,678.33
12-Jun-X7	To Bank account	8,126.67			
30-Jun-X7	To Interest accrued but not due on interest rate cap account	2,890.00			
12-Sep-X7	To Bank account	14,771.11			
			12-Sep-X7	By Interest accrued but not due on interest rate cap account	2,890.00

Interest Expense—Interest rate cap account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
30-Sep-X7	To Interest accrued but not due on interest rate cap account	5,940.00			
			14-Dec-X7	By Interest accrued but not due on interest rate cap account	5,940.00
14-Dec-X7	To Bank account	30,030.00			
			31-Dec-X7	By Balance	55,959.72
31-Dec-X7	Total	**66,468.05**	31-Dec-X7	Total	**66,468.05**
31-Dec-X7	To Balance	55,959.72			

Interest accrued but not due on interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X7	By Interest Expense—Interest rate cap account	1,678.33
12-Jun-X7	To Interest Expense—Interest rate cap account	1,678.33			
			30-Jun-X7	By Interest Expense—Interest rate cap account	2,890.00
12-Sep-X7	To Interest Expense—Interest rate cap account	2,890.00			
			30-Sep-X7	By Interest Expense—Interest rate cap account	5,940.00
12-Dec-X7	To Interest Expense—Interest rate cap account	5,940.00			
31-Dec-X7	Total	10,508.33	31-Dec-X7	Total	10,508.33

IRD Cap NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X7	By Unrealized gain/loss on IRD Cap (P&L) account	36,352.20
30-Jun-X7	To Unrealized gain/loss on IRD Cap (P&L) account	36,352.20			
			30-Jun-X7	By Unrealized gain/loss on IRD Cap (P&L) account	33,947.07
30-Sep-X7	To Unrealized gain/loss on IRD Cap (P&L) account	33,947.07			

Date	Particulars	Debit	Date	Particulars	Credit
			30-Sep-X7	By Unrealized gain/ loss on IRD Cap (P&L) account	29,751.70
20-Dec-X7	To Unrealized gain/ loss on IRD Cap (P&L) account	29,751.70			
31-Dec-X7	Total	100,050.97	31-Dec-X7	Total	100,050.97

Unrealized gain/loss on IRD Cap (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To IRD Cap NPV— (Asset/Liability) account	36,352.20			
			30-Jun-X7	By IRD Cap NPV— (Asset/Liability) account	36,352.20
30-Jun-X7	To IRD Cap NPV— (Asset/Liability) account	33,947.07			
			30-Sep-X7	By IRD Cap NPV— (Asset/Liability) account	33,947.07
30-Sep-X7	IRD Cap NPV— (Asset/Liability) account	29,751.70			
			20-Dec-X7	By IRD Cap NPV— (Asset/Liability) account	29,751.70
31-Dec-X7	Total	100,050.97	31-Dec-X7	Total	100,050.97

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X7	By Balance	100,000.00
31-Dec-X7	To Balance	100,000.00			
31-Dec-X7	Total	**100,000.00**	31-Dec-X7	Total	**100,000.00**
			31-Dec-X7	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X7	To Balance	100,000.00			
14-Jan-X7	To ABC Counterparty account	39,656.82			
			12-Mar-X7	By Interest Expense— Interest rate cap account	3,031.94
			12-Jun-X7	By Interest Expense— Interest rate cap account	8,126.67

Bank account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
			12-Sep-X7	By Interest Expense—Interest rate cap account	14,771.11
			14-Dec-X7	By Interest Expense—Interest rate cap account	30,030.00
			31-Dec-X7	By Balance	83,697.10
31-Dec-X7	Total	**139,656.82**	31-Dec-X7	Total	**139,656.82**
31-Dec-X7	To Balance	83,697.10			

Trial Balance

As on 31-Dec-X7

Particulars	Debit	Credit
Capital account		
Capital account		100,000.00
Current Asset		
Bank account	83,697.10	
Income		
IRD Cap premium received account		39,656.82
Interest Expense—Interest rate cap account	55,959.72	
Totals	139,656.82	139,656.82

Income Statement

For the period ending 31-Dec-X7

Expenses		Income	
		Direct Income	
Interest Expense—Interest rate cap account	55,959.72	IRD Cap premium received account	39,656.82
		Net profit C/o	16,302.90
Total	**55,959.72**	Total	**55,959.72**

Balance Sheet

As at 31-Dec-X7

Liabilities		Assets	
Capital account			
Capital account	100,000.00	**Current Assets**	
		Bank account	83,697.10
		Profit & Loss account	
		Opening balance	
		Current period	16,302.90
Total	100,000.00	Total	100,000.00

ACCOUNTING ENTRIES IN FUNCTIONAL CURRENCY

F-1 *On entering into interest rate cap trade (off balance sheet):* (T-1 @ FX Rate: 0.7717)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Jan-X7	Interest Rate Derivative—Cap account—OBS	12,959,192.80	
	To Interest Rate Derivative—Cap (Contra) account—OBS		12,959,192.80
	(Being the recording of interest rate cap—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-2 *On accounting for premium on interest rate cap trade:* (T-2 @ FX Rate: 0.7717)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Jan-X7	ABC Counterparty account	51,392.04	
	To IRD Cap premium received account		51,392.04
	(Being the premium received at the inception of interest rate derivative cap contract representing the net present value of the cap on this date)		

F-3 *On accounting of premium received:* (T-3 @ FX Rate: 0.7801)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Jan-X7	Bank account	50,837.06	
	To ABC Counterparty account		50,837.06
	(Being the premium received from the counter-party)		

F-4 *Recording the FX gain/loss amount:*

Currency gain/loss on settlement date	EUR	USD
a) Premium received (0.771653)	39,656.82	51,392.04
b) Actual premium recd on settlement date		50,837.06
c) Realized currency gain on settlement = (a) – (b)		**554.98**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Jan-X7	Currency gain/loss account	554.98	
	To ABC Counterparty account		554.98
	(Being the currency gain on receipt of premium)		

F-5 *On accounting for interest expense on interest rate cap: (*T-4 @ FX Rate: 0.7817)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Mar-X7	Interest expense—Interest rate cap	3,878.69	
	To Bank account		3,878.69
	(Being the interest expense paid on increase in reference rate than the cap rate)		

F-6 *On accounting for interest accrued on interest rate cap:* (T-5 @ FX Rate: 0.7817)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Interest expense—Interest rate cap	2,147.05	
	To Interest accrued but not due on interest rate cap account		2,147.05
	(Being the interest expense accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

F-7 *On valuation of interest rate cap as on date:* (T-6 @ FX Rate: 0.7817)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Unrealized gain/loss on IRD Cap (P&L) account	46,504.51	
	To IRD Cap NPV—(Asset/Liability) account		46,504.51
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

F-8 *On accounting for interest accrued on interest rate cap:* (T-7 @ FX Rate: 0.7817)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Jun-X7	Interest accrued but not due on interest rate cap account	2,147.05	
	To Interest expense—Interest rate cap account		2,147.05
	(Being reversal of interest accrued on valuation date)		

F-9 *On accounting for interest expense on interest rate cap:* (T-8 @ FX Rate: 0.7803)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Jun-X7	Interest expense—Interest rate cap	10,414.69	
	To Bank account		10,414.69
	(Being the interest expense paid on increase in reference rate than the cap rate)		

F-10 *On reversal of existing net present value of interest rate cap on the next valuation date:* (T-9 @ FX Rate: 0.7817)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	IRD Cap NPV—(Asset/Liability) account	46,504.51	
	To Unrealized gain/loss on IRD Cap (P&L) account		46,504.51
	(Being the reversal of the existing net present value of the interest rate cap contract)		

F-11 *On accounting of interest accrued on valuation date:* (T-10 @ FX Rate: 0.7987)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest expense—Interest rate cap	3,618.31	
	To Interest accrued but not due on interest rate cap account		3,618.31
	(Being the interest expense accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

F-12 *On valuation of interest rate cap as on date:* (T-11 @ FX Rate: 0.7987)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Unrealized gain/loss on IRD Cap (P&L) account	42,502.05	
	To IRD Cap NPV—(Asset/Liability) account		42,502.05
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

F-13 *On accounting for interest accrued on interest rate cap:* (T-12 @ FX Rate: 0.7987)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Sep-X7	Interest accrued but not due on interest rate cap account	3,618.31	
	To Interest expense—Interest rate cap		3,618.31
	(Being reversal of interest accrued on valuation date)		

F-14 *On accounting for interest expense on interest rate cap:* (T-13 @ FX Rate: 0.7877)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Sep-X7	Interest expense—Interest rate cap	18,752.51	
	To Bank account		18,752.51
	(Being the interest expense paid on increase in reference rate than the cap rate)		

F-15 *On reversal of existing net present value of interest rate cap on the next valuation date:* (T-14 @ FX Rate: 0.7987)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	IRD Cap NPV—(Asset/Liability) account	42,502.05	
	To Unrealized gain/loss on IRD Cap (P&L) account		42,502.05
	(Being the reversal of the existing net present value of the interest rate cap contract)		

F-16 *On accounting of interest accrued on valuation date:* (T-15 @ FX Rate: 0.7878)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Interest expense—Interest rate cap	7,539.61	
	To Interest accrued but not due on interest rate cap account		7,539.61
	(Being the interest expense accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

F-17 *On valuation of interest rate cap as on date:* (T-16 @ FX Rate: 0.7878)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Unrealized gain/loss on IRD Cap (P&L) account	37,763.68	
	To IRD Cap NPV—(Asset/Liability) account		37,763.68
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

F-18 *On accounting for reversal of interest accrued on interest rate cap:* (T-17 @ FX Rate: 0.7878)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Dec-X7	Interest accrued but not due on interest rate cap account	7,539.61	
	To Interest expense—Interest rate cap		7,539.61
	(Being reversal of interest accrued on valuation date)		

F-19 *On accounting for interest expense on interest rate cap:* (T-18 @ FX Rate: 0.7876)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Dec-X7	Interest expense—Interest rate cap	38,130.14	
	To Bank account		38,130.14
	(Being the interest expense paid on increase in reference rate than the cap rate)		

F-20 *On reversal of existing net present value of interest rate cap on the next valuation date:* (T-19 @ FX Rate: 0.7878)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Dec-X7	IRD Cap NPV—(Asset/Liability) account	37,763.68	
	To Unrealized gain/loss on IRD Cap (P&L) account		37,763.68
	(Being the reversal of the existing net present value of the interest rate cap contract on valuation date)		

F-21 *FX gain/loss:*

Calculation of currency gain/loss on Bank account

Description	Date	EUR	FX rate	USD
Opening balance	1-Jan-X7	100,000.00	0.78212	127,858.44
Premium received on IRD Cap	14-Jan-X7	39,656.82	0.780077	50,837.06
Interest expense on IRD Cap	12-Mar-X7	(3,031.94)	0.781692	(3,878.69)
Interest expense on IRD Cap	12-Jun-X7	(8,126.67)	0.780308	(10,414.69)
Interest expense on IRD Cap	12-Sep-X7	(14,771.11)	0.787687	(18,752.51)
Interest expense on IRD Cap on maturity	14-Dec-X7	(30,030.00)	0.787566	(38,130.14)
Net balance		86,337.10		110,871.56
Net balance at current FX rate	14-Dec-X7	86,337.10	0.787566	109,625.22
FX translation on Bank account				**1,246.33**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Dec-X7	Currency gain/loss account	1,246.33	
	To Bank account		1,246.33
	(Being currency gain/loss on bank account)		

F-22 *On reversal of contingent entry on maturity date:* (T-20 @ FX Rate: 0.7717)

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
14-Dec-X7	Interest Rate Derivative—Cap (Contra) account—OBS	12,959,192.80	
	To Interest Rate Derivative—Cap account—OBS		12,959,192.80
	(Being the reversal of contingent entry on maturity date)		

General Ledger accounts

Interest Rate Derivative—Cap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
12-Jan-X7	To Interest Rate Derivative—Cap (Contra) account—OBS	12,959,192.80			
			14-Dec-X7	By Interest Rate Derivative—Cap (Contra) account—OBS	12,959,192.80
31-Dec-X7	Total	12,959,192.80	31-Dec-X7	Total	12,959,192.80

Interest Rate Derivative—Cap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			12-Jan-X7	By Interest Rate Derivative—Cap account—OBS	12,959,192.80
14-Dec-X7	To Interest Rate Derivative—Cap account—OBS	12,959,192.80			
31-Dec-X7	Total	12,959,192.80	31-Dec-X7	Total	12,959,192.80

IRD Cap premium received account

Date	Particulars	Debit	Date	Particulars	Credit
			04-Jan-X7	By ABC Counterparty account	51,392.04
31-Dec-X7	To Balance	51,392.04			
31-Dec-X7	Total	**51,392.04**	31-Dec-X7	Total	**51,392.04**
			31-Dec-X7	By Balance	51,392.04

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
12-Jan-X7	To IRD Cap premium received account	51,392.04			
			14-Jan-X7	By Bank account	50,837.06
			14-Jan-X7	By Currency gain/loss account	554.98
31-Dec-X7	Total	51,392.04	31-Dec-X7	Total	51,392.04

Currency Gain/Loss Account

Date	Particulars	Debit	Date	Particulars	Credit
14-Jan-X7	To ABC Counterparty account	554.98			
14-Dec-X7	To Bank account	1,246.33			
			31-Dec-X7	By Balance	1,801.31
31-Dec-X7	Total	**1,801.31**	31-Dec-X7	Total	**1,801.31**
31-Dec-X7	To Balance	1,801.31			

Interest Expense—Interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
12-Mar-X7	To Bank account	3,878.69			
31-Mar-X7	To Interest accrued but not due on interest rate cap account	2,147.05			
12-Jun-X7	To Bank account	10,414.69			
			12-Jun-X7	By Interest accrued but not due on interest rate cap account	2,147.05
30-Jun-X7	To Interest accrued but not due on interest rate cap account	3,618.31			
12-Sep-X7	To Bank account	18,752.51			
			12-Sep-X7	By Interest accrued but not due on interest rate cap account	3,618.31
30-Sep-X7	To Interest accrued but not due on interest rate cap account	7,539.61			
14-Dec-X7	To Bank account	38,130.14			
			14-Dec-X7	By Interest accrued but not due on interest rate cap account	7,539.61
			31-Dec-X7	By Balance	71,176.03
31-Dec-X7	Total	**84,481.00**	31-Dec-X7	Total	**84,481.00**
31-Dec-X7	To Balance	71,176.03			

Interest accrued but not due on interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X7	By Interest Expense—Interest rate cap account	2,147.05
12-Jun-X7	To Interest Expense—Interest rate cap account	2,147.05			
			30-Jun-X7	By Interest Expense—Interest rate cap account	3,618.31
12-Sep-X7	To Interest Expense—Interest rate cap account	3,618.31			
			30-Sep-X7	By Interest Expense—Interest rate cap account	7,539.61
14-Dec-X7	To Interest Expense—Interest rate cap account	7,539.61			
31-Dec-X7	Total	13,304.97	31-Dec-X7	Total	13,304.97

IRD Cap NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X7	By Unrealized gain/loss on IRD Cap (P&L) account	46,504.51
30-Jun-X7	To Unrealized gain/loss on IRD Cap (P&L) account	46,504.51			
			30-Jun-X7	By Unrealized gain/loss on IRD Cap (P&L) account	42,502.05
30-Sep-X7	To Unrealized gain/loss on IRD Cap (P&L) account	42,502.05			
			30-Sep-X7	By Unrealized gain/loss on IRD Cap (P&L) account	37,763.68
12-Dec-X7	To Unrealized gain/loss on IRD Cap (P&L) account	37,763.68			
31-Dec-X7	Total	126,770.24	31-Dec-X7	Total	126,770.24

Unrealized gain/loss on IRD Cap (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To IRD Cap NPV—(Asset/Liability) account	46,504.51			
			30-Jun-X7	By IRD Cap NPV—(Asset/Liability) account	46,504.51
30-Jun-X7	To IRD Cap NPV—(Asset/Liability) account	42,502.05			
			30-Sep-X7	By IRD Cap NPV—(Asset/Liability) account	42,502.05

Date	Particulars	Debit	Date	Particulars	Credit
30-Sep-X7	To IRD Cap NPV—(Asset/ Liability) account	37,763.68			
			12-Dec-X7	By IRD Cap NPV—(Asset/ Liability) account	37,763.68
31-Dec-X7	Total	126,770.24	31-Dec-X7	Total	126,770.24

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X7	By Balance	127,858.44
31-Dec-X7	To Balance	127,858.44			
31-Dec-X7	Total	**127,858.44**	31-Dec-X7	Total	**127,858.44**
			31-Dec-X7	By Balance	127,858.44

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X7	To Balance	127,858.44			
14-Jan-X7	To ABC Counterparty account	50,837.06			
			12-Mar-X7	By Interest Expense—Interest rate cap account	3,878.69
			12-Jun-X7	By Interest Expense—Interest rate cap account	10,414.69
			12-Sep-X7	By Interest Expense—Interest rate cap account	18,752.51
			14-Dec-X7	By Interest Expense—Interest rate cap account	38,130.14
			14-Dec-X7	By Currency Gain/loss account	1,246.33
			31-Dec-X7	By Balance	106,273.14
31-Dec-X7	Total	**178,695.50**	31-Dec-X7	Total	**178,695.50**
31-Dec-X7	To Balance	106,273.14			

Trial Balance

As on 31-Dec-X7

Particulars	Debit	Credit
Capital account		
Capital account		127,858.44
Current Asset		
Bank account	106,273.14	
Income		
Interest Expense—Interest rate cap account	71,176.03	
IRD Cap premium received account		51,392.04
Currency gain/loss account	1,801.31	
Totals	179,250.48	179,250.48

Income Statement

For the period ending 31-Dec-X7

Expenses		Income	
		Direct Income	
Interest Expenses—Interest rate cap account	71,176.03	IRD Cap premium received	51,392.04
Currency gain/loss account	1,801.31		
		Net profit C/o	21,585.30
Total	**72,977.34**	Total	**72,977.34**

Balance Sheet

As at 31-Dec-X7

Liabilities		Assets	
Capital account			
Capital account	127,858.44	**Current Assets**	
		Bank account	106,273.14
		Profit & Loss account	
		Opening balance	
		Current period	21,585.30
Total	127,858.44	Total	127,858.44

PROBLEM 3: INTEREST RATE CAP—RECEIVE

Cap contract details:	**Receive**
Cap strike	1.95 %
Notional amount	850,000
Currency	USD
Day count—30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/Post paid

	Cap—reset dates		
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	31-Jan-X8	03-Mar-X8	2.68700
Coupon date-2	28-Feb-X8	03-Jun-X8	2.62200
Coupon date-3	30-May-X8	03-Sep-X8	3.01000
Coupon date-4	29-Aug-X8	03-Dec-X8	2.99600

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Cap Contract position taken (inception)	01-Feb-X8	850,000.00	5,901.13	03-Feb-X8
Maturity	03-Dec-X8	850,000.00		05-Dec-X8

Valuation dates and net present values	Date	NPV Net	LIBOR
Valuation date 1	31-Mar-X8	4,044.99	2.51805
Valuation date 2	30-Jun-X8	5,683.09	3.27730
Valuation date 3	30-Sep-X8	2,232.65	2.99600
Maturity	20-Dec-X8		

Other details	Date	USD
Capital Introduced	01-Feb-X8	850,000

SOLUTION TO PROBLEM 3: INTEREST RATE CAP—RECEIVE

T-1 *On purchase of interest rate cap trade (off balance sheet):*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Feb-X8	Interest Rate Derivative—Cap account—OBS	850,000.00	
	To Interest Rate Derivative—Cap (Contra) account—OBS		850,000.00
	(Being the recording of interest rate cap—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium on interest rate cap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
1-Feb-X8	IRD Cap premium paid account	5,901.13	
	To ABC Counterparty account		5,901.13
	(Being the premium paid at the inception of interest rate derivative cap contract representing the net present value of the cap on this date)		

T-3 *On payment of the premium on interest rate cap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
3-Feb-X8	ABC Counterparty account	5,901.13	
	Bank account		5,901.13
	(Being the premium paid to the counter-party)		

T-4 *On accounting for interest income on interest rate cap:*

Calculation of interest on coupon date	USD
Previous coupon date	3-Feb-X8
Current coupon date	3-Mar-X8

Calculation of interest on coupon date	USD
Number of days	29
Notional amount on which interest is computed	850,000
Cap strike rate	1.950 %
Floating interest rate	2.687 %
Interest accounted for on coupon date	504.64

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
3-Mar-X8	Bank account	504.64	
	To Interest Income—Interest rate cap account		504.64
	(Being the interest income received on increase in reference rate than the cap rate)		

T-5 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	3-Mar-X8
Current coupon date	31-Mar-X8
Number of days	28
Notional amount on which interest is computed	850,000
Cap strike rate	1.950 %
Floating interest rate	2.622000
Interest accounted for on valuation date	444.27

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest accrued but not due on interest rate cap account	444.27	
	To Interest Income—Interest rate cap account		444.27
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-6 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	IRD Cap NPV—(Asset/Liability) account	4,044.99	
	To Unrealized gain/loss on IRD Cap (P&L) account		4,044.99
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-7 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
3-Jun-X8	Interest Income—Interest rate cap account	444.27	
	To Interest accrued but not due on interest rate cap account		444.27
	(Being reversal of interest accrual on coupon date)		

T-8 *On accounting for interest income on interest rate cap:*

Calculation of interest on coupon date	USD
Previous coupon date	3-Mar-X8
Current coupon date	3-Jun-X8
Number of days	92
Notional amount on which interest is computed	850,000
Cap strike rate	1.9500
Floating interest rate	2.622000
Interest accounted for on coupon date	1,459.73

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
3-Jun-X8	Bank account	1,459.73	
	To Interest Income—Interest rate cap account		1,459.73
	(Being the interest income received on increase in reference rate than the cap rate)		

T-9 *On reversal of net present value of interest rate cap contract:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Cap (P&L) account	4,044.99	
	To IRD Cap NPV—(Asset/Liability) account		4,044.99
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-10 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	3-Jun-X8
Current coupon date	30-Jun-X8
Number of days	27
Notional amount on which interest is computed	850,000

Calculation of interest accrued on valuation date	USD
Cap strike rate	1.950 %
Floating interest rate	3.0100%
Interest accounted for on valuation date	675.75

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest accrued but not due on interest rate cap account	675.75	
	To Interest Income—Interest rate cap account		675.75
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-11 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Cap NPV—(Asset/Liability) account	5,683.09	
	To Unrealized gain/loss on IRD Cap (P&L) account		5,683.09
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-12 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
3-Sep-X8	Interest Income—Interest rate cap account	675.75	
	To Interest accrued but not due on interest rate cap account		675.75
	(Being reversal of interest accrual on coupon date)		

T-13 *On accounting for interest income on interest rate cap:*

Calculation of interest on coupon date	USD
Previous coupon date	3-Jun-X8
Current coupon date	3-Sep-X8
Number of days	92
Notional amount on which interest is computed	850,000
Cap strike rate	1.9500%
Floating interest rate	3.0100%
Interest accounted for on coupon date	2,302.56

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
3-Sep-X8	Bank account	2,302.56	
	To Interest Income—Interest rate cap account		2,302.56
	(Being the interest income received on increase in reference rate than the cap rate)		

T-14 *On reversal of net present value of interest rate cap contract:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Cap (P&L) account	5,683.09	
	To IRD Cap NPV—(Asset/Liability) account		5,683.09
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-15 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	3-Sep-X8
Current coupon date	30-Sep-X8
Number of days	27
Notional amount on which interest is computed	850,000
Cap strike rate	1.950 %
Floating interest rate	2.9960%
Interest accounted for on valuation date	666.83

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest accrued but not due on interest rate cap account	666.83	
	To Interest Income—Interest rate cap account		666.83
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-16 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD Cap NPV—(Asset/Liability) account	2,232.65	
	To Unrealized gain/loss on IRD Cap (P&L) account		2,232.65
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-17 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
3-Dec-X8	Interest Income—Interest rate cap account	666.83	
	To Interest accrued but not due on interest rate cap account		666.83
	(Being reversal of interest accrual on coupon date)		

T-18 *On accounting for interest income on termination:*

Calculation of interest on coupon date	USD
Previous coupon date	3-Sep-X8
Current coupon date	3-Dec-X8
Number of days	91
Notional amount on which interest is computed	850,000
Cap strike rate	1.9500%
Floating interest rate	2.9960%
Interest accounted for on coupon date	2,247.45

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
3-Dec-X8	Bank account	2,247.45	
	To Interest Income—Interest rate cap account		2,247.45
	(Being the interest income received on increase in reference rate than the cap rate)		

T-19 *On reversal existing net present value on maturity:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
03-Dec-X8	Unrealized gain/loss on IRD Cap (P&L) account	2,232.65	
	To IRD Cap NPV—(Asset/Liability) account		2,232.65
	(Being the reversal of the existing net present value of the interest rate cap contract on valuation date)		

T-20 *On reversal of the contingent entry on maturity:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
03-Dec-X8	Interest Rate Derivative—Cap (Contra) account—OBS	850,000.00	
	To Interest Rate Derivative—Cap account—OBS		850,000.00
	(Being reversal of the contingent entry on maturity of the interest rate cap contract)		

General Ledger accounts

Interest Rate Derivative—Cap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
1-Feb-X8	To Interest Rate Derivative—Cap (Contra) account—OBS	850,000.00			
			3-Dec-X8	By Interest Rate Derivative—Cap (Contra) account—OBS	850,000.00
31-Dec-X8	Total	850,000.00	31-Dec-X8	Total	850,000.00

Interest Rate Derivative—Cap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			1-Feb-X8	By Interest Rate Derivative—Cap account—OBS	850,000.00
3-Dec-X8	To Interest Rate Derivative—Cap (Contra) account—OBS	850,000.00			
31-Dec-X8	Total	850,000.00	31-Dec-X8	Total	850,000.00

IRD Cap premium paid account

Date	Particulars	Debit	Date	Particulars	Credit
1-Feb-X8	To ABC Counterparty account	5,901.13			
			31-Dec-X8	By Balance	5,901.13
31-Dec-X8	Total	**5,901.13**	31-Dec-X8	Total	**5,901.13**
31-Dec-X8	To Balance	5,901.13			

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Feb-X8	By IRD Cap premium received account	5,901.13
3-Feb-X8	To Bank account	5,901.13			
31-Dec-X8	Total	5,901.13	31-Dec-X8	Total	5,901.13

Interest Income—Interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
			3-Mar-X8	By Bank account	504.64
			31-Mar-X8	By Interest accrued but not due on interest rate cap account	444.27

Interest Income—Interest rate cap account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
			3-Jun-X8	By Bank account	1,459.73
3-Jun-X8	To Interest accrued but not due on interest rate cap account	444.27			
			30-Jun-X8	By Interest accrued but not due on interest rate cap account	675.75
			3-Sep-X8	By Bank account	2,302.56
3-Sep-X8	To Interest accrued but not due on interest rate cap account	675.75			
			30-Sep-X8	By Interest accrued but not due on interest rate cap account	666.83
			3-Dec-X8	By Bank account	2,247.45
3-Dec-X8	To Interest accrued but not due on interest rate cap account	666.83			
31-Dec-X8	To Balance	6,514.38			
31-Dec-X8	Total	**8,301.23**	31-Dec-X8	Total	**8,301.23**
			31-Dec-X8	By Balance	6,514.38

Interest accrued but not due on interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest Income—Interest rate cap account	444.27			
			3-Jun-X8	By Interest Income—Interest rate cap account	444.27
30-Jun-X8	To Interest Income—Interest rate cap account	675.75			
			3-Sep-X8	By Interest Income—Interest rate cap account	675.75
30-Sep-X8	To Interest Income—Interest rate cap account	666.83			
			3-Dec-X8	By Interest Income—Interest rate cap account	666.83
31-Dec-X8	Total	1,786.85	31-Dec-X8	Total	1,786.85

IRD Cap NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized gain/ loss on IRD Cap (P&L) account	4,044.99			
			30-Jun-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	4,044.99
30-Jun-X8	To Unrealized gain/ loss on IRD Cap (P&L) account	5,683.09			
			30-Sep-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	5,683.09
30-Sep-X8	To Unrealized gain/ loss on IRD Cap (P&L) account	2,232.65			
			3-Dec-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	2,232.65
31-Dec-X8	Total	11,960.73	31-Dec-X8	Total	11,960.73

Unrealized gain/loss on IRD Cap (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By IRD Cap NPV— (Asset/Liability) account	4,044.99
30-Jun-X8	To IRD Cap NPV— (Asset/Liability) account	4,044.99			
			30-Jun-X8	By IRD Cap NPV— (Asset/Liability) account	5,683.09
30-Sep-X8	To IRD Cap NPV— (Asset/Liability) account	5,683.09			
			30-Sep-X8	By IRD Cap NPV— (Asset/Liability) account	2,232.65
3-Dec-X8	To IRD Cap NPV— (Asset/Liability) account	2,232.65			
31-Dec-X8	Total	11,960.73	31-Dec-X8	Total	11,960.73

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	100,000.00
31-Dec-X8	To Balance	100,000.00			
31-Dec-X8	Total	**100,000.00**	31-Dec-X8	Total	**100,000.00**
			31-Dec-X8	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	100,000.00			
			3-Feb-X8	By ABC Counterparty account	5,901.13
3-Mar-X8	To Interest Income—Interest rate cap account	504.64			
3-Jun-X8	To Interest Income—Interest rate cap account	1,459.73			
3-Sep-X8	To Interest Income—Interest rate cap account	2,302.56			
3-Dec-X8	To Interest Income—Interest rate cap account	2,247.45			
			31-Dec-X8	By Balance	100,613.25
31-Dec-X8	Total	**106,514.38**	31-Dec-X8	Total	**106,514.38**
31-Dec-X8	To Balance	100,613.25			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Capital account		100,000.00
Current Asset		
Bank account	100,613.25	
Income		
IRD Cap premium paid account	5,901.13	
Interest Income—Interest rate cap account		6,514.38
Totals	**106,514.38**	**106,514.38**

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
Direct Expenses		**Direct Income**	
IRD Cap premium paid account	5,901.13	Interest Income—Interest rate cap account	6,514.38
Net profit C/o	613.25		
Total	**6,514.38**	Total	**6,514.38**

Balance Sheet

As at 31-Dec-X8

Liabilities		**Assets**	
Capital account			
Capital account	100,000.00	**Current Assets**	
		Bank account	100,613.25
Profit & Loss account			
Opening balance			
Current period	613.25		
Total	100,613.25	Total	100,613.25

PROBLEM 4: INTEREST RATE CAP—RECEIVE

Cap contract details:	**Receive**
Cap strike	2.05 %
Notional amount	750,000
Currency	USD
Day count—30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/Post paid

	Cap—reset dates		
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	16-Jan-X8	18-Mar-X8	3.05750
Coupon date-2	14-Mar-X8	18-Jun-X8	2.54188
Coupon date-3	16-Jun-X8	18-Sep-X8	2.80250
Coupon date-4	16-Sep-X8	18-Dec-X8	3.20375

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Cap Contract position taken (inception)	16-Jan-X8	750,000.00	7,792.87	18-Jan-X8
Maturity	18-Dec-X8	750,000.00		20-Dec-X8

Valuation dates and net present values	**Date**	**NPV Net**	**LIBOR**
Valuation date 1	31-Mar-X8	2,456.96	2.39243
Valuation date 2	30-Jun-X8	5,642.13	3.54420
Valuation date 3	30-Sep-X8	1,316.26	2.75000
Maturity	20-Dec-X8		

Other details	**Date**	**USD**	**FX rate**
Capital Introduced	15-Jan-X8	750,000	1.000000

SOLUTION TO PROBLEM 4: INTEREST RATE CAP—RECEIVE

T-1 *On purchase of interest rate cap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Jan-X8	Interest Rate Derivative—Cap account—OBS	750,000.00	
	To Interest Rate Derivative—Cap (Contra) account—OBS		750,000.00
	(Being the recording of interest rate cap—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium on interest rate cap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
16-Jan-X8	IRD Cap premium paid account	7,792.87	
	To ABC Counterparty account		7,792.87
	(Being the premium paid at the inception of interest rate derivative cap contract representing the net present value of the cap on this date)		

T-3 *On accounting for premium paid:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jan-X8	ABC Counterparty account	7,792.87	
	To Bank account		7,792.87
	(Being the premium paid to the counter-party for interest rate cap contract)		

T-4 *On accounting for interest income on interest rate cap:*

Calculation of interest on coupon date	USD
Previous coupon date	18-Jan-X8
Current coupon date	18-Mar-X8
Number of days	60
Notional amount on which interest is computed	750,000
Cap strike rate	2.0500 %
Floating interest rate	3.0575%
Interest accounted for on coupon date	1,259.38

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Mar-X8	Bank account	1,259.38	
	To Interest Income—Interest rate cap account		1,259.38
	(Being the interest income received on increase in reference rate than the cap rate)		

T-5 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	18-Mar-X8
Current coupon date	31-Mar-X8
Number of days	13
Notional amount on which interest is computed	750,000
Cap strike rate	2.0500%
Floating interest rate	2.54188%
Interest accrued accounted for on valuation date	133.22

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest accrued but not due on interest rate cap account	133.22	
	To Interest Income—Interest rate cap account		133.22
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-6 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	IRD Cap NPV—(Asset/Liability) account	2,456.96	
	To Unrealized gain/loss on IRD Cap (P&L) account		2,456.96
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-7 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jun-X8	Interest Income—Interest rate cap account	133.22	
	To Interest accrued but not due on interest rate cap account		133.22
	(Being reversal of interest accrual on coupon date)		

T-8 *On accounting for interest income on interest rate cap:*

Calculation of interest on coupon date	USD
Previous coupon date	18-Mar-X8
Current coupon date	18-Jun-X8
Number of days	92
Notional amount on which interest is computed	750,000
Cap strike rate	2.0500%
Floating interest rate	2.541880%
Interest accounted for on coupon date	942.77

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jun-X8	Bank account	942.77	
	To Interest Income—Interest rate cap account		942.77
	(Being the interest income received on increase in reference rate than the cap rate)		

T-9 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	18-Jun-X8
Current coupon date	30-Jun-X8
Number of days	12
Notional amount on which interest is computed	750,000
Cap strike rate	2.0500%
Floating interest rate	2.8025%
Interest accounted for on valuation date	188.13

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest accrued but not due on interest rate cap account	188.13	
	To Interest Income—Interest rate cap account		188.13
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-10 *On reversal of net present value of interest rate cap contract:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Cap (P&L) account	2,456.96	
	To IRD Cap NPV—(Asset/Liability) account		2,456.96
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-11 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Cap NPV—(Asset/Liability) account	5,642.13	
	To Unrealized gain/loss on IRD Cap (P&L) account		5,642.13
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-12 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Sep-X8	Interest Income—Interest rate cap account	188.13	
	To Interest accrued but not due on interest rate cap account		188.13
	(Being reversal of interest accrual on coupon date)		

T-13 *On accounting for interest income on interest rate cap:*

Calculation of interest on coupon date	USD
Previous coupon date	18-Jun-X8
Current coupon date	18-Sep-X8
Number of days	92
Notional amount on which interest is computed	750,000
Cap strike rate	2.0500 %
Floating interest rate	2.8025 %
Interest accounted for on coupon date	1,442.29

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Sep-X8	Bank account	1,442.29	
	To Interest Income—Interest rate cap account		1,442.29
	(Being the interest income received on increase in reference rate than the cap rate)		

T-14 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	18-Sep-X8
Current coupon date	30-Sep-X8
Number of days	12
Notional amount on which interest is computed	750,000

Calculation of interest accrued on valuation date	USD
Cap strike rate	2.0500%
Floating interest rate	3.20375%
Interest accounted for on valuation date	288.44

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest accrued but not due on interest rate cap account	288.44	
	To Interest Income—Interest rate cap account		288.44
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-15 *On reversal of net present value of interest rate cap contract:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Cap (P&L) account	5,642.13	
	To IRD Cap NPV—(Asset/Liability) account		5,642.13
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-16 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD Cap NPV—(Asset/Liability) account	1,316.26	
	To Unrealized gain/loss on IRD Cap (P&L) account		1,316.26
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-17 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	Interest Income—Interest rate cap account	288.44	
	To Interest accrued but not due on interest rate cap account		288.44
	(Being reversal of interest accrual on coupon date)		

T-18 *On accounting for interest income on interest rate cap:*

Calculation of interest on coupon date	USD
Previous coupon date	18-Sep-X8
Current coupon date	18-Dec-X8

Calculation of interest on coupon date	**USD**
Number of days	91
Notional amount on which interest is computed	750,000
Cap strike rate	2.05 %
Floating interest rate	3.20 %
Interest accounted for on coupon date	2,187.32

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
18-Dec-X8	Bank account	2,187.32	
	To Interest Income—Interest rate cap account		2,187.32
	(Being the interest income received on increase in reference rate than the cap rate)		

T-19 *On reversal existing net present value on termination:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
18-Dec-X8	Unrealized gain/loss on IRD Cap (P&L) account	1,316.26	
	To IRD Cap NPV—(Asset/Liability) account		1,316.26
	(Being the reversal of the existing net present value of the interest rate cap contract on valuation date)		

T-20 *On reversal of the contingent entry on maturity:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
18-Dec-X8	Interest Rate Derivative—Cap (Contra) account—OBS	750,000.00	
	To Interest Rate Derivative—Cap account—OBS		750,000.00
	(Being the reversal of the contingent entry on maturity of the interest rate cap contract)		

General Ledger accounts

Interest Rate Derivative—Cap account—OBS

Date	**Particulars**	**Debit**	**Date**	**Particulars**	**Credit**
15-Jan-X8	To Interest Rate Derivative—Cap (Contra) account—OBS	750,000.00			
			18-Dec-X8	By Interest Rate Derivative—Cap (Contra) account—OBS	750,000.00
31-Dec-X8	Total	750,000.00	31-Dec-X8	Total	750,000.00

Interest Rate Derivative—Cap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			15-Jan-X8	By Interest Rate Derivative—Cap account—OBS	750,000.00
18-Dec-X8	To Interest Rate Derivative—Cap account—OBS	750,000.00			
31-Dec-X8	Total	750,000.00	31-Dec-X8	Total	750,000.00

IRD Cap premium paid account

Date	Particulars	Debit	Date	Particulars	Credit
16-Jan-X8	To ABC Counterparty account	7,792.87			
			31-Dec-X8	By Balance	7,792.87
31-Dec-X8	Total	**7,792.87**	31-Dec-X8	Total	**7,792.87**
31-Dec-X8	To Balance	7,792.87			

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			16-Jan-X8	By IRD Cap premium received account	7,792.87
18-Jan-X8	To Bank account	7,792.87			
31-Dec-X8	Total	7,792.87	31-Dec-X8	Total	7,792.87

Interest accrued but not due on interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest Income—Interest rate cap account	133.22			
			18-Jun-X8	By Interest Income—Interest rate cap account	133.22
30-Jun-X8	To Interest Income—Interest rate cap account	188.13			
			18-Sep-X8	By Interest Income—Interest rate cap account	188.13
30-Sep-X8	To Interest Income—Interest rate cap account	288.44			
			18-Dec-X8	By Interest Income—Interest rate cap account	288.44
31-Dec-X8	Total	609.79	31-Dec-X8	Total	609.79

Interest Income—Interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
			18-Mar-X8	By Bank account	1,259.38
			31-Mar-X8	By Interest accrued but not due on interest rate cap account	133.22
18-Jun-X8	To Interest accrued but not due on interest rate cap account	133.22			
			18-Jun-X8	By Bank account	942.77
			30-Jun-X8	By Interest accrued but not due on interest rate cap account	188.13
18-Sep-X8	To Interest accrued but not due on interest rate cap account	188.13			
			18-Sep-X8	By Bank account	1,442.29
			30-Sep-X8	By Interest accrued but not due on interest rate cap account	288.44
18-Dec-X8	To Interest accrued but not due on interest rate cap account	288.44			
			18-Dec-X8	By Bank account	2,187.32
31-Dec-X8	To Balance	5,831.76			
31-Dec-X8	Total	**6,441.55**	31-Dec-X8	Total	**6,441.55**
			31-Dec-X8	By Balance	5,831.76

IRD Cap NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized gain/ loss on IRD Cap (P&L) account	2,456.96			
			30-Jun-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	2,456.96
30-Jun-X8	To Unrealized gain/ loss on IRD Cap (P&L) account	5,642.13			
			30-Sep-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	5,642.13
30-Sep-X8	To Unrealized gain/ loss on IRD Cap (P&L) account	1,316.26			
			18-Dec-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	1,316.26
31-Dec-X8	Total	9,415.35	31-Dec-X8	Total	9,415.35

Unrealized gain/loss on IRD Cap (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By IRD Cap NPV—(Asset/Liability) account	2,456.96
30-Jun-X8	To IRD Cap NPV—(Asset/Liability) account	2,456.96			
			30-Jun-X8	By IRD Cap NPV—(Asset/Liability) account	5,642.13
30-Sep-X8	To IRD Cap NPV—(Asset/Liability) account	5,642.13			
			30-Sep-X8	By IRD Cap NPV—(Asset/Liability) account	1,316.26
18-Dec-X8	To IRD Cap NPV—(Asset/Liability) account	1,316.26			
31-Dec-X8	Total	9,415.35	31-Dec-X8	Total	9,415.35

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	100,000.00
31-Dec-X8	To Balance	100,000.00			
31-Dec-X8	Total	**100,000.00**	31-Dec-X8	Total	**100,000.00**
			31-Dec-X8	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	100,000.00			
			18-Jan-X8	By ABC Counterparty account	7,792.87
18-Mar-X8	To Interest Income—Interest rate cap account	1,259.38			
18-Jun-X8	To Interest Income—Interest rate cap account	942.77			
18-Sep-X8	To Interest Income—Interest rate cap account	1,442.29			
18-Dec-X8	To Interest Income—Interest rate cap account	2,187.32			
			31-Dec-X8	By Balance	98,038.89
31-Dec-X8	Total	**105,831.76**	31-Dec-X8	Total	**105,831.76**
31-Dec-X8	To Balance	98,038.89			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Capital account		100,000.00
Current Asset		
Bank account	98,038.89	
Income		
IRD Cap premium paid account	7,792.87	
Interest Income—Interest rate cap account		5,831.76
Totals	105,831.76	105,831.76

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
Direct Expenses		**Direct Income**	
IRD Cap premium paid account	7,792.87	Interest Income—Interest rate cap account	5,831.76
		Net profit C/o	1,961.11
Total	**7,792.87**	Total	**7,792.87**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
Capital account	100,000.00	**Current Assets**	
		Bank account	98,038.89
		Profit & Loss account	
		Opening balance	
		Current period	1,961.11
Total	100,000.00	Total	100,000.00

PROBLEM 5: INTEREST RATE CAP—RECEIVE

Cap contract details:	**Receive**
Cap strike	4.45
Notional amount	750,000
Currency	GBP
Day count—30/360	360
Interest payment terms	Quarterly

Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/Post paid

	Cap—reset dates			
Coupon reset dates	**Reset date**	**FX Rate**	**Pay date**	**LIBOR**
Coupon date-1	10-Jan-X8	2.00870	12-Mar-X8	5.26070
Coupon date-2	12-Mar-X8	1.95760	12-Jun-X8	5.42250
Coupon date-3	12-Jun-X8	1.75150	12-Sep-X8	6.34500
Coupon date-4	12-Sep-X8	1.49060	12-Dec-X8	5.50000
Coupon date-5				

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Cap Contract position taken (inception)	10-Jan-X8	750,000.00	4,039.89	12-Jan-X8
Maturity	12-Dec-X8	750,000.00		14-Dec-X8

Valuation dates and net present values	**Date**	**NPV Net**	**LIBOR**
Valuation date 1	31-Mar-X8	4,511.96	5.21927
Valuation date 2	30-Jun-X8	6,802.89	6.29481
Valuation date 3	30-Sep-X8	1,939.42	5.50000
Maturity			

Other details	**Date**	**GBP**	**FX rate**
Capital Introduced	5-Jan-X8	750,000	1.973800

SOLUTION TO PROBLEM 5: INTEREST RATE CAP—RECEIVE

T-1 *On purchase of interest rate cap trade:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
5-Jan-X8	Interest Rate Derivative—Cap account—OBS	750,000.00	
	To Interest Rate Derivative—Cap (Contra) account—OBS		750,000.00
	(Being the recording of interest rate cap—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium on purchase of interest rate cap trade:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
10-Jan-X8	IRD Cap premium paid account	4,039.89	
	To ABC Counterparty account		4,039.89
	(Being the premium paid at the inception of interest rate derivative cap contract representing the net present value of the cap on this date)		

T-3 *On accounting for premium paid:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
12-Jan-X8	ABC Counterparty account	4,039.89	
	Bank account		4,039.89
	(Being the premium paid to the counter-party for interest rate cap contract)		

T-4 *On accounting for interest income on interest rate cap:*

Calculation of interest on coupon date	GBP
Previous coupon date	12-Jan-X8
Current coupon date	12-Mar-X8
Number of days	60
Notional amount on which interest is computed	750,000
Cap strike rate	4.4500 %
Floating interest rate	5.2607 %
Interest accounted for on coupon date	1,013.38

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
12-Mar-X8	Bank account	1,013.38	
	To Interest Income—Interest rate cap account		1,013.38
	(Being the interest income received on increase in reference rate than the cap rate)		

T-5 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	GBP
Previous coupon date	12-Mar-X8
Current coupon date	31-Mar-X8
Number of days	19
Notional amount on which interest is computed	750,000
Cap strike rate	4.4500 %
Floating interest rate	5.4225 %
Interest accounted for on valuation date	384.95

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
31-Mar-X8	Interest accrued but not due on interest rate cap account	384.95	
	To Interest Income—Interest rate cap account		384.95
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-6 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
31-Mar-X8	IRD Cap NPV—(Asset/Liability) account	4,511.96	
	To Unrealized gain/loss on IRD Cap (P&L) account		4,511.96
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-7 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
12-Jun-X8	Interest Income—Interest rate cap account	384.95	
	To Interest accrued but not due on interest rate cap account		384.95
	(Being reversal of interest accrual on coupon date)		

T-8 *On accounting for interest income on interest rate cap:*

Calculation of interest on coupon date	GBP
Previous coupon date	12-Mar-X8
Current coupon date	12-Jun-X8
Number of days	92
Notional amount on which interest is computed	750,000
Cap strike rate	4.4500 %
Floating interest rate	5.4225 %
Interest accounted for on coupon date	1,863.96

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
12-Jun-X8	Bank account	1,863.96	
	To Interest Income—Interest rate cap account		1,863.96
	(Being the interest income received on increase in reference rate than the cap rate)		

T-9 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	GBP
Previous coupon date	12-Jun-X8
Current coupon date	30-Jun-X8
Number of days	18
Notional amount on which interest is computed	750,000
Cap strike rate	4.4500 %
Floating interest rate	6.3450%
Interest accounted for on valuation date	710.63

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Jun-X8	Interest accrued but not due on interest rate cap account	710.63	
	To Interest Income—Interest rate cap account		710.63
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-10 *On reversal of existing net present value of interest rate cap on the next valuation date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Jun-X8	Unrealized gain/loss on IRD Cap (P&L) account	4,511.96	
	To IRD Cap NPV—(Asset/Liability) account		4,511.96
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-11 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Jun-X8	IRD Cap NPV—(Asset/Liability) account	6,802.89	
	To Unrealized gain/loss on IRD Cap (P&L) account		6,802.89
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-12 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
12-Sep-X8	Interest Income—Interest rate cap account	710.63	
	To Interest accrued but not due on interest rate cap account		710.63
	(Being reversal of interest accrual on coupon date)		

T-13 *On accounting for interest income on interest rate cap:*

Calculation of interest on coupon date	GBP
Previous coupon date	12-Jun-X8
Current coupon date	12-Sep-X8
Number of days	92
Notional amount on which interest is computed	750,000
Cap strike rate	4.4500 %
Floating interest rate	6.3450 %
Interest accounted for on coupon date	3,632.08

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
12-Sep-X8	Bank account	3,632.08	
	To Interest Income—Interest rate cap account		3,632.08
	(Being the interest income received on increase in reference rate than the cap rate)		

T-14 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	GBP
Previous coupon date	12-Sep-X8
Current coupon date	30-Sep-X8
Number of days	18
Notional amount on which interest is computed	750,000
Cap strike rate	4.45 %
Floating interest rate	5.50 %
Interest accounted for on valuation date	393.75

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Sep-X8	Interest accrued but not due on interest rate cap account	393.75	
	To Interest Income—Interest rate cap account		393.75
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-15 *On reversal of existing net present value of interest rate cap on the next valuation date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Sep-X8	Unrealized gain/loss on IRD Cap (P&L) account	6,802.89	
	To IRD Cap NPV—(Asset/Liability) account		6,802.89
	(Being the reversal of the existing net present value of the interest rate cap contract)		

T-16 *On valuation of interest rate cap as on date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Sep-X8	IRD Cap NPV—(Asset/Liability) account	1,939.42	
	To Unrealized gain/loss on IRD Cap (P&L) account		1,939.42
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

T-17 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
12-Dec-X8	Interest Income—Interest rate cap account	393.75	
	To Interest accrued but not due on interest rate cap account		393.75
	(Being reversal of interest accrual on coupon date)		

T-18 *On accounting for interest income on interest rate cap:*

Calculation of interest on coupon date	GBP
Previous coupon date	12-Sep-X8
Current coupon date	12-Dec-X8
Number of days	91
Notional amount on which interest is computed	750,000
Cap strike rate	4.45 %
Floating interest rate	5.50 %
Interest accounted for on coupon date	1,990.63

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
12-Dec-X8	Bank account	1,990.63	
	To Interest Income—Interest rate cap account		1,990.63
	(Being the interest income received on increase in reference rate than the cap rate)		

T-19 *On reversal of existing net present value of interest rate cap on the next valuation date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
20-Dec-X8	Unrealized gain/loss on IRD Cap (P&L) account	1,939.42	
	To IRD Cap NPV—(Asset/Liability) account		1,939.42
	(Being the reversal of the existing net present value of the interest rate cap contract on valuation date)		

T-20 *On reversal of the contingent entry on maturity:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Dec-X8	Interest Rate Derivative—Cap (Contra) account—OBS account	750,000.00	
	To Interest Rate Derivative—Cap account—OBS		750,000.00
	(Being the reversal of the contingent entry on maturity of the interest rate cap contract)		

General Ledger accounts

Interest Rate Derivative—Cap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
10-Jan-X8	To Interest Rate Derivative—Cap (Contra) account—OBS	750,000.00			
			12-Dec-X8	By Interest Rate Derivative—Cap (Contra) account—OBS	750,000.00
31-Dec-X8	Total	750,000.00	31-Dec-X8	Total	750,000.00

Interest Rate Derivative—Cap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			10-Jan-X8	By Interest Rate Derivative—Cap account—OBS	750,000.00
12-Dec-X8	To Interest Rate Derivative—Cap account—OBS	750,000.00			
31-Dec-X8	Total	750,000.00	31-Dec-X8	Total	750,000.00

IRD Cap premium paid account

Date	Particulars	Debit	Date	Particulars	Credit
10-Jan-X8	To ABC Counterparty account	4,039.89			
			31-Dec-X8	By Balance	4,039.89
31-Dec-X8	Total	**4,039.89**	31-Dec-X8	Total	**4,039.89**
31-Dec-X8	To Balance	4,039.89			

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			10-Jan-X8	By IRD Cap premium paid account	4,039.89
12-Jan-X8	To Bank account	4,039.89			
31-Dec-X8	Total	4,039.89	31-Dec-X8	Total	4,039.89

Interest Income—Interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
			12-Mar-X8	By Bank account	1,013.38
			31-Mar-X8	By Interest accrued but not due on interest rate cap account	384.95

Date	Particulars	Debit	Date	Particulars	Credit
			12-Jun-X8	By Bank account	1,863.96
12-Jun-X8	To Interest accrued but not due on interest rate cap account	384.95			
			30-Jun-X8	By Interest accrued but not due on interest rate cap account	710.63
			12-Sep-X8	By Bank account	3,632.08
12-Sep-X8	To Interest accrued but not due on interest rate cap account	710.63			
			30-Sep-X8	By Interest accrued but not due on interest rate cap account	393.75
12-Dec-X8	To Interest accrued but not due on interest rate cap account	393.75			
			12-Dec-X8	By Bank account	1,990.63
31-Dec-X8	To Balance	8,500.05			
31-Dec-X8	Total	**9,989.38**	31-Dec-X8	Total	**9,989.38**
			31-Dec-X8	By Balance	8,500.05

Interest accrued but not due on interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest Income—Interest rate cap account	384.95			
			12-Jun-X8	By Interest Income—Interest rate cap account	384.95
30-Jun-X8	To Interest Income—Interest rate cap account	710.63			
			12-Sep-X8	By Interest Income—Interest rate cap account	710.63
30-Sep-X8	To Interest Income—Interest rate cap account	393.75			
			12-Dec-X8	By Interest Income—Interest rate cap account	393.75
31-Dec-X8	Total	1,489.33	31-Dec-X8	Total	1,489.33

IRD Cap NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized gain/loss on IRD Cap (P&L) account	4,511.96			
			30-Jun-X8	By Unrealized gain/loss on IRD Cap (P&L) account	4,511.96

IRD Cap NPV—(Asset/Liability) account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
30-Jun-X8	To Unrealized gain/ loss on IRD Cap (P&L) account	6,802.89			
			30-Sep-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	6,802.89
30-Sep-X8	To Unrealized gain/ loss on IRD Cap (P&L) account	1,939.42			
			20-Dec-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	1,939.42
31-Dec-X8	Total	13,254.27	31-Dec-X8	Total	13,254.27

Unrealized gain/loss on IRD Cap (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By IRD Cap NPV— (Asset/Liability) account	4,511.96
30-Jun-X8	To IRD Cap NPV— (Asset/Liability) account	4,511.96			
			30-Jun-X8	By IRD Cap NPV— (Asset/Liability) account	6,802.89
30-Sep-X8	To IRD Cap NPV— (Asset/Liability) account	6,802.89			
			30-Sep-X8	By IRD Cap NPV— (Asset/Liability) account	1,939.42
20-Dec-X8	To IRD Cap NPV— (Asset/Liability) account	1,939.42			
31-Dec-X8	Total	13,254.27	31-Dec-X8	Total	13,254.27

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	100,000.00
31-Dec-X8	To Balance	100,000.00			
31-Dec-X8	Total	**100,000.00**	31-Dec-X8	Total	**100,000.00**
			31-Dec-X8	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	100,000.00			
			12-Jan-X8	By ABC Counterparty account	4,039.89
12-Mar-X8	To Interest Income—Interest rate cap account	1,013.38			
12-Jun-X8	To Interest Income—Interest rate cap account	1,863.96			
12-Sep-X8	To Interest Income—Interest rate cap account	3,632.08			
12-Dec-X8	To Interest Income—Interest rate cap account	1,990.63			
			31-Dec-X8	By Balance	104,460.16
31-Dec-X8	Total	**108,500.05**	31-Dec-X8	Total	**108,500.05**
31-Dec-X8	To Balance	104,460.16			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Capital account		100,000.00
Current Liabilities		
Current Asset		
Bank account	104,460.16	
Income		
IRD Cap premium paid account	4,039.89	
Interest Income—Interest rate cap account		8,500.05
Totals	108,500.05	108,500.05

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
IRD Cap premium paid account	4,039.89	Interest Income—Interest rate cap account	8,500.05
Net profit C/o	4,460.16		
Total	**8,500.05**	Total	**8,500.05**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
Capital account	100,000.00	**Current Assets**	
		Bank account	104,460.16
Profit & Loss account			
Opening balance			
Current period	4,460.16		
Total	104,460.16	Total	104,460.16

ACCOUNTING ENTRIES IN FUNCTIONAL CURRENCY

F-1 *On purchase of interest rate cap trade:* (T-1 @ FX Rate: 1.9738)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
5-Jan-X8	Interest Rate Derivative—Cap account—OBS	1,480,350.00	
	To Interest Rate Derivative—Cap (Contra) account—OBS		1,480,350.00
	(Being the recording of interest rate cap—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-2 *On accounting for premium on the interest rate cap contract:* (T-2 @ FX Rate: 1.9671)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jan-X8	IRD Cap premium paid account	7,946.87	
	To ABC Counterparty account		7,946.87
	(Being the premium paid at the inception of interest rate derivative cap contract representing the net present value of the cap on this date)		

F-3 *On accounting for premium paid:* (T-3 @ FX Rate: 1.9587)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Jan-X8	ABC Counterparty account	7,912.93	
	To Bank account		7,912.93
	(Being the premium paid to the counter-party for interest rate cap contract)		

F-4 *FX gain/loss:*

Currency gain/loss on settlement date	**GBP**	**USD**
a) Premium paid (1.9671)	4,039.89	7,946.87
b) Actual premium paid on settlement date		7,912.93
c) Realized currency gain on settlement = (b) – (a)		**(33.94)**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
12-Jan-X8	ABC Counterparty account	33.94	
	To Currency gain/loss a/c account		33.94
	(Being gain on FX on settlement of premium)		

F-5 *On accounting for interest income on interest rate cap:* (T-4 @ FX Rate: 2.0087)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
12-Mar-X8	Bank account	2,035.57	
	To Interest Income—Interest rate cap account		2,035.57
	(Being the interest income received on increase in reference rate than the cap rate)		

F-6 *On accounting of interest accrued on valuation date:* (T-5 @ FX Rate: 1.9951)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Mar-X8	Interest accrued but not due on interest rate cap account	768.01	
	To Interest Income—Interest rate cap account		768.01
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

F-7 *On valuation of interest rate cap as on date:* (T-6 @ FX Rate: 1.9951)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Mar-X8	IRD Cap NPV—(Asset/Liability) account	9,001.81	
	To Unrealized gain/loss on IRD Cap (P&L) account		9,001.81
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

F-8 *On reversal of interest accrual on coupon date:* (T-7 @ FX Rate: 1.9951)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Jun-X8	Interest Income—Interest rate cap account	768.01	
	To Interest accrued but not due on interest rate cap account		768.01
	(Being reversal of interest accrual on coupon date)		

F-9 *On accounting for interest income on interest rate cap:* (T-8 @ FX Rate: 1.9576)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Jun-X8	Bank account	3,648.88	
	To Interest Income—Interest rate cap account		3,648.88
	(Being the interest income received on increase in reference rate than the cap rate)		

F-10 *On accounting of interest accrued on valuation date:* (T-9 @ FX Rate: 1.9954)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest accrued but not due on interest rate cap account	1,417.98	
	To Interest Income—Interest rate cap account		1,417.98
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

F-11 *On reversal of existing net present value of interest rate cap on the next valuation date:* (T-10 @ FX Rate: 1.9951)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Cap (P&L) account	9,001.81	
	To IRD Cap NPV—(Asset/Liability) account		9,001.81
	(Being the reversal of the existing net present value of the interest rate cap contract)		

F-12 *On valuation of interest rate cap as on date:* (T-11 @ FX Rate: 1.9954)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Cap NPV—(Asset/Liability) account	13,574.49	
	To Unrealized gain/loss on IRD Cap (P&L) account		13,574.49
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

F-13 *On reversal of interest accrual on coupon date:* (T-12 @ FX Rate: 1.99541)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Sep-X8	Interest Income—Interest rate cap account	1,417.98	
	To Interest accrued but not due on interest rate cap account		1,417.98
	(Being reversal of interest accrual on coupon date)		

F-14 *On accounting for interest income on interest rate cap:* (T-13 @ FX Rate: 1.7515)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Sep-X8	Bank account	6,361.59	
	To Interest Income—Interest rate cap account		6,361.59
	(Being the interest income received on increase in reference rate than the cap rate)		

F-15 *On accounting of interest accrued on valuation date:* (T-14 @ FX Rate: 1.8175)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest accrued but not due on interest rate cap account	715.64	
	To Interest Income—Interest rate cap account		715.64
	(Being the interest income accounted for untill the valuation date representing interest accrued but not due on the interest rate cap instrument)		

F-16 *On reversal of existing net present value of interest rate cap on the next valuation date:* (T-15 @ FX Rate: 1.9954)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Cap (P&L) account	13,574.49	
	To IRD Cap NPV—(Asset/Liability) account		13,574.49
	(Being the reversal of the existing net present value of the interest rate cap contract)		

F-17 *On valuation of interest rate cap as on date:* (T-16 @ FX Rate: 1.8175)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD Cap NPV—(Asset/Liability) account	3,524.90	
	To Unrealized gain/loss on IRD Cap (P&L) account		3,524.90
	(Being the unrealized gain/loss on interest rate cap as on valuation date representing the net present value of the contract as on date)		

F-18 *On reversal of interest accrual on coupon date:* (T-17 @ FX Rate: 1.81750)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Dec-X8	Interest Income—Interest rate cap account	715.64	
	To Interest accrued but not due on interest rate cap account		715.64
	(Being reversal of interest accrual on coupon date)		

F-19 *On accounting for interest income on interest rate cap:* (T-18 @ FX Rate: 1.4906)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Dec-X8	Bank account	2,967.23	
	To Interest Income—Interest rate cap account		2,967.23
	(Being the interest income received on increase in reference rate than the cap rate)		

F-20 *On reversal of existing net present value of interest rate cap on the next valuation date:* (T-19 @ FX Rate: 1.8175)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	Unrealized gain/loss on IRD Cap (P&L) account	3,524.90	
	To IRD Cap NPV—(Asset/Liability) account		3,524.90
	(Being the reversal of the existing net present value of the interest rate cap contract on valuation date)		

F-21 *On reversal of the contingent entry on maturity:* (T-20 @ FX Rate: 1.97380)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Dec-X8	Interest Rate Derivative—Cap (Contra) account—OBS	1,480,350.00	
	To Interest Rate Derivative—Cap account—OBS account		1,480,350.00
	(Being the reversal of the contingent entry on maturity of the interest rate cap contract)		

F-22 *FX gain/loss:*

Calculation of currency gain/loss on Bank account

Description	date	GBP	Fx rate	USD
Opening balance	1-Jan-X8	100,000.00	1.9970	199,700.00
Premium received on IRD Cap	12-Jan-X8	(4,039.89)	1.9587	(7,912.93)
Interest expense on IRD Cap	12-Mar-X8	1,013.38	2.0087	2,035.57
Interest expense on IRD Cap	12-Jun-X8	1,863.96	1.9576	3,648.88

Description	date	GBP	Fx rate	USD
Interest expense on IRD Cap	12-Sep-X8	3,632.08	1.7515	6,361.59
Interest expense on IRD Cap on maturity	12-Dec-X8	1,990.63	1.4906	2,967.23
Net balance		104,460.15		206,800.34
Net balance at current FX rate	12-Dec-X8	104,460.15	1.4906	155,708.30
FX translation on Bank account				**51,092.04**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Dec-X8	Currency gain/loss account	51,092.04	
	To Bank account		51,092.04
	(Being currency gain/loss on bank account)		

General Ledger accounts

Interest Rate Derivative—Cap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
10-Jan-X8	To Interest Rate Derivative—Cap (Contra) account—OBS	1,480,350.00			
			12-Dec-X8	By Interest Rate Derivative—Cap (Contra) account—OBS	1,480,350.00
31-Dec-X8	Total	1,480,350.00	31-Dec-X8	Total	1,480,350.00

Interest Rate Derivative—Cap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			10-Jan-X8	By Interest Rate Derivative—Cap account—OBS	1,480,350.00
12-Dec-X8	To Interest Rate Derivative—Cap account—OBS	1,480,350.00			
31-Dec-X8	Total	1,480,350.00	31-Dec-X8	Total	1,480,350.00

IRD Cap premium paid account

Date	Particulars	Debit	Date	Particulars	Credit
10-Jan-X8	To ABC Counterparty account	7,946.87			
			31-Dec-X8	By Balance	7,946.87
31-Dec-X8	Total	**7,946.87**	31-Dec-X8	Total	**7,946.87**
31-Dec-X8	To Balance	7,946.87			

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			10-Jan-X8	By IRD Cap premium paid account	7,946.87
12-Jan-X8	To Bank account	7,912.93			
12-Jan-X8	To Currency gain/ loss account	33.94			
31-Dec-X8	Total	7,946.87	31-Dec-X8	Total	7,946.87

Currency gain/loss account

Date	Particulars	Debit	Date	Particulars	Credit
			12-Jan-X8	By ABC Counterparty account	33.94
12-Dec-X8	To Bank account	51,092.04			
			31-Dec-X8	By Balance	51,058.10
31-Dec-X8	Total	**51,092.04**	31-Dec-X8	Total	**51,092.04**
31-Dec-X8	To Balance	51,058.10			

Interest accrued but not due on interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest Income—Interest rate cap account	768.01			
			12-Jun-X8	By Interest Income—Interest rate cap account	768.01
30-Jun-X8	To Interest Income—Interest rate cap account	1,417.98			
			12-Sep-X8	By Interest Income—Interest rate cap account	1,417.98
30-Sep-X8	To Interest Income—Interest rate cap account	715.64			
			12-Dec-X8	By Interest Income—Interest rate cap account	715.64
31-Dec-X8	Total	2,901.63	31-Dec-X8	Total	2,901.63

Interest Income—Interest rate cap account

Date	Particulars	Debit	Date	Particulars	Credit
			12-Mar-X8	By Bank account	2,035.57
			31-Mar-X8	By Interest accrued but not due on interest rate cap account	768.01

Date	Particulars	Debit	Date	Particulars	Credit
12-Jun-X8	To Interest accrued but not due on interest rate cap account	768.01			
			12-Jun-X8	By Bank account	3,648.88
			30-Jun-X8	By Interest accrued but not due on interest rate cap account	1,417.98
12-Sep-X8	To Interest accrued but not due on interest rate cap account	1,417.98			
			12-Sep-X8	By Bank account	6,361.59
			30-Sep-X8	By Interest accrued but not due on interest rate cap account	715.64
12-Dec-X8	To Interest accrued but not due on interest rate cap account	715.64			
			12-Dec-X8	By Bank account	2,967.23
31-Dec-X8	To Balance	15,013.27			
31-Dec-X8	Total	**17,914.90**	31-Dec-X8	Total	**17,914.90**
			31-Dec-X8	By Balance	15,013.27

IRD Cap NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized gain/ loss on IRD Cap (P&L) account	9,001.81			
			30-Jun-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	9,001.81
30-Jun-X8	To Unrealized gain/ loss on IRD Cap (P&L) account	13,574.49			
			30-Sep-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	13,574.49
30-Sep-X8	To Unrealized gain/ loss on IRD Cap (P&L) account	3,524.90			
			20-Dec-X8	By Unrealized gain/ loss on IRD Cap (P&L) account	3,524.90
31-Dec-X8	Total	26,101.20	31-Dec-X8	Total	26,101.20

Unrealized gain/loss on IRD Cap (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By IRD Cap NPV— (Asset/Liability) account	9,001.81
30-Jun-X8	To IRD Cap NPV— (Asset/Liability) account	9,001.81			

Unrealized gain/loss on IRD Cap (P&L) account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
			30-Jun-X8	By IRD Cap NPV—(Asset/Liability) account	13,574.49
30-Sep-X8	To IRD Cap NPV—(Asset/Liability) account	13,574.49			
			30-Sep-X8	By IRD Cap NPV—(Asset/Liability) account	3,524.90
20-Dec-X8	To IRD Cap NPV—(Asset/Liability) account	3,524.90			
31-Dec-X8	Total	26,101.20	31-Dec-X8	Total	26,101.20

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	199,700.00
31-Dec-X8	To Balance	199,700.00			
31-Dec-X8	Total	**199,700.00**	31-Dec-X8	Total	**199,700.00**
			31-Dec-X8	By Balance	199,700.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	199,700.00			
			12-Jan-X8	By ABC Counterparty account	7,912.93
12-Mar-X8	To Interest Income—Interest rate cap account	2,035.57			
12-Jun-X8	To Interest Income—Interest rate cap account	3,648.88			
12-Sep-X8	To Interest Income—Interest rate cap account	6,361.59			
12-Dec-X8	To Interest Income—Interest rate cap account	2,967.23			
			12-Dec-X8	By Currency gain/loss account	51,092.04
			31-Dec-X8	By Balance	155,708.30
31-Dec-X8	Total	**214,713.27**	31-Dec-X8	Total	**214,713.27**
31-Dec-X8	To Balance	155,708.30			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Capital account		199,700.00
Current Asset		
Bank account	155,708.30	
Income		
IRD Cap premium paid account	7,946.87	
Currency gain/loss account	51,058.10	
Interest Income—Interest rate cap account		15,013.27
Totals	214,713.27	214,713.27

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
IRD Cap premium paid account	7,946.87	Interest Income—Interest rate cap account	15,013.27
Currency gain/loss account	51,058.10		
		Net Loss C/o	43,991.70
Total	**59.004.97**	Total	**59.004.97**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
	199,700.00	**Current Assets**	
		Bank account	155,708.30
		Profit & Loss account	
		Opening balance	
		Current period	43,991.70
Total	199,700.00	Total	199,700.00

SUMMARY

- An interest rate cap is a form of interest rate derivative. It is also an over-the-counter interest rate derivative instrument.
- An interest rate cap is an interest rate management tool for an entity wanting to cap the interest commitment on its debt. It serves as a protection against increases in interest rates by limiting the maximum interest rate payable on its debt.

- This maximum interest rate is known as the cap rate or strike rate. In exchange for the protection of the cap instrument, the entity pays a premium. This is paid as a one-off, up-front premium. If the reference interest rate rises above the cap rate then to that extent the seller of the contract would compensate the buyer.
- Interest rate caps are of two types—the first type being "to pay." This means that for receiving an agreed premium, the buyer of this type of instrument agrees to compensate the seller of the instrument on the pay date any interest over and above the cap rate, if the benchmark interest rate is above the cap rate on the reset date.
- The premium is computed like any other option premium based on some mathematical model that takes into account several factors including the strike rate (cap rate), the present benchmark interest rate, the historical volatility of interest rates, the time period of the contract, amongst other factors.
- The second type of interest rate cap is known as "to receive." This means that for paying an agreed premium, the seller of this type of instrument agrees to compensate the buyer of the instrument on the pay date any interest over and above the cap rate, if the benchmark interest rate is above the cap rate on the reset date.
- Caps provide the entity with protection against unfavorable interest rate movements above the strike rate, while allowing the entity to participate in favorable interest rate movements by paying a small premium.
- For the buyer of the cap instrument there are no risks associated with this instrument other than the counter-party risk.
- The premium is not refundable by the seller of the contract and is a sunk cost as in any other option contract, including situations where the reference rate never exceeds the strike rate and no interest payments are ever made under the cap contract.
- Being a derivative instrument, an interest rate cap per se qualifies as a hedging instrument. It should be noted that in an interest rate cap, the risk reward is asymmetric and can be more or less compared to an equity options position. An interest rate cap instrument can be used primarily to hedge interest rate risk.
- A to pay interest rate cap is like a written option contract where a premium is received and hence cannot be designated as a hedging instrument. A written option cannot be designated as a hedging instrument because the potential loss on an option that an entity writes could be significantly greater than the potential gain in value of a related hedged item.
- A to receive interest rate cap is like a purchased option contract where a premium is paid to get protection from the rising interest rate and as such can be designated as a hedging instrument.

QUESTIONS

Theory questions

1. What is meant by a cap on an interest rate contract?
2. Can an interest rate cap contract be terminated before maturity? If so how will the termination fees be arrived at?
3. When does an interest rate cap become "in the money" and when does it become "out of the money"?
4. What are the two types of interest rate cap contracts? Which type of contract gives the buyer protection from an interest rate hike?
5. What are the significant events in the trade life cycle of an interest rate cap contract?
6. What are the benefits of an interest rate cap contract?
7. What are the risks associated with an interest rate cap contract?

Objective questions

1. Caps provide the entity with protection against _____ interest rate movements above the strike rate.
   a) Favorable
   b) Unfavorable
   c) Comfortable
   d) None of the above
2. In an interest rate cap contract, the amount of premium payable is determined by:
   a) Interest rate volatility
   b) Market rate of interest
   c) Strike rate
   d) All of the above
3. An interest rate cap may be used as a form of _____ interest rate protection tool in times of uncertainty.
   a) Long-term
   b) Short-term
   c) Medium-term
   d) None of the above
4. The cost is _____ to the premium paid and theoretically like any other option contract the upward potential is _____.
   a) Limited/unlimited
   b) Maximum/minimum
   c) Lower/higher
   d) None of the above
5. In a cap, the premium is not _____ by the seller of the contract in any circumstances.
   a) Non-Refundable
   b) Refundable
   c) Payable
   d) None of the above
6. The interest rate cap agreement is based on making a payment to the buyer of the contract when the _____ exceeds the specified cap rate on the notional amount of the contract.
   a) Strike rate
   b) Reference rate
   c) Reset rate
   d) None of the above
7. To calculate the cap premium several factors are considered, including:
   a) Exchange volatility
   b) Market volatility
   c) Interest volatility
   d) None of the above

8. Caps can be cancelled any time before the _____.
   a) Settlement date
   b) Trade date
   c) Maturity date
   d) None of the above

Journal questions

1. Interest rate cap—pay

Cap contract details:	**Pay**
Cap strike	3.5
Notional amount	10,000,000
Currency	USD
Day count—30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/Post paid

		Cap—reset dates	
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	08-Jan-X7	22-Mar-X7	5.36
Coupon date-2	20-Mar-X7	22-Jun-X7	5.35
Coupon date-3	20-Jun-X7	24-Sep-X7	5.36
Coupon date-4	20-Sep-X7	24-Dec-X7	5.21

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Cap Contract position taken (inception)	10-Jan-X7	10,000,000.00	(160,909.61)	12-Jan-X7
Maturity	22-Dec-X7	10,000,000.00		

Valuation dates and net present values	**Date**	**NPV Net**	**LIBOR**
Valuation date 1	31-Mar-X7	(128,546.00)	5.21366
Valuation date 2	30-Jun-X7	(93,110.25)	5.34714
Valuation date 3	30-Sep-X7	(42,699.85)	5.21
Termination date	20-Dec-X7	–	3.20375

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

2. Interest rate cap—pay

Cap contract details:	**Pay**
Cap strike	5.2
Notional amount	12,000,000
Currency	GBP
Day count—30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/Post paid

		Cap—reset dates	
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	12-Jan-X7	22-Mar-X7	5.36652
Coupon date-2	22-Mar-X7	22-Jun-X7	5.56938
Coupon date-3	22-Jun-X7	24-Sep-X7	5.93938
Coupon date-4	24-Sep-X7	24-Dec-X7	6.355

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Cap Contract position taken (inception)	10-Jan-X7	12,000,000.00	(37,390.97)	12-Jan-X7
Maturity	22-Dec-X7	12,000,000.00		

Valuation dates and net present values	**Date**	**NPV Net**	**LIBOR**
Valuation date 1	31-Mar-X7	(45,210.77)	5.70918
Valuation date 2	30-Jun-X7	(50,211.53)	6.04342
Valuation date 3	30-Sep-X7	(34,055.30)	6.355
Maturity	20-Dec-X7		

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

3. Interest rate cap—receive

Cap contract details:	**Receive**
Cap strike	2.6
Notional amount	22,000,000
Currency	USD
Day count—30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/Post paid

		Cap—reset dates		
Coupon reset dates	**Reset date**		**Pay date**	**LIBOR**
Coupon date-1	18-Jan-X8		25-Mar-X8	3.89375
Coupon date-2	19-Mar-X8		23-Jun-X8	2.59875
Coupon date-3	19-Jun-X8		22-Sep-X8	2.80125
Coupon date-4	19-Sep-X8		22-Dec-X8	3.20375

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Cap Contract position taken (inception)	18-Jan-X8	22,000,000	173,196.43	20-Jan-X8
Maturity	20-Dec-X8	22,000,000		

Valuation dates and net present values	**Date**	**NPV Net**	**LIBOR**
Valuation date 1	31-Mar-X8	19,605.81	2.50937
Valuation date 2	30-Jun-X8	57,204.77	3.10495
Valuation date 3	30-Sep-X8	33,287.32	3.20375
Maturity	20-Dec-X8		

Other details	**Date**	**USD**	**FX rate**
Capital Introduced	01-Jan-X8	2,000,000	1.000000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

4. Interest rate cap—receive

Cap contract details:	**Receive**
Cap strike	3.8
Notional amount	15,000,000
Currency	EUR
Day count— 30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/Post paid

		Cap—reset dates		
Coupon reset dates	**Reset date**		**Pay date**	**LIBOR**
Coupon date-1	10-Jan-X8		25-Mar-X8	4.59100
Coupon date-2	19-Mar-X8		23-Jun-X8	4.66400
Coupon date-3	19-June-X8		22-Sep-X8	4.96100
Coupon date-4	18-Sep-X8		22-Dec-X8	4.99100

Other details	Trade date	Notional amount	Premium	Settle date
Cap Contract position taken (inception)	12-Jan-X8	15,000,000	85,885.67	14-Jan-X8
Maturity	20-Dec-X8	15,000,000		

Valuation dates and net present values	Date	NPV Net	LIBOR
Valuation date 1	31-Mar-X8	69,586.93	4.39537
Valuation date 2	30-Jun-X8	88,701.54	4.99037
Valuation date 3	30-Sep-X8	44,632.99	4.99100
Maturity	20-Dec-X8		

Other details	Date	USD	FX rate
Capital Introduced	01-Jan-X8	850,000	1.000000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

CHAPTER 10

Interest Rate Floors

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Interest rate floors—description of the product
- Interest rate floor—to pay
- Interest rate floor—to receive
- Benefits of interest rate floor instruments
- Risks of a floor instrument
- Accounting for interest rate floors
- Trade life cycle of interest rate floors
- Accounting journal entries to be recorded during the different phases of the trade life cycle
- Illustration of investments in an interest rate floor instrument
- Preparation of general ledger accounts
- Preparation of income statement, balance sheet after the investment in an interest rate floor is made
- FX revaluation and FX translation process
- Functional currency, foreign currency and presentation currency

INTEREST RATE FLOORS—DESCRIPTION OF THE PRODUCT

Interest rate floors are a form of interest rate derivatives. These are over-the-counter derivatives that protect the holder from declines in short-term interest rates by making a payment to the buyer when an underlying reference rate falls below a specified rate, known as the floor rate or the strike rate. The holder of a floor instrument pays a premium to get protection from a decline in interest rates. For each period, the payment is determined by comparing the current level of the reference rate with the agreed floor rate. If the reference rate is below the floor rate, the payment is calculated with reference to the difference between the two rates, the length of the period, and the notional amount of the contract. Then the buyer of the instrument receives the interest and the writer of the instrument makes the payment. If the current interest rate is above the strike interest rate then no payment is made for that period.

Interest rate floor—to pay

Again interest rate floors are of two types—the first type being "to pay." This means that for receiving an agreed premium the buyer of this type of instrument agrees to compensate the seller of the

instrument on the pay date any interest falling below the floor rate, if the benchmark interest rate is below the floor rate on the reset date. The premium is computed like any other option premium based on some mathematical model that takes into account several factors including the strike rate (floor rate), the present benchmark interest rate, the historical volatility of interest rates, the time period of the contract, amongst other factors. The premium received is actually a liability that represents the net present value of the contract as on the date of inception of the contract.

Interest rate floor—to receive

The second type of interest rate floors is known as "to receive." This means that for paying an agreed premium, the seller of this type of instrument agrees to compensate the buyer of the instrument on the pay date any interest below the floor rate if the benchmark interest rate is below the floor rate on the reset date. The premium paid is actually an asset that represents the net present value of the contract as on the date of inception of the contract.

Benefits of an interest rate floor instrument

- An interest rate floor contract enables investors who buy this instrument to retain the upside advantages of their variable rate investments while obtaining the protection from the interest rates falling below a specified minimum rate of interest by parting with a small premium.
- This type of financial instrument ensures variable rate investors obtain peace of mind from falling interest rates and become free to concentrate on other aspects of their business/investments, while at the same time reap the benefits of upward movements of interest rates.
- Floor contracts are flexible as they are over-the-counter products and are customized to suit the requirements of the parties to the trade. The strike rate can be positioned to reflect the level of protection sought by the buyer or willing to be written by the seller. However, the amount of premium payable is determined by the strike rate, the current reference rate of interest, and volatility of interest rates.
- Similarly the term of the floor is also flexible and can be customized to match the term of the underlying asset that is to be protected.
- For the buyer of this instrument, the cost is limited to the premium paid and theoretically like any other option contract the upward potential is huge.

Risks of a floor instrument

- For the buyer of this instrument, there are no risks associated with an interest rate floor instrument other than the counter-party risk.
- If the interest rates do not fall below the floor rate, the buyer of the floor instrument loses just the premium paid on such investment and nothing more than that.
- For a seller of the floor instrument, theoretically the potential loss is unlimited as for a small premium the risk exposure will be huge. The seller has to compensate the buyer for any decrease in the reference interest rate below the strike floor rate.

Interest rate floor as a hedging instrument

Being a derivative instrument, an interest rate floor per se qualifies as a hedging instrument. It should be noted that in an interest rate floor, the risk reward is asymmetric and can be more or less compared to an equity options position. An interest rate floor instrument can be used primarily to hedge interest rate risk.

It should be noted that the derivative financial instrument of an interest rate floor may be designated as a hedging instrument provided it is with an external party. Intra-group derivatives do not qualify as a hedging instrument in consolidated financial statements, although they may qualify in the separate financial statements of individual entities in the group. A derivative may be designated as a hedging instrument only in its entirety or as a proportion i.e., a percentage of the notional amount.

A to pay interest rate floor is like a written option contract where a premium is received and hence cannot be designated as a hedging instrument. A written option cannot be designated as a hedging instrument because the potential loss on an option that an entity writes could be significantly greater than the potential gain in value of a related hedged item.

A to receive type of interest rate floor is like a purchased option contract where a premium is paid to get protection from the rising interest rate and as such can be designated as a hedging instrument.

ACCOUNTING FOR INTEREST RATE FLOORS

In this chapter we will cover the accounting requirements for investments in interest rate floors. The list of relevant accounting standards are given in Table 10.1

Table 10.1 Relevant accounting standards

US GAAP Topics	IFRS
220—Comprehensive Income	IFRS 7—Financial Instruments: Disclosure
815—Derivatives and Hedging	IFRS 9—Financial Instruments
820—Fair Value Measurements and Disclosures	IAS 21—The Effects of Changes in Foreign Exchange Rates
825—Financial Instruments	IAS 32—Financial Instruments: Presentation
830—Foreign Currency Matters	IAS 39—Financial Instruments: Recognition and Measurement
946—Financial Services—Investment Companies	

THE TRADE LIFE CYCLE FOR INTEREST RATE FLOORS

- Recording the trade—contingent
- Account for the premium on the trade
- Receive or pay the premium for the trade
- Reset the interest rate for the ensuing period
- Account for accrued interest if any on the valuation date
- Reverse the accrued interest if any on the coupon date
- Ascertain and account for the fair value on the valuation date
- Pay or receive interest on the pay date
- Termination of the trade and accounting for the termination fee
- Payment or receipt of the termination fee
- Maturity of the trade
- Reversal of the contingent entry on maturity/termination
- FX revaluation entries (for foreign currency trades)
- FX translation entries (for foreign currency trades)

To understand the trade life cycle events and the associated journal entries to be recorded on the respective dates, let us look at the illustration as shown in Table 10.2:

INTEREST RATE FLOOR INSTRUMENT—AN ILLUSTRATION

The details of interest rate floor instrument are given in Table10.2 for the purpose of this illustration.

Table 10.2 Details of interest rate floor instrument

Floor contract details:	**To pay**
Floor strike	2.70 %
Notional amount	$ 8,000,000
Currency	USD
Day count—30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Floor—reset dates	
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	08-Jan-X8	10-Mar-X8	**4.50500**
Coupon date-2	6-Mar-X8	10-Jun-X8	2.99000
Coupon date-3	6-Jun-X8	10-Sep-X8	2.69563
Coupon date-4	08-Sep-X8	10-Dec-X8	**2.81680**

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Floor contract position taken (inception)	10-Jan-X8	8,000,000.00	(1,708.77)	12-Jan-X8
Maturity	10-Dec-X8	8,000,000.00		

Valuation dates and net present values	**Date**	**NPV net**	**LIBOR**
Valuation date 1	30-Mar-X8	(13,955.00)	2.65856
Valuation date 2	30-Jun-X8	(943.37)	3.00506
Valuation date 3	30-Sep-X8	Nil	2.81688

Recording the trade—contingent

This interest rate floor agreement is based on making a payment to the buyer of the instrument when a reference rate falls below the specified floor rate, the length of the period and the contract's notional amount. As this is a notional amount and no physical exchange of money takes place, the investor has to pass an off balance sheet entry to record the transaction as shown in Table 10.3.

Table 10.3 At the inception of the interest rate floor contract

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
8-Jan-X8	Interest rate floor account—OBS account	8,000,000.00	
	To Interest rate—floor (Contra) account—OBS account		8,000,000.00
	(Being the recording of interest rate floor contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

Account for the premium on the trade

The cost of the floor instrument on purchase is known as the non-refundable premium. The premium for an interest rate floor depends on the floor rate that the investor wants to get when compared to current market interest rates. The premium for an interest rate floor also depends on several other factors as this type of contract is very similar to that of an option contract, where the premium is based on the strike interest rate (floor rate), current interest rate, time to maturity of the contract, volatility—both historical and implied. When the contract is purchased then a premium is paid and when the contract is sold a premium is received. In a to pay contract a premium is received and the investor will have to pay interest whenever it falls below the floor rate. Similarly in a to receive contract a premium is paid by the investor and will receive interest whenever the interest rate falls below the floor rate.

The premium received in a to pay contract actually represents a liability and this is also the net present value of the contract as on the inception of the trade. But this is treated as an income on the date of entering into the contract and at every valuation date, the actual liability or the net present value of the contract is ascertained and an unrealized gain or loss entry passed for the same. This ensures that the income statement is eventually credited only with the real profit from the contract.

In this illustration, as this is a to pay contract the investor will receive a premium at inception of the trade. The premium is calculated as $1,708.77 and the accounting entry for recording the same is given in Table 10.4.

Table 10.4 On accounting for the premium on interest rate floor trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jan-X8	ABC Counterparty account	1,708.77	
	To Interest rate floor premium received account		1,708.77
	(Being the premium received at the inception of interest rate floor contract representing the net present value of the floor on the date of inception)		

Receive the premium for the trade

The premium on the trade is received within two business days of entering into the transaction and the entry for recording the same is as shown in Table 10.5.

Table 10.5 On receipt of the premium

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Jan-X8	Bank account	1,708.77	
	To ABC Counterparty account		1,708.77
	(Being the premium received from the counterparty on sale of interest rate floor)		

Reset the interest rate for the ensuing period

Interest reset dates are agreed upon between the counterparties at the inception of the trade. On the reset dates the reference rate is compared with the floor rate to determine if interest is required to be paid by

one party to the other. If the reference interest rate is below the strike rate then interest is payable by the buyer of this floor contract. Since only reset happens, no accounting entry is passed on this date.

Ascertain the interest accrued—payable/receivable on floor

If the reference interest rate is below the floor rate, then the buyer of the floor instrument should compensate the seller interest calculated as per the previous paragraphs. When it is ascertained on the reset date that the reference interest rate is below the floor rate and if the valuation date occurs before the pay date then interest accrued on such a floor instrument from the reset date to the valuation date should be computed and accounted for. This entry, however, will be reversed on the pay date when the actual interest calculated until the pay date from the reset date is accounted for. Table 10.6 gives the calculation of interest accrued and the necessary journal entry.

Table 10.6 On accounting of interest accrued on valuation date

Calculation of interest accrued on valuation date	USD
Previous coupon date	10-Jun-X8
Current coupon date	30-Jun-X8
Number of days	20
Notional amount on which interest is computed	8,000,000.00
Floor strike rate	2.70000 %
Floating interest rate	2.69563 %
Interest accounted for on valuation date	**19.42**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest Expense—Interest rate floor account	19.42	
	To Interest accrued but not due on interest rate floor account		19.42
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

Reverse the accrued interest if any on the coupon date

The accrued interest entry for the to pay interest rate floor contract recorded in the previous valuation date must be reversed on the next coupon date, when the actual interest until the coupon date will be accounted for. The next coupon date subsequent to the valuation date falls on 10th September and on that date the following entry will be recorded in the book of accounts for reversal of accrued interest, as shown in Table 10.7.

Table 10.7 On reversal of interest accrued on valuation date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Sep-X8	Interest accrued but not due on interest rate floor account	19.42	
	To Interest Expense—Interest rate floor account		19.42
	(Being reversal of interest accrued on valuation date)		

Ascertain the fair value on valuation date

At the end of every reporting period the net present value of the interest rate floor instrument is ascertained and an entry is passed to record the value of the same. The net present value of the floor contract on 31st March amounts to a positive number of 13,955.00 and this is accounted for as unrealized gain/loss on the interest rate floor instrument. The accounting entry is as shown in Table 10.8:

Table 10.8 On valuation of the IRD floor contract

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	IRD floor NPV—(Asset/Liability) account	13,955.00	
	To Unrealized gain/loss on IRD Floor (P&L) account		13,955.00
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

Pay/receive interest on pay date

On each pay date subsequent to the reset date, interest will be paid by the buyer only if the prevailing reference rate is below the floor rate. In other words, if the reference rate is above the floor rate, then nothing is paid or received under the floor and no settlement takes place. In this illustration the reference rate on 10th March is above the floor rate and as such no interest need be paid to the buyer of the interest rate floor contract by the investor. However, on 10th June, it is below the floor rate of 2.7 percent as the interest rate is 2.69563 percent on that date. Hence, the investor should pay the buyer of the floor instrument an amount calculated on the notional amount of the floor contract on the pay date, which is 10th September, as shown in Table 10.9.

Table 10.9 Calculation of interest on coupon date

Calculation of interest on coupon date	USD
Previous coupon date	10-Jun-X8
Current coupon date	10-Sep-X8
Number of days	92
Notional amount on which interest is computed	8,000,000.00
Floor strike rate	2.70000 %
Floating interest rate	2.69563 %
Interest accounted for on coupon date	**89.34**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Sep-X8	Interest expense—Interest rate floor account	89.34	
	To Bank account		89.34
	(Being the interest expense paid on decrease in reference rate below the floor rate)		

Termination of the trade and accounting for termination fee

An interest rate floor contract can be terminated at any time by either one of the parties to contract. If the parties decide to terminate the contract, then the net present value of the contract would be computed based on the net present value of the contract on such date of termination and the termination fee will be paid by one party to the other party depending upon which party stands to gain and which party stands to lose if the contract is terminated on the said date without being allowed to subsist during the remaining life of the contract. Assuming in this example the present value of the contract on the date of termination, say, 14th October, is calculated as a positive number amounting to $5,900.00 and the counterparty to the contract will have to pay this termination fee to the investor.

The accounting entry that is recorded in the books of accounts is shown in Table 10.10.

Table 10.10 On accounting for termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Oct-X8	ABC Counterparty account	5,900.00	
	To Realized gain/loss on interest rate floor		5,900.00
	(Being realized gain/loss on termination date)		

Payment or receipt of termination fee

The consideration for such termination is received on T + 2. The accounting entry that is recorded in the book of accounts is shown in Table 10.11.

Table 10.11 On settlement of termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
16-Oct-X8	Bank account	5,900.00	
	To ABC Counterparty account		5,900.00
	(On receipt of the of termination fee)		

Maturity of the trade

If the trade is not terminated before the maturity date, the trade is matured automatically on the maturity date. No interest is payable or receivable after the maturity date. The net present value on the date of maturity of the interest rate floor contract would be zero as no cash flows subsist subsequent to the maturity date, unlike an early termination where subsequent to the termination date there would be cash flows both receivable and payable. On the maturity date of the trade, the contingent entry passed at the date of inception of the trade is reversed, as mentioned in the next paragraph.

Reversal of the contingent entry on termination or maturity

The floor can be terminated anytime before the maturity date. On termination or on maturity, the floor will be cancelled and the original off balance sheet entry passed at the time of inception of the contract is reversed, as shown in Table 10.12.

Table 10.12 On reversal of the contingent entry

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	Interest Rate Derivative—floor (Contra) account—OBS	8,000,000.00	
	To Interest Rate Derivative—floor account—OBS		8,000,000.00
	(Being reversal of contingent entry on maturity of the interest rate floor contract)		

COMPLETE SOLUTION TO ILLUSTRATION

Floor contract details:	**Pay**
Floor strike	2.70
Notional amount	8,000,000
Currency	USD
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Floor—reset dates	
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	08-Jan-X8	10-Mar-X8	**4.50500**
Coupon date-2	6-Mar-X8	10-Jun-X8	2.99000
Coupon date-3	6-Jun-X8	10-Sep-X8	2.69563
Coupon date-4	16-Sep-X8	10-Dec-X8	**2.81680**

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Floor contract position taken (inception)	15-Jan-X8	8,000,000.00	(1,708.77)	17-Jan-X8
Floor contract termination (unwind)	18-Dec-X8	8,000,000.00	–	22-Dec-X8

Valuation dates and net present values	**Date**	**NPV Net**	**LIBOR**
Valuation date 1	30-Mar-X8	(13,955.00)	2.65856
Valuation date 2	30-Jun-X8	(943.37)	3.00506
Valuation date 3	30-Sep-X8	–	2.81688
Termination date	18-Dec-X8		–

T-1 *On sale of interest rate floor contract—off balance sheet entry:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD
8-Jan-X8	Interest Rate Derivative—floor account—OBS account	8,000,000.00	
	To Interest Rate Derivative—floor (Contra) account—OBS account		8,000,000.00
	(Being the recording of interest rate floor—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium on interest rate floor contract:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
8-Jan-X8	ABC Counterparty account	1,708.77	
	To Interest rate floor premium received account		1,708.77
	(Being the premium received at the inception of interest rate derivative floor contract representing the net present value of the floor on this date)		

T-3 *On accounting for receipt of the premium:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jan-X8	Bank account	1,708.77	
	To ABC Counterparty account		1,708.77
	(Being the premium received to the broker for purchase of interest rate floor)		

T-4 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Mar-X8	Unrealized gain/loss on IRD Floor (P&L) account	13,955.00	
	To IRD floor NPV—(Asset/Liability) account		13,955.00
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-5 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD floor NPV—(Asset/Liability) account	13,955.00	
	To Unrealized gain/loss on IRD Floor (P&L) account		13,955.00
	(Being the reversal of the existing net present value of the interest rate floor contract)		

T-6 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Floor (P&L) account	943.37	
	To IRD floor NPV—(Asset/Liability) account		943.37
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-7 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	10-Jun-X8
Current coupon date	30-Jun-X8
Number of days	20
Notional amount on which interest is computed	8,000,000.00
Floor strike rate	2.70000 %
Floating interest rate	2.69563 %
Interest accounted for on valuation date	**19.42**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest Expense—Interest rate floor account	19.42	
	To Interest accrued but not due on interest rate floor account		19.42
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

T-8 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Sep-X8	Interest accrued but not due on interest rate floor account	19.42	
	To Interest Expense—Interest rate floor account		19.42
	(Being reversal of interest accrued on valuation date)		

T-9 *On accounting of interest payable on interest rate floor:*

Calculation of interest on coupon date	USD
Previous coupon date	10-Jun-X8
Current coupon date	10-Sep-X8
Number of days	92

Calculation of interest on coupon date	USD
Notional amount on which interest is computed	8,000,000.00
Floor strike rate	2.70000 %
Floating interest rate	2.69563 %
Interest accounted for on coupon date	**89.34**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Sep-X8	Interest Expense—Interest rate floor account	89.34	
	To Bank account		89.34
	(Being the interest paid on decrease in reference rate than the floor rate)		

T-10 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD floor NPV—(Asset/Liability) account	943.37	
	To Unrealized gain/loss on IRD Floor (P&L) account		943.37
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

T-11 *On reversal of contingent entry on termination:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	Interest Rate Derivative—floor (Contra) account—OBS	8,000,000.00	
	To Interest Rate Derivative—floor account—OBS		8,000,000.00
	(Being reversal of contingent entry on termination)		

General Ledger accounts

Interest Rate Derivative—floor account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
8-Jan-X8	To Interest Rate Derivative—floor (Contra) account—OBS	8,000,000.00			
			18-Dec-X8	By Interest Rate Derivative—floor (Contra) account—OBS	8,000,000.00
31-Dec-X8	Total	8,000,000.00	31-Dec-X8	Total	8,000,000.00

Interest Rate Derivative—floor (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			8-Jan-X8	By Interest Rate Derivative—floor account—OBS	8,000,000.00
18-Dec-X8	To Interest Rate Derivative—floor account—OBS	8,000,000.00			
31-Dec-X8	Total	8,000,000.00	31-Dec-X8	Total	8,000,000.00

IRD floor premium received account

Date	Particulars	Debit	Date	Particulars	Credit
			8-Jan-X8	By ABC Counterparty account	1,708.77
31-Dec-X8	To Balance	1,708.77			
31-Dec-X8	Total	**1,708.77**	31-Dec-X8	Total	**1,708.77**
			31-Dec-X8	By Balance	1,708.77

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
8-Jan-X8	To IRD floor premium received account	1,708.77			
			10-Jan-X8	By Bank account	1,708.77
31-Dec-X8	Total	1,708.77	31-Dec-X8	Total	1,708.77

Interest Expense—Interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
30-Jun-X8	To Interest accrued but not due on interest rate floor account	19.42			
10-Sep-X8	To Bank account	89.34			
			10-Sep-X8	By Interest accrued but not due on interest rate floor account	19.42
			31-Dec-X8	To Balance	89.34
31-Dec-X8	Total	**108.76**	31-Dec-X8	Total	**108.76**
31-Dec-X8	By Balance	89.34			

Interest accrued but not due on interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
			30-Jun-X8	By Interest Expense—Interest rate floor account	19.42
10-Sep-X8	To Interest Expense—Interest rate floor account	19.42			
31-Dec-X8	Total	19.42	31-Dec-X8	Total	19.42

IRD floor NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			30-Mar-X8	By Unrealized gain/loss on IRD floor (P&L) account	13,955.00
30-Jun-X8	To Unrealized gain/loss on IRD floor (P&L) account	13,955.00			
			30-Jun-X8	By Unrealized gain/loss on IRD floor (P&L) account	943.37
30-Sep-X8	To Unrealized gain/loss on IRD floor (P&L) account	943.37			
31-Dec-X8	Total	14,898.37	31-Dec-X8	Total	14,898.37

Unrealized gain/loss on IRD floor (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
30-Mar-X8	To IRD floor NPV—(Asset/Liability) account	13,955.00			
			30-Jun-X8	By IRD floor NPV—(Asset/Liability) account	13,955.00
30-Jun-X8	To IRD floor NPV—(Asset/Liability) account	943.37			
			30-Sep-X8	By IRD floor NPV—(Asset/Liability) account	943.37
31-Dec-X8	Total	14,898.37	31-Dec-X8	Total	14,898.37

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	100,000.00
31-Dec-X8	To Balance	100,000.00			
31-Dec-X8	Total	**100,000.00**	31-Dec-X8	Total	**100,000.00**
			31-Dec-X8	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	100,000.00			
10-Jan-X8	To ABC Counterparty account	1,708.77			
			10-Sep-X8	By Interest Expense—Interest rate floor account	89.34
			31-Dec-X8	To Balance	101,619.43
31-Dec-X8	Total	**101,708.77**	31-Dec-X8	Total	**101,708.77**
31-Dec-X8	By Balance	101,619.43			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Capital account		100,000.00
Current Liabilities		
Current Asset		
Bank account	101,619.43	
Income		
IRD floor premium received account		1,708.77
Interest Expense—Interest rate floor account	89.34	
Totals	**101,708.77**	**101,708.77**

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
Interest Income—Interest rate floor account	89.34	IRD floor premium received account	1,708.77
Net profit C/o	1,619.43		
Total	**1,708.77**	Total	**1,708.77**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
Capital account	100,000.00	**Current Assets**	
		Bank account	101,619.43
Profit & Loss account			
Opening balance	Nil		
Current period	1,619.43		
Total	**101,619.43**	Total	**101,619.43**

PROBLEM 1: INTEREST RATE FLOOR—SALE OF FLOOR INSTRUMENT

Floor contract details:	**Pay**
Floor strike	3.70
Notional amount	8,000,000
Currency	USD
Day count—30/360	360

Floor contract details:	Pay
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Floor—reset dates		
Coupon reset dates	**Reset date**	**FX rate**	**Pay date**	**LIBOR**
Coupon date-1	11-Jan-X8	1.000000	18-Mar-X8	4.25750
Coupon date-2	14-Mar-X8	1.000000	18-Jun-X8	2.76375
Coupon date-3	16-Jun-X8	1.000000	18-Sep-X8	2.81250
Coupon date-4	16-Sep-X8	1.000000	18-Dec-X8	2.87625
Coupon date-5				

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Floor contract position taken (inception)	15-Jan-X8	8,000,000.00	(20,188.01)	17-Jan-X8
Maturity	18-Dec-X8	8,000,000.00		

Valuation dates and net present values	**Date**	**NPV net**	**LIBOR**
Valuation date 1	30-Mar-X8	(68,349.00)	2.57180
Valuation date 2	30-Jun-X8	(26,783.00)	3.09406
Valuation date 3	30-Sep-X8	(16,522.22)	2.87625
Maturity	18-Dec-X8	–	–

SOLUTION TO PROBLEM 1: INTEREST RATE FLOOR

T-1 *On purchase of interest rate floor trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Jan-X8	Interest Rate Derivative—floor account—OBS	8,000,000.00	
	To Interest Rate Derivative—floor (Contra) account—OBS		8,000,000.00
	(Being the recording of interest rate floor—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium on purchase of interest rate floor trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
15-Jan- X8	ABC Counterparty account	20,188.01	
	To Interest rate floor premium received account		20,188.01
	(Being the premium received at the inception of interest rate derivative floor contract representing the net present value of the floor on this date)		

T-3 *On accounting of premium received at Bank account:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Jan- X8	Bank account	20,188.01	
	To ABC Counterparty account		20,188.01
	(Being the premium paid to the counter-party at the inception of interest rate floor contract)		

T-4 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Unrealized gain/loss on IRD Floor (P&L) account	68,349.00	
	To IRD floor NPV—(Asset/Liability) account		68,349.00
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-5 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	18-Mar-X8
Current coupon date	31-Mar-X8
Number of days	13
Notional amount on which interest is computed	8,000,000.00
Floor strike rate	3.7000%
Floating interest rate	2.763750%
Interest accounted for on valuation date	**2,704.72**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest Expense—Interest rate floor account	2,704.72	
	To Interest accrued but not due on interest rate floor account		2,704.72
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

T-6 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jun-X8	Interest accrued but not due on interest rate floor account	2,704.72	
	To Interest Expense—Interest rate floor account		2,704.72
	(Being reversal of interest accrued on valuation date)		

T-7 *On accounting of interest on interest rate floor:*

Calculation of interest on coupon date	USD
Previous coupon date	18-Mar-X8
Current coupon date	18-Jun-X8
Number of days	92
Notional amount on which interest is computed	8,000,000.00
Floor strike rate	3.7000%
Floating interest rate	2.763750%
Interest accounted for on coupon date	**19,141.11**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jun-X8	Interest Expense—Interest rate floor account	19,141.11	
	To Bank account		19,141.11
	(Being the interest Expense received on decrease in reference rate than the floor rate)		

T-8 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD floor NPV—(Asset/Liability) account	68,349.00	
	To Unrealized gain/loss on IRD Floor (P&L) account		68,349.00
	(Being the reversal of the existing net present value of the interest rate floor contract)		

T-9 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Floor (P&L) account	26,783.00	
	To IRD floor NPV—(Asset/Liability) account		26,783.00
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-10 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	18-Jun-X8
Current coupon date	30-Jun-X8
Number of days	12

Calculation of interest accrued on valuation date	**USD**
Notional amount on which interest is computed	8,000,000.00
Floor strike rate	3.7000%
Floating interest rate	2.8125 %
Interest accounted for on valuation date	**2,366.67**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Jun-X8	Interest Expense—Interest rate floor account	2,366.67	
	To Interest accrued but not due on interest rate floor account		2,366.67
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

T-11 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
18-Sep-X8	Interest accrued but not due on interest rate floor account	2,366.67	
	To Interest Expense—Interest rate floor account		2,366.67
	(Being reversal of interest accrued on valuation date)		

T-12 *On accounting of interest on interest rate floor:*

Calculation of interest on coupon date	**USD**
Previous coupon date	18-Jun-X8
Current coupon date	18-Sep-X8
Number of days	92
Notional amount on which interest is computed	8,000,000.00
Floor strike rate	3.7000 %
Floating interest rate	2.8125 %
Interest accounted for on coupon date	**18,144.44**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
18-Sep-X8	Interest Expense—Interest rate floor account	18,144.44	
	To Bank account		18,144.44
	(Being the interest paid on decrease in reference rate than the floor rate)		

T-13 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD floor NPV—(Asset/Liability) account	26,783.00	
	To Unrealized gain/loss on IRD Floor (P&L) account		26,783.00
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

T-14 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Floor (P&L) account	16,522.22	
	To IRD floor NPV—(Asset/Liability) account		16,522.22
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-15 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	18-Sep-X8
Current coupon date	30-Sep-X8
Number of days	12
Notional amount on which interest is computed	8,000,000.00
Floor strike rate	3.7000%
Floating interest rate	2.87625%
Interest accounted for on valuation date	**2,196.67**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest Expense—Interest rate floor account	2,196.67	
	To Interest accrued but not due on interest rate floor account		2,196.67
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

T-16 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	Interest accrued but not due on interest rate floor account	2,196.67	
	To Interest Expense—Interest rate floor account		2,196.67
	(Being reversal of interest accrued on valuation date)		

T-17 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	IRD floor NPV—(Asset/Liability) account	16,522.22	
	To Unrealized gain/loss on IRD Floor (P&L) account		16,522.22
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

T-18 *On accounting of interest income on interest rate floor:*

Calculation of interest on coupon date	USD
Previous coupon date	18-Sep-X8
Current coupon date	18-Dec-X8
Number of days	91
Notional amount on which interest is computed	8,000,000.00
Floor strike rate	3.70 %
Floating interest rate	2.87625 %
Interest accounted for on coupon date	**16,658.06**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	Interest Expense—Interest rate floor account	16,658.06	
	To Bank account		16,658.06
	(Being the interest paid on decrease in reference rate than the floor rate)		

T-19 *On reversal of contingent entry on maturity:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	Interest Rate Derivative—floor (Contra) account—OBS	8,000,000.00	
	To Interest Rate Derivative—floor account—OBS		8,000,000.00
	(Being reversal of contingent entry on maturity)		

General Ledger accounts

Interest Rate Derivative—floor account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
15-Jan -X8	To Interest Rate Derivative—floor (Contra) account—OBS	8,000,000.00			
			18-Dec-X8	By Interest Rate Derivative—floor (Contra) account—OBS	8,000,000.00
31-Dec-X8	Total	8,000,000.00	31-Dec-X8	Total	8,000,000.00

Interest Rate Derivative—floor (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			15-Jan-X8	By Interest Rate Derivative—floor account—OBS	8,000,000.00
18-Dec-X8	To Interest Rate Derivative—floor account—OBS	8,000,000.00			
31-Dec-X8	Total	8,000,000.00	31-Dec-X8	Total	8,000,000.00

IRD Floor premium received account

Date	Particulars	Debit	Date	Particulars	Credit
			15-Jan-X8	By ABC Counterparty account	20,188.01
31-Dec-X8	To Balance	20,188.01			
31-Dec-X8	Total	**20,188.01**	31-Dec-X8	Total	**20,188.01**
			31-Dec-X8	By Balance	20,188.01

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
15-Jan-X8	To IRD Floor premium received account	20,188.01			
			17-Jan-X8	By Bank account	20,188.01
31-Dec-X8	Total	20,188.01	31-Dec-X8	Total	20,188.01

Interest Expense—Interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest accrued but not due on interest rate floor account	2,704.72			
18-Jun-X8	To Bank account	19,141.11			

Date	Particulars	Debit	Date	Particulars	Credit
			18-Jun-X8	By Interest accrued but not due on interest rate floor account	2,704.72
30-Jun-X8	To Interest accrued but not due on interest rate floor account	2,366.67			
18-Sep-X8	To Bank account	18,144.44			
			18-Sep-X8	By Interest accrued but not due on interest rate floor account	2,366.67
30-Sep-X8	To Interest accrued but not due on interest rate floor account	2,196.67			
18-Dec-X8	To Bank account	16,658.06			
			18-Dec-X8	By Interest accrued but not due on interest rate floor account	2,196.67
			31-Dec-X8	By Balance	53,943.61
31-Dec-X8	Total	**61,211.67**	31-Dec-X8	Total	**61,211.67**
31-Dec-X8	To Balance	53,943.61			

Interest accrued but not due on interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Interest Expense—Interest rate floor account	2,704.72
18-Jun-X8	To Interest Expense—Interest rate floor account	2,704.72			
			30-Jun-X8	By Interest Expense—Interest rate floor account	2,366.67
18-Sep-X8	To Interest Expense—Interest rate floor account	2,366.67			
			30-Sep-X8	By Interest Expense—Interest rate floor account	2,196.67
18-Dec-X8	To Interest Expense—Interest rate floor account	2,196.67			
31-Dec-X8	Total	7,268.06	31-Dec-X8	Total	7,268.06

IRD floor NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Unrealized gain/loss on IRD floor (P&L) account	68,349.00
30-Jun-X8	To Unrealized gain/loss on IRD floor (P&L) account	68,349.00			

IRD floor NPV—(Asset/Liability) account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
			30-Jun-X8	By Unrealized gain/ loss on IRD floor (P&L) account	26,783.00
30-Sep-X8	To Unrealized gain/ loss on IRD floor (P&L) account	26,783.00			
			30-Sep-X8	By Unrealized gain/ loss on IRD floor (P&L) account	16,522.22
18-Dec-X8	To Unrealized gain/ loss on IRD floor (P&L) account	16,522.22			
31-Dec-X8	Total	111,654.22	31-Dec-X8	Total	111,654.22

Unrealized gain/loss on IRD floor (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To IRD floor NPV—(Asset/ Liability) account	68,349.00			
			30-Jun-X8	By IRD floor NPV—(Asset/ Liability) account	68,349.00
30-Jun-X8	To IRD floor NPV—(Asset/ Liability) account	26,783.00			
			30-Sep-X8	By IRD floor NPV—(Asset/ Liability) account	26,783.00
30-Sep-X8	To IRD floor NPV—(Asset/ Liability) account	16,522.22			
			18-Dec-X8	By IRD floor NPV—(Asset/ Liability) account	16,522.22
31-Dec-X8	Total	111,654.22	31-Dec-X8	Total	111,654.22

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	100,000.00
31-Dec-X8	To Balance	100,000.00			
31-Dec-X8	Total	**100,000.00**	31-Dec-X8	Total	**100,000.00**
			31-Dec-X8	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	100,000.00			
17-Jan-X8	To ABC Counterparty account	20,188.01			
			18-Jun-X8	By Interest Expense—Interest rate floor account	19,141.11

Date	Particulars	Debit	Date	Particulars	Credit
			18-Sep-X8	By Interest Expense—Interest rate floor account	18,144.44
			18-Dec-X8	By Interest Expense—Interest rate floor account	16,658.06
			31-Dec-X8	To Balance	66,244.40
31-Dec-X8	Total	**120,188.01**	31-Dec-X8	Total	**120,188.01**
31-Dec-X8	By Balance	66,244.40			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Capital account		100,000.00
Current Asset		
Bank account	66,244.40	
Income		
IRD Floor premium received account		20,188.01
Interest Expense—Interest rate floor account	53,943.61	
Totals	**120,188.01**	**120,188.01**

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
Interest Expense—Interest rate floor account	53,943.61	IRD Floor premium received account	20,188.01
		Net profit C/o	33,755.60
Total	**53,943.61**	Total	**53,943.61**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
Capital account	100,000.00	**Current Assets**	
		Bank account	66,244.40
		Profit & Loss account	
		Opening balance	
		Current period	33,755.60
Total	100,000.00	Total	100,000.00

PROBLEM 2: INTEREST RATE FLOOR

Floor contract details:	Pay
Floor strike	4.80
Notional amount	6,000,000
Currency	EUR
Day count—30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Floor—reset dates		
Coupon reset dates	**Reset date**	**FX rate**	**Pay date**	**LIBOR**
Coupon date-1	07-Feb-X8	1.000000	10-Mar-X8	4.08050
Coupon date-2	6-Mar-X8	1.000000	10-Jun-X8	4.28700
Coupon date-3	6-Jun-X8	1.000000	10-Sep-X8	5.43600
Coupon date-4	8-Sep-X8	1.000000	10-Dec-X8	5.09900

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Floor contract position taken (inception)	10-Feb-X8	6,000,000.00	(57,243.35)	12-Feb-X8
Maturity	10-Dec-X8	6,000,000.00		

Valuation dates and net present values	**Date**	**NPV Net**	**LIBOR**
Valuation date 1	31-Mar-X8	(27,225.67)	4.20688
Valuation date 2	30-Jun-X8	(530.03)	5.36468
Valuation date 3	30-Sep-X8	(4,445.67)	5.09900
Maturity	18-Dec-X8	–	–

SOLUTION TO PROBLEM 2: INTEREST RATE FLOOR

T-1 *On purchase of interest rate floor trade:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
8-Feb-X8	Interest Rate Derivative—floor account—OBS	6,000,000.00	
	To Interest Rate Derivative—floor (Contra) account—OBS		6,000,000.00
	(Being the recording of interest rate floor—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium at the inception of interest rate floor trade:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
8-Feb-X8	ABC Counterparty account	57,243.35	
	To Interest rate floor premium received account		57,243.35
	(Being the premium received at the inception of interest rate derivative floor contract representing the net present value of the floor on this date)		

T-3 *On accounting for premium received:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
10-Feb-X8	Bank account	57,243.35	
	To ABC Counterparty account		57,243.35
	(Being the premium received from the counter-party at the inception of interest rate floor contract)		

T-4 *On accounting of interest payable on interest rate floor:*

Calculation of interest on coupon date	EURO
Previous coupon date	11-Feb-X8
Current coupon date	10-Mar-X8
Number of days	28
Notional amount on which interest is computed	6,000,000.00
Floor strike rate	4.8000 %
Floating interest rate	4.0805 %
Interest accounted for on coupon date	**3,357.67**

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
10-Mar-X8	Interest Expense—Interest rate floor account	3,357.67	
	To Bank account		3,357.67
	(Being the interest income received on decrease in reference rate than the floor rate)		

T-5 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
31-Mar-X8	Unrealized gain/loss on IRD Floor (P&L) account	27,225.67	
	To IRD floor NPV—(Asset/Liability) account		27,225.67
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-6 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	EURO
Previous coupon date	10-Mar-X8
Current coupon date	31-Mar-X8
Number of days	21
Notional amount on which interest is computed	6,000,000.00
Floor strike rate	4.800 %
Floating interest rate	4.287 %
Interest accounted for on valuation date	**1,795.50**

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
31-Mar-X8	Interest Expense—Interest rate floor account	1,795.50	
	To Interest accrued but not due on interest rate floor account		1,795.50
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

T-7 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
10-Jun-X8	Interest accrued but not due on interest rate floor account	1,795.50	
	To Interest Expense—Interest rate floor account		1,795.50
	(Being reversal of interest accrued on valuation date)		

T-8 *On accounting of interest income on interest rate floor:*

Calculation of interest on coupon date	EURO
Previous coupon date	10-Mar-X8
Current coupon date	10-Jun-X8
Number of days	92
Notional amount on which interest is computed	6,000,000.00
Floor strike rate	4.800 %
Floating interest rate	4.287 %
Interest accounted for on coupon date	**7,866.00**

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
12-Jun-X8	Interest Expense—Interest rate floor account	7,866.00	
	To Bank account		7,866.00
	(Being the interest paid on decrease in reference rate than the floor rate)		

T-9 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
30-Jun-X8	IRD floor NPV—(Asset/Liability) account	27,225.67	
	To Unrealized gain/loss on IRD Floor (P&L) account		27,225.67
	(Being the reversal of the existing net present value of the interest rate floor contract)		

T-10 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
30-Jun-X8	Unrealized gain/loss on IRD Floor (P&L) account	530.03	
	To IRD floor NPV—(Asset/Liability) account		530.03
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-11 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
30-Sep-X8	IRD floor NPV—(Asset/Liability) account	530.03	
	To Unrealized gain/loss on IRD Floor (P&L) account		530.03
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

T-12 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
30-Sep-X8	Unrealized gain/loss on IRD Floor (P&L) account	4,445.67	
	To IRD floor NPV—(Asset/Liability) account		4,445.67
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-13 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
10-Dec-X8	IRD floor NPV—(Asset/Liability) account	4,445.67	
	To Unrealized gain/loss on IRD Floor (P&L) account		4,445.67
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

T-14 *On reversal of contingent entry on termination:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
10-Dec-X8	Interest Rate Derivative—floor (Contra) account—OBS	6,000,000.00	
	To Interest Rate Derivative—floor account—OBS		6,000,000.00
	(Being the recording of Interest Rate Floor—since the amount is only notional and there is no exchange of money the entry is Off Balance Sheet)		

General Ledger accounts

Interest Rate Derivative—floor account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
8-Feb-X8	To Interest Rate Derivative—floor (Contra) account—OBS	6,000,000.00			
			10-Dec-X8	By Interest Rate Derivative—floor (Contra) account—OBS	6,000,000.00
31-Dec-X8	Total	6,000,000.00	31-Dec-X8	Total	6,000,000.00

Interest Rate Derivative—floor (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			8-Feb-X8	By Interest Rate Derivative—floor account—OBS	6,000,000.00
10-Dec-X8	To Interest Rate Derivative—floor account—OBS	6,000,000.00			
31-Dec-X8	Total	6,000,000.00	31-Dec-X8	Total	6,000,000.00

IRD Floor premium received account

Date	Particulars	Debit	Date	Particulars	Credit
			8-Feb-X8	By ABC Counterparty account	57,243.35
31-Dec-X8	To Balance	57,243.35			
31-Dec-X8	Total	**57,243.35**	31-Dec-X8	Total	**57,243.35**
			31-Dec-X8	By Balance	57,243.35

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
8-Feb-X8	By IRD Floor premium received account	57,243.35			
			10-Feb-X8	By Bank account	57,243.35
31-Dec-X8	Total	57,243.35	31-Dec-X8	Total	57,243.35

Interest Expense—Interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
10-Mar-X8	To Bank account	3,357.67			
31-Mar-X8	To Interest accrued but not due on interest rate Floor account	1,795.50			
			10-Jun-X8	By Interest accrued but not due on interest rate Floor account	1,795.50
12-Jun-X8	To Bank account	7,866.00			
			31-Dec-X8	To Balance	11,223.67
31-Dec-X8	Total	**13,019.17**	31-Dec-X8	Total	**13,019.17**
31-Dec-X8	By Balance	11,223.67			

Interest accrued but not due on interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Interest Expense—Interest rate floor account	1,795.50
10-Jun-X8	To Interest Expense—Interest rate floor account	1,795.50			
31-Dec-X8	Total	1,795.50	31-Dec-X8	Total	1,795.50

IRD floor NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Unrealized gain/loss on IRD floor (P&L) account	27,225.67
30-Jun-X8	To Unrealized gain/loss on IRD floor (P&L) account	27,225.67			
			30-Jun-X8	By Unrealized gain/loss on IRD floor (P&L) account	530.03
30-Sep-X8	To Unrealized gain/loss on IRD floor (P&L) account	530.03			
			30-Sep-X8	By Unrealized gain/loss on IRD floor (P&L) account	4,445.67
10-Dec-X8	To Unrealized gain/loss on IRD floor (P&L) account	4,445.67			
31-Dec-X8	Total	32,201.37	31-Dec-X8	Total	32,201.37

Unrealized gain/loss on IRD floor (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To IRD floor NPV—(Asset/ Liability) account	27,225.67			
			30-Jun-X8	By IRD floor NPV—(Asset/ Liability) account	27,225.67
30-Jun-X8	To IRD floor NPV—(Asset/ Liability) account	530.03			

Unrealized gain/loss on IRD floor (P&L) account *(Con'd)*

Date	Particulars	Debit	Date	Particulars	Credit
			30-Sep-X8	By IRD floor NPV—(Asset/ Liability) account	530.03
30-Sep-X8	To IRD floor NPV—(Asset/ Liability) account	4,445.67			
			10-Dec-X8	By IRD floor NPV—(Asset/ Liability) account	4,445.67
31-Dec-X8	Total	32,201.37	31-Dec-X8	Total	32,201.37

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	100,000.00
31-Dec-X8	To Balance	100,000.00			
31-Dec-X8	Total	**100,000.00**	31-Dec-X8	Total	**100,000.00**
			31-Dec-X8	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	100,000.00			
10-Feb-X8	To ABC Counterparty account	57,243.35			
			10-Mar-X8	By Interest Expense—Interest rate floor account	3,357.67
			12-Jun-X8	By Interest Expense—Interest rate floor account	7,866.00
			31-Dec-X8	To Balance	146,019.68
31-Dec-X8	Total	**157,243.35**	31-Dec-X8	Total	**157,243.35**
31-Dec-X8	By Balance	146,019.68			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Capital account		100,000.00
Current Asset		
Bank account	146,019.68	
Income		
IRD Floor premium received account		57,243.35
Interest Expense—Interest rate floor account	11,223.67	
Totals	**157,243.35**	**157,243.35**

Income Statement

For the period ending 31-Dec-X8

Expenses		**Income**	
		Direct Income	
Interest Expense—Interest rate floor account	11,223.67	IRD Floor premium received account	57,243.35
Net profit C/o	46,019.68		
Total	**11,223.67**	Total	**11,223.67**

Balance Sheet

As at 31-Dec-X8

Liabilities		**Assets**	
Capital account			
Capital account	100,000.00	**Current Assets**	
		Bank account	146,019.68
Profit & Loss account			
Opening balance			
Current period	46,019.68		
Total	146,019.68	Total	146,019.68

JOURNAL ENTRIES IN FUNCTIONAL CURRENCY PROBLEM 2: INTEREST RATE FLOOR

F-1 *On purchase of interest rate floor trade:* (T-1 @ FX Rate: 1.4587)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
8-Feb-X8	Interest Rate Derivative—floor account—OBS	4,113,251.53	
	To Interest Rate Derivative—floor (Contra) account—OBS		4,113,251.53
	(Being the recording of interest rate floor—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-2 *On accounting for premium at the inception of interest rate floor trade:* (T-2 @ FX Rate: 1.4587)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
8-Feb-X8	ABC Counterparty account	39,242.72	
	To Interest rate floor premium received account		39,242.72
	(Being the premium received at the inception of interest rate derivative floor contract representing the net present value of the floor on this date)		

F-3 *On accounting of premium received at Bank account:* (T-3 @ FX Rate: 1.4511)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Feb-X8	Bank account	39,448.25	
	To ABC Counterparty account		39,448.25
	(Being the premium received from the counter-party at the inception of interest rate floor contract)		

F-4 *FX Currency gain/loss:*

Currency gain/loss on settlement date	EUR	FX Rate	USD
a) Premium recd	57,243.35	1.458700	39,242.72
b) Actual premium recd on settlement date		1.451100	39,448.25
c) Realized Currency gains on settlement = (a) − (b)			**205.53**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Feb-X8	ABC Counterparty account	205.53	
	To Currency gain/loss account		205.53
	(Being currency loss on settlement of premium received)		

F-5 *On accounting of interest on interest rate floor:* (T-4 @ FX Rate: 1.5360)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Mar-X8	Interest Expense—Interest rate floor account	2,185.98	
	To Bank account		2,185.98
	(Being the interest income received on decrease in reference rate than the floor rate)		

F-6 *On valuation of interest rate floor as on date:* (T-5 @ FX Rate: 1.5800)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Unrealized gain/loss on IRD Floor (P&L) account	17,231.44	
	To IRD floor NPV—(Asset/Liability) account		17,231.44
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

F-7 *On accounting of interest accrued on valuation date:* (T-6 @ FX Rate: 1.5800)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest Expense—Interest rate floor account	1,136.39	
	To Interest accrued but not due on interest rate floor account		1,136.39
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

F-8 *On reversal of interest accrued on valuation date:* (T-7 @ FX Rate: 1.5800)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jun-X8	Interest accrued but not due on interest rate floor account	1,136.39	
	To Interest Expense—Interest rate floor account		1,136.39
	(Being reversal of interest accrued on valuation date)		

F-9 *On accounting of interest on interest rate floor:* (T-8 @ FX Rate: 1.5760)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jun-X8	Interest Expense—Interest rate floor account	4,991.12	
	To Bank account		4,991.12
	(Being the interest income received on decrease in reference rate than the floor rate)		

F-10 *On reversal of net present value of interest rate floor:* (T-9 @ FX Rate: 1.5800)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD floor NPV—(Asset/Liability) account	17,231.44	
	To Unrealized gain/loss on IRD Floor (P&L) account		17,231.44
	(Being the reversal of the existing net present value of the interest rate floor contract)		

F-11 *On valuation of interest rate floor as on date:* (T-10 @ FX Rate: 1.5799)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Floor (P&L) account	335.48	
	To IRD floor NPV—(Asset/Liability) account		335.48
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

F-12 *On reversal of net present value of interest rate floor:* (T-11 @ FX Rate: 1.5799)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD floor NPV—(Asset/Liability) account	335.48	
	To Unrealized gain/loss on IRD Floor (P&L) account		335.48
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

F-13 *On valuation of interest rate floor as on date:* (T-12 @ FX Rate: 1.4449)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Floor (P&L) account	3,076.80	
	To IRD floor NPV—(Asset/Liability) account		3,076.80
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

F-14 *On reversal of net present value of interest rate floor:* (T-13 @ FX Rate: 1.4449)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Dec-X8	IRD floor NPV—(Asset/Liability) account	3,076.80	
	To Unrealized gain/loss on IRD Floor (P&L) account		3,076.80
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

F-15 *On reversal of contingent entry on termination:* (T-14 @ FX Rate: 1.45870)

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
10-Dec-X8	Interest Rate Derivative—floor (Contra) account—OBS	4,113,251.53	
	To Interest Rate Derivative—floor account—OBS		4,113,251.53
	(Being the recording of Interest Rate Floor—since the amount is only notional and there is no exchange of money the entry is Off Balance Sheet)		

F-16 *FX Gain/loss:*

Calculation of currency gain/loss on Bank account

Description	Date	EUR	Fx rate	USD
Opening balance	1-Jan-X8	100,000.00	1.47040	68,008.71
Premium received on IRD Floor	10-Feb-X8	57,243.35	1.45110	39,448.25
Interest expense on IRD Floor	10-Mar-X8	(3,357.67)	1.53600	(2,185.98)

Description	Date	EUR	Fx rate	USD
Interest expense on IRD Floor	10-Jun-X8	(7,866.00)	1.57600	(4,991.12)
Net balance		146,019.68		100,279.85
Net balance at current FX rate	04-Dec-X8	146,019.68	1.44490	101,058.68
FX translation on Bank account				**778.82**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Dec-X8	Currency gain/loss account	778.82	
	To Bank account		778.82
	(Being Currency gain/loss on bank account)		

General Ledger accounts

Interest Rate Derivative—floor account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
8-Feb -X8	To Interest Rate Derivative—floor (Contra) account—OBS	4,113,251.53			
			10-Dec-X8	By Interest Rate Derivative—floor (Contra) account—OBS	4,113,251.53
31-Dec-X8	Total	4,113,251.53	31-Dec-X8	Total	4,113,251.53

Interest Rate Derivative—floor (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			8-Feb-X8	By Interest Rate Derivative—floor account—OBS	4,113,251.53
10-Dec-X8	To Interest Rate Derivative—floor account—OBS	4,113,251.53			
31-Dec-X8	Total	4,113,251.53	31-Dec-X8	Total	4,113,251.53

IRD Floor premium received account

Date	Particulars	Debit	Date	Particulars	Credit
			8-Feb-X8	By ABC Counterparty account	39,242.72
31-Dec-X8	To Balance	39,242.72			
31-Dec-X8	Total	**39,242.72**	31-Dec-X8	Total	**39,242.72**
			31-Dec-X8	By Balance	39,242.72

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
8-Feb-X8	To IRD Floor premium received account	39,242.72			
			10-Feb-X8	By Bank account	39,448.25
10-Feb-X8	To Currency Gain/loss account	205.53			
31-Dec-X8	Total	39,448.25	31-Dec-X8	Total	39,448.25

Currency Gain/loss account

Date	Particulars	Debit	Date	Particulars	Credit
			10-Feb-X8	By ABC Counterparty account	205.53
10-Dec-X8	To Bank account	778.82			
			31-Dec-X8	By Balance	573.29
31-Dec-X8	Total	**778.82**	31-Dec-X8	Total	**778.82**
31-Dec-X8	To Balance	573.29			

Interest Expense—Interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
10-Mar-X8	To Bank account	2,185.98			
31-Mar-X8	To Interest accrued but not due on interest rate floor account	1,136.39			
			10-Jun-X8	By Interest accrued but not due on interest rate floor account	1,136.39
10-Jun-X8	To Bank account	4,991.12			
			31-Dec-X8	To Balance	7,177.10
31-Dec-X8	Total	**8,313.49**	31-Dec-X8	Total	**8,313.49**
31-Dec-X8	By Balance	7,177.10			

Interest accrued but not due on interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Interest Expense—Interest rate floor account	1,136.39
10-Jun-X8	To Interest Expense—Interest rate floor account	1,136.39			
31-Dec-X8	Total	1,136.39	31-Dec-X8	Total	1,136.39

IRD floor NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
30-Jun-X8	To Unrealized gain/ loss on IRD floor (P&L) account	17,231.44			
			31-Mar-X8	By Unrealized gain/ loss on IRD floor (P&L) account	17,231.44
30-Sep-X8	To Unrealized gain/ loss on IRD floor (P&L) account	335.48			
			30-Jun-X8	By Unrealized gain/ loss on IRD floor (P&L) account	335.48
10-Dec-X8	To Unrealized gain/ loss on IRD floor (P&L) account	3,076.80			
			30-Sep-X8	By Unrealized gain/ loss on IRD floor (P&L) account	3,076.80
31-Dec-X8	Total	20,643.72	31-Dec-X8	Total	20,643.72

Unrealized gain/loss on IRD floor (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			30-Jun-X8	By IRD floor NPV— (Asset/Liability) account	17,231.44
31-Mar-X8	To IRD floor NPV— (Asset/Liability) account	17,231.44			
			30-Sep-X8	By IRD floor NPV— (Asset/Liability) account	335.48
30-Jun-X8	To IRD floor NPV— (Asset/Liability) account	335.48			
			10-Dec-X8	By IRD floor NPV— (Asset/Liability) account	3,076.80
30-Sep-X8	To IRD floor NPV— (Asset/Liability) account	3,076.80			
31-Dec-X8	Total	20,643.72	31-Dec-X8	Total	20,643.72

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	68,008.71
31-Dec-X8	To Balance	68,008.71			
31-Dec-X8	Total	**68,008.71**	31-Dec-X8	Total	**68,008.71**
			31-Dec-X8	By Balance	68,008.71

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	68,008.71			
10-Feb-X8	To ABC Counterparty account	39,448.25			
			10-Mar-X8	By Interest Expense—Interest rate floor account	2,185.98
			10-Jun-X8	By Interest Expense—Interest rate floor account	4,991.12
			10-Dec-X8	By Currency Gain/loss account	778.82
			31-Dec-X8	To Balance	99,501.04
31-Dec-X8	Total	**107,456.96**	31-Dec-X8	Total	**107,456.96**
31-Dec-X8	By Balance	99,501.04			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Capital account		68,008.71
Current Asset		
Bank account	99,501.04	
Income		
Interest Expense—Interest rate floor account	7,177.10	
IRD Floor premium received account		39,242.72
Currency Gain/loss account	573.29	
Totals	**107,251.43**	**107,251.43**

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
Interest Expense—Interest rate floor account	7,177.10	IRD Floor premium received account	39,242.72
Currency Gain/loss account	573.29		
Net profit C/o	31,492.33		
Total	**39,242.72**	Total	**39,242.72**

Balance Sheet

As at 31-Dec-X1

Liabilities		**Assets**	
Capital account			
Capital account	68,008.71	**Current Assets**	
		Bank account	99,501.04
Profit & Loss account			
Opening balance			
Current period	31,492.33		
Total	**99,501.04**	Total	**99,501.04**

ILLUSTRATION: IRD FLOOR—RECEIVE

Floor contract details:	**Receive**
Floor strike	3.35
Notional amount	5,000,000
Currency	USD
Day count—30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Floor—reset dates		
Coupon reset dates	**Reset date**	**FX rate**	**Pay date**	**LIBOR**
Coupon date-1	08-Jan-X8	1.000000	12-Mar-X8	4.50500
Coupon date-2	10-Mar-X8	1.000000	12-Jun-X8	2.90125
Coupon date-3	10-Jun-X8	1.000000	12-Sep-X8	2.78625
Coupon date-4	10-Sep-X8	1.000000	12-Dec-X8	2.81875

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Floor contract position taken (inception)	10-Jan-X8	5,000,000.00	4,713.40	12-Jan-X8
Maturity	12-Dec-X8	5,000,000.00		

Valuation dates and net present values	**Date**	**NPV net**	**LIBOR**
Valuation date 1	31-Mar-X8	27,802.80	2.62606
Valuation date 2	30-Jun-X8	10,180.65	3.05833
Valuation date 3	30-Sep-X8	6,663.88	2.81875
Maturity	12-Dec-X8	–	–

COMPREHENSIVE SOLUTION TO ILLUSTRATION

T-1 *On purchase of interest rate floor trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
8-Jan-X8	Interest Rate Derivative—floor account—OBS	5,000,000.00	
	To Interest Rate Derivative—floor (Contra) account—OBS		5,000,000.00
	(Being the recording of interest rate floor—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium on purchase of interest rate floor trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
8-Jan-X8	Interest rate floor premium paid account	4,713.40	
	To ABC Counterparty account		4,713.40
	(Being the premium paid at the inception of interest rate derivative floor contract representing the net present value of the floor on this date)		

T-3 *On accounting for premium paid:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
10-Jan-X8	ABC Counterparty account	4,713.40	
	To Bank account		4,713.40
	(Being the premium paid to the counter-party at the inception of interest rate floor contract)		

T-4 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	IRD Floor NPV—(Asset/liability) account	27,802.80	
	To Unrealized gain/loss on IRD Floor (P&L) account		27,802.80
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-5 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	12-Mar-X8
Current coupon date	31-Mar-X8
Number of days	19

Calculation of interest accrued on valuation date	**USD**
Notional amount on which interest is computed	5,000,000.00
Floor strike rate	3.35000 %
Floating interest rate	2.90125 %
Interest accounted for on valuation date	**1,184.20**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Mar-X8	Interest accrued but not due on interest rate floor account	1,184.20	
	To Interest Income—Interest rate floor account		1,184.20
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

T-6 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
12-Jun-X8	Interest Income—Interest rate floor account	1,184.20	
	To Interest accrued but not due on interest rate floor account		1,184.20
	(Being reversal of interest accrued on valuation date)		

T-7 *On accounting of interest income on interest rate floor:*

Calculation of interest on coupon date	**USD**
Previous coupon date	12-Mar-X8
Current coupon date	12-Jun-X8
Number of days	92
Notional amount on which interest is computed	5,000,000.00
Floor strike rate	3.35000 %
Floating interest rate	2.90125 %
Interest accounted for on coupon date	**5,734.03**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
12-Jun-X8	Bank account	5,734.03	
	To Interest Income—Interest rate floor account		5,734.03
	(Being the interest income received on decrease in reference rate than the floor rate)		

T-8 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Floor (P&L) account	27,802.80	
	To IRD Floor NPV—(Asset/liability) account		27,802.80
	(Being the reversal of the existing net present value of the interest rate floor contract)		

T-9 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Floor NPV—(Asset/liability) account	10,180.65	
	To Unrealized gain/loss on IRD Floor (P&L) account		10,180.65
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-10 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	12-Jun-X8
Current coupon date	30-Jun-X8
Number of days	18
Notional amount on which interest is computed	5,000,000.00
Floor strike rate	3.35000 %
Floating interest rate	2.78625 %
Interest accounted for on valuation date	**1,409.38**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest accrued but not due on interest rate floor account	1,409.38	
	To Interest Income—Interest rate floor account		1,409.38
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

T-11 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Sep-X8	Interest Income—Interest rate floor account	1,409.38	
	To Interest accrued but not due on interest rate floor account		1,409.38
	(Being reversal of interest accrued on valuation date)		

T-12 *On accounting of interest income on interest rate floor:*

Calculation of interest on coupon date	**USD**
Previous coupon date	12-Jun-X8
Current coupon date	12-Sep-X8
Number of days	92
Notional amount on which interest is computed	5,000,000.00
Floor strike rate	3.35000 %
Floating interest rate	2.78625 %
Interest accounted for on coupon date	**7,203.47**

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
12-Sep-X8	Bank account	7,203.47	
	To Interest Income—Interest rate floor account		7,203.47
	(Being the interest income received on decrease in reference rate than the floor rate)		

T-13 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X8	Unrealized gain/loss on IRD Floor (P&L) account	10,180.65	
	To IRD Floor NPV—(Asset/liability) account		10,180.65
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

T-14 *On valuation of interest rate floor as on date:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X8	IRD Floor NPV—(Asset/liability) account	6,663.88	
	To Unrealized gain/loss on IRD Floor (P&L) account		6,663.88
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-15 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	**USD**
Previous coupon date	12-Sep-X8
Current coupon date	30-Sep-X8
Number of days	18
Notional amount on which interest is computed	5,000,000.00
Floor strike rate	3.3500 %

Calculation of interest accrued on valuation date	USD
Floating interest rate	2.81875%
Interest accounted for on valuation date	**1,328.13**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest accrued but not due on interest rate floor account	1,328.13	
	To Interest Income—Interest rate floor account		1,328.13
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

T-16 *On reversal of interest rate floor:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Dec-X8	Interest Income—Interest rate floor account	1,328.13	
	To Interest accrued but not due on interest rate floor account		1,328.13
	(Being the reversal of existing NPV of IRD Floor on valuation date)		

T-17 *On accounting of interest income on interest rate floor:*

Calculation of interest on coupon date	USD
Previous coupon date	12-Sep-X8
Current coupon date	12-Dec-X8
Number of days	91
Notional amount on which interest is computed	5,000,000.00
Floor strike rate	3.3500%
Floating interest rate	2.81875%
Interest accounted for on coupon date	**6,714.41**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Dec-X8	Bank account	6,714.41	
	To Interest Income—Interest rate floor account		6,714.41
	(Being the interest income received on increase in reference rate than the floor rate)		

T-18 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Dec-X8	Unrealized gain/loss on IRD Floor (P&L) account	6,663.88	
	To IRD Floor NPV—(Asset/liability) account		6,663.88
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

T-19 *On reversal of contingent entry on termination:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Dec-X8	Interest Rate Derivative—floor (Contra) account—OBS	5,000,000.00	
	To Interest Rate Derivative—floor account—OBS		5,000,000.00
	(Being the recording of Interest Rate Floor—since the amount is only notional and there is no exchange of money the entry is Off Balance Sheet)		

General Ledger accounts

Interest Rate Derivative—floor account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
8-Jan-X8	To Interest Rate Derivative—floor (Contra) account—OBS	5,000,000.00			
			12-Dec-X8	By Interest Rate Derivative—floor (Contra) account—OBS	5,000,000.00
31-Dec-X8	Total	5,000,000.00	31-Dec-X8	Total	5,000,000.00

Interest Rate Derivative—floor (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			8-Jan-X8	By Interest Rate Derivative—floor account—OBS	5,000,000.00
12-Dec-X8	To Interest Rate Derivative—floor account—OBS	5,000,000.00			
31-Dec-X8	Total	5,000,000.00	31-Dec-X8	Total	5,000,000.00

IRD Floor Premium paid Account

Date	Particulars	Debit	Date	Particulars	Credit
8-Jan-X8	To ABC Counterparty account	4,713.40			
			31-Dec-X8	By Balance	4,713.40
31-Dec-X8	Total	**4,713.40**	31-Dec-X8	Total	**4,713.40**
31-Dec-X8	To Balance	4,713.40			

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			8-Jan-X8	By IRD Floor Premium paid Account	4,713.40
10-Jan-X8	To Bank account	4,713.40			
31-Dec-X8	Total	4,713.40	31-Dec-X8	Total	4,713.40

Interest accrued but not due on interest rate Floor account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest Income—Interest rate floor account	1,184.20			
			12-Jun-X8	By Interest Income—Interest rate floor account	1,184.20
30-Jun-X8	To Interest Income—Interest rate floor account	1,409.38			
			12-Sep-X8	By Interest Income—Interest rate floor account	1,409.38
30-Sep-X8	To Interest Income—Interest rate floor account	1,328.13			
			12-Dec-X8	By Interest Income—Interest rate floor account	1,328.13
31-Dec-X8	Total	3,921.71	31-Dec-X8	Total	3,921.71

Interest Income—Interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Interest accrued but not due on interest rate floor account	1,184.20
12-Jun-X8	To Interest accrued but not due on interest rate floor account	1,184.20			
			12-Jun-X8	By Bank account	5,734.03
			30-Jun-X8	By Interest accrued but not due on interest rate floor account	1,409.38
12-Sep-X8	To Interest accrued but not due on interest rate floor account	1,409.38			
			12-Sep-X8	By Bank account	7,203.47
			30-Sep-X8	By Interest accrued but not due on interest rate floor account	1,328.13
12-Dec-X8	To Interest accrued but not due on interest rate floor account	1,328.13			
			12-Dec-X8	By Bank account	6,714.41
31-Dec-X8	To Balance	19,651.91			
31-Dec-X8	Total	**23,573.62**	31-Dec-X8	Total	**23,573.62**
			31-Dec-X8	By Balance	19,651.91

IRD Floor NPV—(Asset/liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized gain/loss on IRD floor (P&L) account	27,802.80			
			30-Jun-X8	By Unrealized gain/loss on IRD floor (P&L) account	27,802.80
30-Jun-X8	To Unrealized gain/loss on IRD floor (P&L) account	10,180.65			
			30-Sep-X8	By Unrealized gain/loss on IRD floor (P&L) account	10,180.65
30-Sep-X8	To Unrealized gain/loss on IRD floor (P&L) account	6,663.88			
			12-Dec-X8	By Unrealized gain/loss on IRD floor (P&L) account	6,663.88
31-Dec-X8	Total	44,647.33	31-Dec-X8	Total	44,647.33

Unrealized gain/loss on IRD floor (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By IRD Floor NPV—(Asset/liability) account	27,802.80
30-Jun-X8	To IRD Floor NPV—(Asset/liability) account	27,802.80			
			30-Jun-X8	By IRD Floor NPV—(Asset/liability) account	10,180.65
30-Sep-X8	To IRD Floor NPV—(Asset/liability) account	10,180.65			
			30-Sep-X8	By IRD Floor NPV—(Asset/liability) account	6,663.88
12-Dec-X8	To IRD Floor NPV—(Asset/liability) account	6,663.88			
31-Dec-X8	Total	44,647.33	31-Dec-X8	Total	44,647.33

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	100,000.00
31-Dec-X8	To Balance	100,000.00			
31-Dec-X8	Total	**100,000.00**	31-Dec-X8	Total	**100,000.00**
			31-Dec-X8	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	100,000.00			
			10-Jan-X8	By ABC Counterparty account	4,713.40
12-Jun-X8	To Interest Income—Interest rate floor account	5,734.03			
12-Sep-X8	To Interest Income—Interest rate floor account	7,203.47			
12-Dec-X8	To Interest Income—Interest rate floor account	6,714.41			
			31-Dec-X8	By Balance	114,938.51
31-Dec-X8	Total	**119,651.91**	31-Dec-X8	Total	**119,651.91**
31-Dec-X8	By Balance	114,938.51			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		Nil
Capital account		100,000.00
Current Asset		
Bank account	114,938.51	
Income		
IRD Floor Premium paid Account	4,713.40	
Interest Income—Interest rate floor account		19,651.91
Totals	**119,651.91**	**119,651.91**

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
IRD Floor Premium paid Account	4,713.40	Interest Income—Interest rate floor account	19,651.91
Net profit C/o	14,938.51		
Total	**19,651.91**	Total	**19,651.91**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
Capital account	100,000.00	Current Assets	
		Bank account	114,938.51
Profit & Loss account			

Liabilities		**Assets**	
Opening balance			
Current period	14,938.51		
Total	114,938.51	Total	114,938.51

PROBLEM 1: INTEREST RATE FLOOR (RECEIVE)

Floor contract details:	**Receive**
Floor strike	3.15
Notional amount	3,000,000
Currency	USD
Day count—30/360	360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Floor—reset dates		
Coupon reset dates	**Reset date**	**FX rate**	**Pay date**	**LIBOR**
Coupon date-1	17-Jan-X8	1.000000	20-Mar-X8	3.2780
Coupon date-2	18-Mar-X8	1.000000	20-Jun-X8	2.26250
Coupon date-3	18-Jun-X8	1.000000	22-Sep-X8	3.32000
Coupon date-4	18-Sep-X8	1.000000	22-Dec-X8	3.07200

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Floor contract position taken (inception)	20-Jan-X8	3,000,000.00	8,532.00	22-Jan-X8
Maturity	20-Dec-X8	3,000,000.00		22-Dec-X8

Valuation dates and net present values	**Date**	**NPV net**	**LIBOR**
Valuation date 1	31-Mar-X8	18,560.28	2.39140
Valuation date 2	30-Jun-X8	946.04	3.44540
Valuation date 3	30-Sep-X8	586.43	3.07020
Maturity	12-Dec-X8		

SOLUTION TO PROBLEM 1: INTEREST RATE FLOOR (RECEIVE)

T-1 *On purchase of interest rate floor trade:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
18-Jan-X8	Interest Rate Derivative—floor account—OBS	3,000,000.00	
	To Interest Rate Derivative—floor (Contra) account—OBS		3,000,000.00
	(Being the recording of interest rate floor—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium on purchase of interest rate floor trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jan-X8	Interest rate floor premium paid account	8,532.00	
	To ABC Counterparty account		8,532.00
	(Being the premium paid at the inception of interest rate derivative floor contract representing the net present value of the floor on this date)		

T-3 *On accounting for premium paid:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Jan-X8	ABC Counterparty account	8,532.00	
	To Bank account		8,532.00
	(Being the premium paid to the counter-party at the inception of interest rate floor contract)		

T-4 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	IRD Floor NPV—(Asset/liability) account	18,560.28	
	To Unrealized gain/loss on IRD Floor (P&L) account		18,560.28
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-5 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	20-Mar-X8
Current coupon date	31-Mar-X8
Number of days	11
Notional amount on which interest is computed	3,000,000.00
Floor strike rate	3.1500 %
Floating interest rate	2.2625 %
Interest accounted for on valuation date	**813.54**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest accrued but not due on interest rate floor account	813.54	
	To Interest Income—Interest rate floor account		813.54
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

T-6 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Jun-X8	Interest Income—Interest rate floor account	813.54	
	To Interest accrued but not due on interest rate floor account		813.54
	(Being reversal of interest accrued on valuation date)		

T-7 *On accounting of interest income on interest rate floor:*

Calculation of interest on coupon date	USD
Previous coupon date	20-Mar-X8
Current coupon date	20-Jun-X8
Number of days	92
Notional amount on which interest is computed	3,000,000.00
Floor strike rate	3.1500 %
Floating interest rate	2.2625 %
Interest accounted for on coupon date	**6,804.17**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Jun-X8	Bank account	6,804.17	
	To Interest Income—Interest rate floor account		6,804.17
	(Being the interest income received on decrease in reference rate than the floor rate)		

T-8 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Floor (P&L) account	18,560.28	
	To IRD Floor NPV—(Asset/liability) account		18,560.28
	(Being the reversal of the existing net present value of the interest rate floor contract)		

T-9 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Floor NPV—(Asset/liability) account	946.04	
	To Unrealized gain/loss on IRD Floor (P&L) account		946.04
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-10 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Floor (P&L) account	946.04	
	To IRD Floor NPV—(Asset/liability) account		946.04
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

T-11 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD Floor NPV—(Asset/liability) account	586.43	
	To Unrealized gain/loss on IRD Floor (P&L) account		586.43
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-12 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	Unrealized gain/loss on IRD Floor (P&L) account	586.43	
	To IRD Floor NPV—(Asset/liability) account		586.43
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

T-13 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	USD
Previous coupon date	20-Sep-X8
Current coupon date	30-Sep-X8
Number of days	10
Notional amount on which interest is computed	3,000,000.00
Floor strike rate	3.1500 %
Floating interest rate	3.0720 %
Interest accounted for on valuation date	**65.00**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest accrued but not due on interest rate floor account	65.00	
	To Interest Income—Interest rate floor account		65.00
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

T-14 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	Interest Income—Interest rate floor account	65.00	
	To Interest accrued but not due on interest rate floor account		65.00
	(Being reversal of interest accrued on valuation date)		

T-15 *On accounting of interest income on interest rate floor:*

Calculation of interest on coupon date	USD
Previous coupon date	22-Sep-X8
Current coupon date	22-Dec-X8
Number of days	91
Notional amount on which interest is computed	3,000,000.00
Floor strike rate	3.15 %
Floating interest rate	3.0720 %
Interest accounted for on coupon date	**591.50**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Dec-X8	Bank account	591.50	
	To Interest Income—Interest rate floor account		591.50
	(Being the interest income received on decrease in reference rate than the floor rate)		

T-16 *On reversal of contingent entry on termination:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	Interest Rate Derivative—floor (Contra) account—OBS	3,000,000.00	
	To Interest Rate Derivative—floor account—OBS		3,000,000.00
	(Being the recording of Interest Rate Floor—since the amount is only notional and there is no exchange of money the entry is Off Balance Sheet)		

General Ledger accounts

Interest Rate Derivative—floor account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
18-Jan-X8	To Interest Rate Derivative—floor (Contra) account—OBS	3,000,000.00			
			20-Dec-X8	By Interest Rate Derivative—floor (Contra) account—OBS	3,000,000.00
31-Dec-X8	Total	3,000,000.00	31-Dec-X8	Total	3,000,000.00

Interest Rate Derivative—floor (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			18-Jan-X8	By Interest Rate Derivative—floor account—OBS	3,000,000.00
20-Dec-X8	To Interest Rate Derivative—floor account—OBS	3,000,000.00			
31-Dec-X8	Total	3,000,000.00	31-Dec-X8	Total	3,000,000.00

IRD Floor premium paid account

Date	Particulars	Debit	Date	Particulars	Credit
18-Jan-X8	To ABC Counterparty account	8,532.00			
			31-Dec-X8	By Balance	8,532.00
31-Dec-X8	Total	**8,532.00**	31-Dec-X8	Total	**8,532.00**
31-Dec-X8	To Balance	8,532.00			

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			18-Jan-X8	By IRD Floor premium paid account	8,532.00
20-Jan-X8	To Bank account	8,532.00			
31-Dec-X8	Total	8,532.00	31-Dec-X8	Total	8,532.00

Interest accrued but not due on interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest Income—Interest rate floor account	813.54			
			20-Jun-X8	By Interest Income—Interest rate floor account	813.54
30-Sep-X8	To Interest Income—Interest rate floor account	65.00			
			20-Dec-X8	By Interest Income—Interest rate floor account	65.00
31-Dec-X8	Total	878.54	31-Dec-X8	Total	878.54

Interest Income—Interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Interest accrued but not due on interest rate floor account	813.54
20-Jun-X8	To Interest accrued but not due on interest rate floor account	813.54			
			20-Jun-X8	By Bank account	6,804.17

Date	Particulars	Debit	Date	Particulars	Credit
			30-Sep-X8	By Interest accrued but not due on interest rate floor account	65.00
20-Dec-X8	To Interest accrued but not due on interest rate floor account	65.00			
			22-Dec-X8	By Bank account	591.50
31-Dec-X8	To Balance	7,395.67			
31-Dec-X8	Total	**8,274.21**	31-Dec-X8	Total	**8,274.21**
			31-Dec-X8	By Balance	7,395.67

IRD Floor NPV—(Asset/liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized gain/loss on IRD floor (P&L) account	18,560.28			
			30-Jun-X8	By Unrealized gain/loss on IRD floor (P&L) account	18,560.28
30-Jun-X8	To Unrealized gain/loss on IRD floor (P&L) account	946.04			
			30-Sep-X8	By Unrealized gain/loss on IRD floor (P&L) account	946.04
30-Sep-X8	To Unrealized gain/loss on IRD floor (P&L) account	586.43			
			20-Dec-X8	By Unrealized gain/loss on IRD floor (P&L) account	586.43
31-Dec-X8	Total	20,092.75	31-Dec-X8	Total	20,092.75

Unrealized gain/loss on IRD floor (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
30-Mar-X8	To IRD Floor NPV—(Asset/liability) account	18,560.28			
			30-Jun-X8	By IRD Floor NPV—(Asset/liability) account	18,560.28
			30-Jun-X8	By IRD Floor NPV—(Asset/liability) account	946.04
30-Sep-X8	To IRD Floor NPV—(Asset/liability) account	946.04			
			30-Sep-X8	By IRD Floor NPV—(Asset/liability) account	586.43
20-Dec-X8	To IRD Floor NPV—(Asset/liability) account	586.43			
31-Dec-X8	Total	20,092.75	31-Dec-X8	Total	20,092.75

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	100,000.00
31-Dec-X8	To Balance	100,000.00			
31-Dec-X8	Total	**100,000.00**	31-Dec-X8	Total	**100,000.00**
			31-Dec-X8	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	100,000.00			
			20-Jan-X8	By ABC Counterparty account	8,532.00
20-Jun-X8	To Interest Income—Interest rate floor account	6,804.17			
22-Dec-X8	To Interest Income—Interest rate floor account	591.50			
			31-Dec-X8	To Balance	98,863.67
31-Dec-X8	Total	**107,395.67**	31-Dec-X8	Total	**107,395.67**
31-Dec-X8	By Balance	98,863.67			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Capital account		100,000.00
Current Asset		
Bank account	98,863.67	
Income		
IRD Floor premium paid account	8,532.00	
Interest Income—Interest rate floor account		7,395.67
Totals	**107,395.67**	**107,395.67**

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
IRD Floor premium paid account	8,532.00	Interest Income—Interest rate floor account	7,395.67
		Net Loss C/o	1,136.33
Total	**8,532.00**	Total	**8,532.00**

Balance Sheet

As at 31-Dec-X8

Liabilities		**Assets**	
Capital account			
Capital account	100,000.00	Current Assets	
		Bank account	98,863.67
		Profit & Loss account	
		Opening balance	
		Current period	1,136.33
Total	100,000.00	Total	100,000.00

PROBLEM 2: INTEREST RATE FLOOR (RECEIVE)

Floor contract details:	**Receive**
Floor strike	4.75
Notional Amount	75,000
Currency	EUR
Day Count—30/360	360
Interest payment terms	Quarterly
Reset Frequency and Tenor	US 3 months LIBOR
Reset terms	Prefix/Post Paid

		Floor—reset dates		
Coupon reset dates	**Reset date**	**FX Rate**	**Pay date**	**LIBOR**
Coupon date-1	02-Jan-X8	1.5636	04-Mar-X8	4.65950
Coupon date-2	29-Feb-X8	1.5529	04-Jun-X8	4.13900
Coupon date-3	2-Jun-X8	1.4469	04-Sep-X8	5.07900
Coupon date-4	2-Sep-X8	1.2678	04-Dec-X8	5.08600
Coupon date-5				

Other details	**Trade date**	**Notional Amount**	**Premium**	**Settle date**
Floor contract position taken (inception)	04-Jan-X8	5,000,000.00	240.28	06-Jan-X8
Maturity	04-Dec-X8	5,000,000.00		06-Dec-X8

Valuation dates and net present values	**Date**	**NPV Net**	**LIBOR**
Valuation date 1	31-Mar-X8	336.99	4.16639
Valuation date 2	30-Jun-X8	4.62	5.18552
Valuation date 3	30-Sep-X8	206.23	5.08600
Maturity	04-Dec-X8		

SOLUTION TO PROBLEM 2: INTEREST RATE FLOOR (RECEIVE)

T-1 *On purchase of interest rate floor trade:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
2-Jan-X8	Interest Rate Derivative—floor account—OBS	75,000.00	
	To Interest Rate Derivative—floor (Contra) account—OBS		75,000.00
	(Being the recording of interest rate floor—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium on purchase of interest rate floor trade:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
2-Jan-X8	Interest rate floor premium paid account	240.28	
	To ABC Counterparty account		240.28
	(Being the premium paid at the inception of interest rate derivative floor contract representing the net present value of the floor on this date)		

T-3 *On accounting of premium paid:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
4-Jan-X8	ABC Counterparty account	240.28	
	To Bank account		240.28
	(Being the premium paid to the counter-party at the inception of interest rate floor contract)		

T-4 *On accounting of interest income on interest rate floor:*

Calculation of interest on coupon date	EURO
Previous coupon date	4-Jan-X8
Current coupon date	4-Mar-X8
Number of days	60
Notional amount on which interest is computed	75,000.00
Floor strike rate	4.750 %
Floating interest rate	4.659 %
Interest accounted for on coupon date	**11.31**

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
4-Mar-X8	Bank account	11.31	
	To Interest Income—Interest rate floor account		11.31
	(Being the interest income received on decrease in reference rate than the floor rate)		

T-5 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
31-Mar-X8	IRD Floor NPV—(Asset/Liability) account	336.99	
	To Unrealized gain/loss on IRD Floor (P&L) account		336.99
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-6 *On accounting of interest accrued on valuation date:*

Calculation of interest accrued on valuation date	EURO
Previous coupon date	4-Mar-X8
Current coupon date	31-Mar-X8
Number of days	27
Notional amount on which interest is computed	75,000.00
Floor strike rate	4.750 %
Floating interest rate	4.139 %
Interest accounted for on coupon date	**34.37**

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
31-Mar-X8	Interest accrued but not due on interest rate floor account	34.37	
	To Interest Income—Interest rate floor account		34.37
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

T-7 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
4-Jun-X8	Interest Income—Interest rate floor account	34.37	
	To Interest accrued but not due on interest rate floor account		34.37
	(Being reversal of interest accrued on valuation date)		

T-8 *On accounting of interest income on interest rate floor:*

Calculation of interest on coupon date	EURO
Previous coupon date	4-Mar-X8
Current coupon date	4-Jun-X8
Number of days	92
Notional amount on which interest is computed	75,000.00
Floor strike rate	4.750 %
Floating interest rate	4.139 %
Interest accounted for on coupon date	**117.11**

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
6-Jun-X8	Bank account	117.11	
	To Interest Income—Interest rate floor account		117.11
	(Being the interest income received on decrease in reference rate than the floor rate)		

T-9 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
30-Jun-X8	Unrealized gain/loss on IRD Floor (P&L) account	336.99	
	To IRD Floor NPV—(Asset/Liability) account		336.99
	(Being the reversal of the existing net present value of the interest rate floor contract)		

T-10 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
30-Jun-X8	IRD Floor NPV—(Asset/Liability) account	4.62	
	To Unrealized gain/loss on IRD Floor (P&L) account		4.62
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-11 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
30-Sep-X8	Unrealized gain/loss on IRD Floor (P&L) account	4.62	
	To IRD Floor NPV—(Asset/Liability) account		4.62
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

T-12 *On valuation of interest rate floor as on date:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
30-Sep-X8	IRD Floor NPV—(Asset/Liability) account	206.23	
	To Unrealized gain/loss on IRD Floor (P&L) account		206.23
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

T-13 *On reversal of net present value of interest rate floor:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
4-Dec-X8	Unrealized gain/loss on IRD Floor (P&L) account	206.23	
	To IRD Floor NPV—(Asset/Liability) account		206.23
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

T-14 *On reversal of contingent entry on termination:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
4-Dec-X8	Interest Rate Derivative—floor (Contra) account—OBS	75,000.00	
	To Interest Rate Derivative—floor account—OBS		75,000.00
	(Being the recording of Interest Rate Floor—since the amount is only notional and there is no exchange of money the entry is Off Balance Sheet)		

General Ledger accounts

Interest Rate Derivative—floor account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
2-Jan-X8	To Interest Rate Derivative—floor (Contra) account—OBS	75,000.00			
			4-Dec-X8	By Interest Rate Derivative—floor (Contra) account—OBS	75,000.00
31-Dec-X8	Total	75,000.00	31-Dec-X8	Total	75,000.00

Interest Rate Derivative—floor (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			2-Jan-X8	By Interest Rate Derivative—floor account—OBS	75,000.00
4-Dec-X8	To Interest Rate Derivative—floor account—OBS	75,000.00			
31-Dec-X8	Total	75,000.00	31-Dec-X8	Total	75,000.00

IRD Floor premium paid account

Date	Particulars	Debit	Date	Particulars	Credit
2-Jan-X8	To ABC Counterparty account	240.28			
			31-Dec-X8	By Balance	240.28
31-Dec-X8	Total	**240.28**	31-Dec-X8	Total	**240.28**
31-Dec-X8	To Balance	240.28			

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			2-Jan-X8	By IRD Floor premium paid account	240.28
4-Jan-X8	To Bank account	240.28			
31-Dec-X8	Total	240.28	31-Dec-X8	Total	240.28

Interest accrued but not due on interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest Income—Interest rate floor account	34.37			
			4-Jun-X8	By Interest Income—Interest rate floor account	34.37
31-Dec-X8	Total	34.37	31-Dec-X8	Total	34.37

Interest Income—Interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
			4-Mar-X8	By Bank account	11.31
			31-Mar-X8	By Interest accrued but not due on interest rate floor account	34.37
4-Jun-X8	To Interest accrued but not due on interest rate floor account	34.37			
			6-Jun-X8	By Bank account	117.11
31-Dec-X8	To Balance	128.42			
31-Dec-X8	Total	**162.79**	31-Dec-X8	Total	**162.79**
			31-Dec-X8	By Balance	128.42

IRD Floor NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized gain/loss on IRD floor (P&L) account	336.99			
			30-Jun-X8	By Unrealized gain/loss on IRD floor (P&L) account	336.99
30-Jun-X8	To Unrealized gain/loss on IRD floor (P&L) account	4.62			
			30-Sep-X8	By Unrealized gain/loss on IRD floor (P&L) account	4.62
30-Sep-X8	To Unrealized gain/loss on IRD floor (P&L) account	206.23			
			4-Dec-X8	By Unrealized gain/loss on IRD floor (P&L) account	206.23
31-Dec-X8	Total	547.84	31-Dec-X8	Total	547.84

Unrealized gain/loss on IRD floor (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By IRD Floor NPV—(Asset/Liability) account	336.99
30-Jun-X8	To IRD Floor NPV—(Asset/Liability) account	336.99			
			30-Jun-X8	By IRD Floor NPV—(Asset/Liability) account	4.62
30-Sep-X8	To IRD Floor NPV—(Asset/Liability) account	4.62			
			30-Sep-X8	By IRD Floor NPV—(Asset/Liability) account	206.23
4-Dec-X8	To IRD Floor NPV—(Asset/Liability) account	206.23			
31-Dec-X8	Total	547.84	31-Dec-X8	Total	547.84

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	100,000.00
31-Dec-X8	To Balance	100,000.00			
31-Dec-X8	Total	**100,000.00**	31-Dec-X8	Total	**100,000.00**
			31-Dec-X8	By Balance	100,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	100,000.00			
			4-Jan-X8	By ABC Counterparty account	240.28
4-Mar-X8	To Interest Income—Interest rate floor account	11.31			
6-Jun-X8	To Interest Income—Interest rate floor account	117.11			
			31-Dec-X8	To Balance	99,888.14
31-Dec-X8	Total	**100,128.42**	31-Dec-X8	Total	**100,128.42**
31-Dec-X8	By Balance	99,888.14			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		Nil
Capital account		100,000.00
Current Asset		
Bank account	99,888.14	
Income		
IRD Floor premium paid account	240.28	
Interest Income—Interest rate floor account		128.42
Totals	**100,128.42**	**100,128.42**

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
IRD Floor premium paid account	240.28	Interest Income—Interest rate floor account	128.42
		Net profit C/o	111.86
Total	**240.28**	Total	**240.28**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
Capital account	100,000.00	Current Assets	
		Bank account	99,888.14
		Profit & Loss account	

Liabilities		**Assets**	
		Opening balance	
		Current period	111.86
Total	100,000.00	Total	100,000.00

ACCOUNTING ENTRIES IN FUNCTIONAL CURRENCY PROBLEM 2: INTEREST RATE FLOOR (RECEIVE)

F-1 *On purchase of interest rate floor trade:* (T-1 @ FX Rate: 1.4597)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
2-Jan-X8	Interest Rate Derivative—floor account—OBS	51,380.42	
	To Interest Rate Derivative—floor (Contra) account—OBS		51,380.42
	(Being the recording of interest rate floor—since the amount is only notional and there is no exchange of money the entry is off Balance Sheet)		

F-2 *On accounting for premium on purchase of interest rate floor trade:* (T-2 @ FX Rate: 1.4597)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
2-Jan-X8	Interest rate floor premium paid account	164.61	
	To ABC Counterparty account		164.61
	(Being the premium paid at the inception of interest rate derivative floor contract representing the net present value of the floor on this date)		

F-3 *On accounting for premium paid: (***T-3** *@ FX Rate: 1.4726)*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
4-Jan-X8	ABC Counterparty account	163.17	
	To Bank account		163.17
	(Being the premium paid to the counter-party at the inception of interest rate floor contract)		

F-4 *FX gain/loss:*

Currency gain/loss on settlement date	**EUR**	**FX Rate**	**USD**
a) Premium paid	240.28	1.459700	164.61
b) Actual premium paid on settlement date		1.472600	163.17
c) Realized Currency gains on settlement = (a) − (b)			**1.44**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Jan-X8	ABC Counterparty account	1.44	
	To Currency gain/loss a/c account		1.44
	(Being gain on FX on settlement of premium)		

F-5 *On accounting of interest income on interest rate floor:* (T-4 @ FX Rate: 1.5199)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Mar-X8	Bank account	7.44	
	To Interest Income—Interest rate floor account		7.44
	(Being the interest income received on decrease in reference rate than the floor rate)		

F-6 *On valuation of interest rate floor as on date:* (T-5 @ FX Rate: 1.5800)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	IRD Floor NPV—(Asset/Liability) account	213.28	
	To Unrealized gain/loss on IRD Floor (P&L) account		213.28
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

F-7 *On accounting of interest accrued on valuation date:* (T-6 @ FX Rate: 1.5800)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest accrued but not due on interest rate floor account	21.75	
	To Interest Income—Interest rate floor account		21.75
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate floor instrument)		

F-8 *On reversal of interest accrued on valuation date:* (T-7 @ FX Rate: 1.5800)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Jun-X8	Interest Income—Interest rate floor account	21.75	
	To Interest accrued but not due on interest rate floor account		21.75
	(Being reversal of interest accrued on valuation date)		

F-9 *On accounting of interest income on interest rate floor:* (T-8 @ FX Rate: 1.5529)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Jun-X8	Bank account	75.41	
	To Interest Income—Interest rate floor account		75.41
	(Being the interest income received on decrease in reference rate than the floor rate)		

F-10 *On reversal of net present value of interest rate floor:* (T-9 @ FX Rate: 1.5800)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Floor (P&L) account	213.28	
	To IRD Floor NPV—(Asset/Liability) account		213.28
	(Being the reversal of the existing net present value of the interest rate floor contract)		

F-11 *On valuation of interest rate floor as on date:* (T-10 @ FX Rate: 1.5799)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Floor NPV—(Asset/Liability) account	2.92	
	To Unrealized gain/loss on IRD Floor (P&L) account		2.92
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

F-12 *On reversal of net present value of interest rate floor:* (T-11 @ FX Rate: 1.5799)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Floor (P&L) account	2.92	
	To IRD Floor NPV—(Asset/Liability) account		2.92
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

F-13 *On valuation of interest rate floor as on date:* (T-12 @ FX Rate: 1.4449)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD Floor NPV—(Asset/Liability) account	142.73	
	To Unrealized gain/loss on IRD Floor (P&L) account		142.73
	(Being the unrealized gain/loss on interest rate floor as on valuation date representing the net present value of the contract as on date)		

F-14 *On reversal of net present value of interest rate floor:* (T-13 @ FX Rate: 1.4449)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Dec-X8	Unrealized gain/loss on IRD Floor (P&L) account	142.73	
	To IRD Floor NPV—(Asset/Liability) account		142.73
	(Being the reversal of the existing net present value of the interest rate floor contract on valuation date)		

F-15 *On reversal of contingent entry on termination:* (T-14 @ FX Rate: 1.4597)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Dec-X8	Interest Rate Derivative—floor (Contra) account—OBS	51,380.42	
	To Interest Rate Derivative—floor account—OBS		51,380.42
	(Being the recording of Interest Rate Floor—since the amount is only notional and there is no exchange of money the entry is Off Balance Sheet)		

F-16 *FX Gain/loss:*

Calculation of currency gain/loss on Bank account

Description	Date	EUR	Fx rate	USD
Opening balance	1-Jan-X8	100,000.00	1.4704	68,008.71
Premium paid on IRD Floor	4-Jan-X8	(240.28)	1.4726	(163.17)
Interest income on IRD Floor	4-Mar-X8	11.31	1.5199	7.44
Interest income on IRD Floor	4-Jun-X8	117.11	1.5529	75.41
Net balance		99,888.14		67,928.39
Net balance at current FX rate	As of 04-Dec-X8	99,888.14	1.4449	69,131.53
FX translation on Bank account				1,203.13

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Dec-X8	Currency gain/loss account	1,203.13	
	To Bank account		1,203.13
	(Being Currency gain/loss on bank account)		

General Ledger accounts

Interest Rate Derivative—floor account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
2-Jan-X8	To Interest Rate Derivative—floor (Contra) account—OBS	51,380.42			
			4-Dec-X8	By Interest Rate Derivative—floor (Contra) account—OBS	51,380.42
31-Dec-X8	Total	51,380.42	31-Dec-X8	Total	51,380.42

Interest Rate Derivative—floor (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			2-Jan-X8	By Interest Rate Derivative—floor account—OBS	51,380.42
4-Dec-X8	To Interest Rate Derivative—floor account—OBS	51,380.42			
31-Dec-X8	Total	51,380.42	31-Dec-X8	Total	51,380.42

IRD Floor premium paid account

Date	Particulars	Debit	Date	Particulars	Credit
2-Jan-X8	To ABC Counterparty account	164.61			
			31-Dec-X8	By Balance	164.61
31-Dec-X8	Total	**164.61**	31-Dec-X8	Total	**164.61**
31-Dec-X8	To Balance	164.61			

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			2-Jan-X8	By IRD floor premium paid account	164.61
4-Jan-X8	To Bank account	163.17			
4-Jan-X8	To Currency Gain/Loss account	1.44			
31-Dec-X8	Total	**164.61**	31-Dec-X8	Total	**164.61**

Currency Gain/Loss account

Date	Particulars	Debit	Date	Particulars	Credit
			4-Jan-X8	By ABC Counterparty account	1.44

Currency Gain/Loss account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
4-Dec-X8	To Bank account	1,203.13			
			31-Dec-X8	By Balance	1,201.69
31-Dec-X8	Total	**1,203.13**	31-Dec-X8	Total	**1,203.13**
31-Dec-X8	To Balance	1,201.69			

Interest accrued but not due on interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest Income—Interest rate floor account	21.75			
			4-Jun-X8	By Interest Income—Interest rate floor account	21.75
31-Dec-X8	Total	21.75	31-Dec-X8	Total	21.75

Interest Income—Interest rate floor account

Date	Particulars	Debit	Date	Particulars	Credit
			4-Mar-X8	By Bank account	7.44
			31-Mar-X8	By Interest accrued but not due on interest rate floor account	21.75
4-Jun-X8	To Interest accrued but not due on interest rate floor account	21.75			
			4-Jun-X8	By Bank account	75.41
31-Dec-X8	To Balance	82.85			
31-Dec-X8	Total	**104.60**	31-Dec-X8	Total	**104.60**
			31-Dec-X8	By Balance	82.85

IRD Floor NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized gain/loss on IRD floor (P&L) account	213.28			
			30-Jun-X8	By Unrealized gain/loss on IRD floor (P&L) account	213.28
30-Jun-X8	To Unrealized gain/loss on IRD floor (P&L) account	2.92			
			30-Sep-X8	By Unrealized gain/loss on IRD floor (P&L) account	2.92
30-Sep-X8	To Unrealized gain/loss on IRD floor (P&L) account	142.73			
			4-Dec-X8	By Unrealized gain/loss on IRD floor (P&L) account	142.73
31-Dec-X8	Total	358.93	31-Dec-X8	Total	358.93

Unrealized gain/loss on IRD floor (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By IRD Floor NPV—(Asset/Liability) account	213.28
30-Jun-X8	To IRD Floor NPV—(Asset/Liability) account	213.28			
			30-Jun-X8	By IRD Floor NPV—(Asset/Liability) account	2.92
30-Sep-X8	To IRD Floor NPV—(Asset/Liability) account	2.92			
			30-Sep-X8	By IRD Floor NPV—(Asset/Liability) account	142.73
4-Dec-X8	To IRD Floor NPV—(Asset/Liability) account	142.73			
31-Dec-X8	Total	358.93	31-Dec-X8	Total	358.93

Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			1-Jan-X8	By Balance	68,008.71
31-Dec-X8	To Balance	68,008.71			
31-Dec-X8	Total	68,008.71	31-Dec-X8	Total	68,008.71
			31-Dec-X8	By Balance	68,008.71

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
1-Jan-X8	To Balance	68,008.71			
			4-Jan-X8	By ABC Counterparty account	163.17
4-Mar-X8	To Interest Income—Interest rate floor account	7.44			
4-Jun-X8	To Interest Income—Interest rate floor account	75.41			
			4-Dec-X8	By Currency Gain/loss account	1,203.13
			31-Dec-X8	To Balance	66,725.26
31-Dec-X8	Total	**68,091.56**	31-Dec-X8	Total	**68,091.56**
31-Dec-X8	To Balance	66,725.26			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		Nil
Current Liabilities		68,008.71
Current Asset		
Bank account	66,725.26	
Income		
IRD Floor premium paid account	164.61	
Interest Income—Interest rate floor account		82.85
Currency Gain/loss account	1,201.69	
Totals	**68,091.56**	**68,091.56**

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
IRD Floor premium paid account	164.61	Interest Income – Interest rate floor account	82.85
Currency Gain/loss account	1,201.69		
		Net Loss C/o	1,283.45
Total	**1,366.30**	Total	**1,366.30**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
Capital account	68,008.71	Current Assets	
		Bank account	66,725.26
		Profit & Loss account	
		Opening balance	
		Current period	1,283.45
Total	**68,008.71**	Total	**68,008.71**

SUMMARY

- Interest rate floors are a form of interest rate derivatives. These are over-the-counter derivatives that protect the holder from declines in short-term interest rates by making a payment to the buyer when an underlying reference rate falls below a specified rate, known

as the floor rate or the strike rate. The holder of a floor instrument pays a premium for protection against decline in interest rates. For each period, the payment is determined by comparing the current level of the reference rate with the agreed floor rate. If the reference rate is below the floor rate, the payment is calculated with reference to the difference between the two rates, the length of the period, and the notional amount of the contract.

- Again interest rate floors are of two types—the first type being "to pay." This means that for receiving an agreed premium, the buyer of this type of instrument agrees to compensate the seller of the instrument on the pay date any interest falling below the floor rate, if the benchmark interest rate is below the floor rate on the reset date. The premium is computed like any other option premium based on some mathematical model that takes into account several factors including the strike rate (floor rate), the present benchmark interest rate, the historical volatility of interest rates, the time period of the contract, amongst other factors.
- The second type of interest rate floors is known as "to receive." This means that for paying an agreed premium, the seller of this type of instrument agrees to compensate the buyer of the instrument on the pay date any interest below the floor rate, if the benchmark interest rate is below the floor rate on the reset date.
- An interest rate floor contract enables investors who buy this instrument to retain the upside advantages of their variable rate investments while obtaining the protection from interest rates falling below a specified minimum rate of interest by parting with a small premium.
- This type of financial instrument ensures variable rate investors obtain peace of mind from falling interest rates and become free to concentrate on other aspects of their business/investments, while at the same time reap the benefits of upward movements of interest rates.
- Similarly the term of the floor is also flexible and can be customized to match the term of the underlying asset that is to be protected.
- For the buyer of this instrument, the cost is limited to the premium paid and theoretically, like any other option contract, the upward potential is huge.
- For the buyer of this instrument, there are no risks associated with an interest rate floor instrument other than the counter-party risk.
- If the interest rates do not fall below the floor rate, the buyer of the floor instrument loses just the premium paid on such investment and nothing more than that.
- Being a derivative instrument, an interest rate floor per se qualifies as a hedging instrument. It should be noted that in an interest rate floor, the risk reward is asymmetric and can be more or less compared to an equity options position. An interest rate floor instrument can be used primarily to hedge interest rate risk.
- A to pay interest rate floor is like a written option contract where a premium is received and hence cannot be designated as a hedging instrument. A written option cannot be designated as a hedging instrument because the potential loss on an option that an entity writes could be significantly greater than the potential gain in value of a related hedged item.
- A to receive type of interest rate floor is like a purchased option contract where a premium is paid to get protection from the rising interest rate and as such can be designated as a hedging instrument.

QUESTIONS

Theory questions

1. What is meant by "a floor" on an interest rate contract?
2. Can an interest rate floor contract be terminated before maturity? If so, how will the termination fees be arrived at?

3. When does an interest rate floor become "in the money" and when does it become "out of the money"?
4. What are the two types of interest rate floor contracts? Which type of contract gives the buyer protection from a fall in interest rates?
5. What are the significant events in the trade life cycle of an interest rate floor contract?
6. What are the benefits of an interest rate floor contract?
7. What are the risks associated with an interest rate floor contract?
8. Write the journal entry for accounting for the premium on the trade in an interest rate floor contract.
9. What are all the factors that should be considered for calculating an interest rate floor premium?

Objective questions

1. Floors are purchased for a _____.
   a) Discount
   b) Premium
   c) Market rate
   d) None of the above
2. If the reference rate is below the floor rate, the payment is based upon the difference between _____.
   a) The two rates
   b) The length of the period
   c) The contract's notional amount
   d) All of the above
3. An interest rate floor enables variable rate investors to retain the upside advantages of their variable rate investment while obtaining the comfort of a known _____.
   a) Maximum interest rate
   b) Minimum interest rate
   c) Benchmark interest rate
   d) None of the above
4. It is important to understand that if interest rates do not fall below the_____, you have not obtained any benefit from the purchase of the floor.
   a) Reference rate
   b) Reset rate
   c) Floor rate
   d) None of the above
5. An interest rate floor agreement is based on making a payment to the holder when a _____ falls below the specified floor rate, the length of the period and the contract's notional amount.
   a) Floor rate
   b) Cap rate
   c) Reset rate
   d) Reference rate

6. To calculate the premium for a floor, several factors are considered, including the ____.
   a) Strike rate
   b) Notional amount
   c) Term
   d) All of the above
7. If the reference rate is above the_____, then nothing is paid under the floor and no settlement takes place.
   a) Reference rate
   b) Reset rate
   c) Floor rate
   d) None of the above
8. On termination, the floor will be _____and the original transaction is reversed.
   a) Renewed
   b) Rolled over
   c) Cancelled
   d) None of the above
9. In a floor–to pay contract, when the reference rate falls below the strike price then interest has to be _____.
   a) Received
   b) Deducted
   c) Paid
   d) None of the above

Journal questions

1. Interest rate floor—pay

Floor contract details:	**Pay**
Floor strike	4.5
Notional amount	12,000,000
Currency	USD
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Floor—reset dates	
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	14-Jan-00	18-Mar-05	**2.66000**
Coupon date-2	16-Mar-05	20-Jun-05	3.04000

Coupon reset dates	Reset date		Pay date	LIBOR
Coupon date-3	16-Jun-05		19-Sep-05	3.43000
Coupon date-4	15-Sep-05		19-Dec-05	**3.88563**

Other details	Trade date	Notional amount	Premium	Settle date
Floor contract position taken (inception)	16-Jan-05	12,000,000.00	(148,232.39)	18-Jan-X8
Maturity	18-Dec-05	12,000,000.00		

Valuation dates and net present values	Date	NPV net	LIBOR	–
Valuation date 1	30-Mar-05	(88,854.60)	3.52505	
Valuation date 2	30-Jun-05	(54,192.43)	3.59584	
Valuation date 3	30-Sep-05	(18,472.10)	3.88563	
Maturity	18-Dec-05			

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

2. Interest rate floor—pay

Floor contract details:	Pay
Floor strike	4.92
Notional amount	5,000,000
Currency	CAD
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

Floor—reset dates

Coupon reset dates	Reset date		Pay date	LIBOR
Coupon date-1	15-Jan-X8		13-Mar-X8	4.34829
Coupon date-2	13-Mar-X8		13-Jun-X8	4.34143
Coupon date-3	13-June-X8		13-Sep-X8	4.5200
Coupon date-4	13-Sep-X8		13-Dec-X8	5.07286

Other details	Trade date	Notional amount	Premium	Settle date
Floor contract position taken (inception)	11-Jan-X8	5,000,000.00	(44,893.61)	13-Jan-X8
Maturity	08-Dec-X8	5,000,000.00		

Valuation dates and net present values	Date	NPV net	LIBOR
Valuation date 1	31-Mar-X8	(36,116.76)	4.32246
Valuation date 2	30-Jun-X8	(16,121.57)	4.64729
Valuation date 3	30-Sep-X8	(2,803.56)	5.07286
Maturity	18-Dec-X8		

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

3. Interest rate floor—receive

Floor contract details:	**Receive**
Floor strike	4.5
Notional amount	8,000,000
Currency	USD
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Floor—reset dates	
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	10-Jan-X8	12-Mar-X8	4.37688
Coupon date-2	10-Mar-X8	12-Jun-X8	2.90125
Coupon date-3	10-Jun-X8	12-Sep-X8	2.78625
Coupon date-4	10-Sep-X8	12-Dec-X8	2.81875

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Floor contract position taken (inception)	10-Jan-X8	8,000,000.00	51,325.26	12-Jan-X8
Maturity	12-Dec-X8	8,000,000.00		

Valuation dates and net present values	**Date**	**NPV net**	**LIBOR**	**–**
Valuation date 1	31-Mar-X8	113,184.87	2.62606	
Valuation date 2	30-Jun-X8	58,190.65	3.05833	
Valuation date 3	30-Sep-X8	33,742.77	2.81875	
Maturity	12-Dec-X8			

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

4. Interest rate floor—receive

Floor contract details:	**Receive**
Floor strike	1.25
Notional amount	14,000,000
Currency	JPY
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Floor—reset dates		
Coupon reset dates	**Reset date**	**FX rate**	**Pay date**	**LIBOR**
Coupon date-1	12-Jan-X6	1.000000	15-Mar-X6	0.06563
Coupon date-2	13-Mar-X6	1.000000	15-Jun-X6	0.10313
Coupon date-3	13-Jun-X6	1.000000	15-Sep-X6	0.30875
Coupon date-4	13-Sep-X6	1.000000	15-Dec-X6	0.41625

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Floor contract position taken (inception)	13-Jan-X6	14,000,000.00	142,748.22	15-Jan-X6
Maturity	04-Dec-X6	14,000,000.00	–	06-Dec-X6

Valuation dates and net present values	**Date**	**NPV net**	**LIBOR**
Valuation date 1	31-Mar-X6	107,799.04	0.24126
Valuation date 2	30-Jun-X6	59,668.58	0.41046
Valuation date 3	30-Sep-X6	29,479.94	0.41425
Maturity	04-Dec-X6		

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

CHAPTER 11

Interest Rate Collar

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Meaning of interest rate collar
- Benefits and risks of interest rate collar
- Accounting for interest rate collar
- Trade life cycle of interest rate collar
- Accounting journal entries to be recorded during the different phases of the trade life cycle
- Illustration of investments in interest rate collar
- Meaning of interest rate reverse collar
- Accounting for interest rate reverse collar
- Accounting journal entries to be recorded during the different phases of the trade life cycle
- Illustration of investments in interest rate reverse collar
- Preparation of general ledger accounts
- Preparation of income statement, balance sheet after the investments in interest rate collar and reverse collar are made
- FX revaluation and FX translation process
- Functional currency, foreign currency and presentation currency

MEANING OF INTEREST RATE COLLAR

An interest rate collar is an instrument that combines both a cap and a floor. The cap component of the instrument gives the investor protection against rising rates by guaranteeing that the investor will never pay above a pre-agreed rate. The floor component of the collar allows the investor to take advantage of the falling interest rates until the interest rate hits a predetermined rate known as floor rate. A collar effectively creates an interest rate range with an upper and lower limit and depending upon where the cap and floor levels are set, will reduce or eliminate the requirement for a premium.

In other words, an interest rate collar protects the investor against increases in interest rates beyond a predetermined level known as the cap rate, while still allowing the investor to take advantage of falling interest rates down to a predetermined level, known as the floor rate. The investor, however, is exposed to a further fall in the interest rates below the floor rate. In a nutshell, an interest rate collar is equivalent to that of buying a cap and selling a floor.

The term collar comes from the fact that the entity's interest cost will never be lower than the floor level and will never be greater than the cap level. Interest rate collars are a popular way of managing the interest risk of any entity having a huge debt burden.

Benefits of an interest rate collar instrument

- Since an interest rate collar includes the buying of a cap instrument, all the benefits of a cap instrument are applicable for this instrument. Caps provide the entity with protection against unfavorable interest rate movements above the strike rate. Cap contracts are flexible as they are over-the-counter products and are customized to suit the requirements of the parties to the trade. The strike rate can be positioned to reflect the level of protection sought by the buyer or willing to be written by the seller.
- The term of the collar is also flexible and can be customized to match the term of the underlying liability to be protected.
- The amount of premium is determined by the strike rate, the current reference rate of interest, and volatility of interest rates. While a premium is payable on the cap component of the collar, a premium is also receivable on the floor component of the same instrument. An investor can fix the cap and floor strike rates in such a way that the overall premium is minimized, or even reduced to zero in some cases.

Risk on collar instrument

- The investor will not benefit from a fall in rates below the pre-fixed floor rate. In fact, a fall in the rates below the floor rate forces the investor to compensate the counterparty to that extent.
- Unwinding the collar during its lifetime involves termination fees depending on the then prevailing market rates.
- The investor will still be exposed to interest rate movements if the term of the collar is shorter than that of the underling facility.

COLLAR OR REVERSE COLLAR AS A HEDGING INSTRUMENT

A written option cannot be designated as a hedging instrument because the potential loss on an option that an entity writes could be significantly greater than the potential gain in value of a related hedged item. In this background can an interest rate collar or a reverse collar be designated as a hedging instrument? A collar as mentioned above contains both a purchased option (cap) and a written option (floor). A reverse collar also contains both a purchased option (floor) and a written option (cap). So, depending upon the movement of the interest rate over the life of the contract, the entity may either have to receive interest or pay interest. Or in other words, the net present value of the instrument may oscillate between a positive and negative number theoretically. Hence the question whether a collar can be designated as a hedging instrument.

This question has been considered by both US GAAP and IFRS, the answer being the following.

An interest rate collar or other derivative instrument that includes a written option cannot be designated as a hedging instrument if it is a net written option, because the standard precludes the use of a written option as a hedging instrument unless it is designated as an offset to a purchased option. However, an interest rate collar or other derivative instrument that includes a written option may be designated as a hedging instrument if the combination is a net purchased option or zero cost collar.

To the question as to what factors indicate that an interest rate collar or other derivative instrument that combines a written option component and a purchased option component is not a net written option, the answer is very clearly given as follows.

The following factors taken together suggest that an interest rate collar or other derivative instrument that includes a written option is not a net written option.

No net premium is received either at inception or over the life of the combination of options. The distinguishing feature of a written option is the receipt of a premium to compensate the writer for the risk incurred.

Except for the strike prices, the critical terms and conditions of the written option component and the purchased option component are the same (including underlying variable or variables, currency denomination and maturity date). Also, the notional amount of the written option component is not greater than the notional amount of the purchased option component.

Obviously in the case of an interest rate collar, the notional amount, currency and the maturity are one and the same. Hence, the collar will qualify as a hedging instrument if the net present value of the instrument stays positive throughout the life of the contract and not merely at the inception of the contract. This condition will ensure that the entity will never lose on account of the hedging instrument but always has the potential to gain, which is the intention of the standard.

ACCOUNTING FOR INTEREST RATE COLLAR

In this chapter we will cover the accounting requirements for investments in interest rate swaps, as shown in Table 11.1.

Table 11.1 Relevant accounting standards

US GAAP Topics	IFRS
220—Comprehensive Income	IFRS 7—Financial Instruments: Disclosure
815—Derivatives and Hedging	IFRS 9—Financial Instruments
820—Fair Value Measurements and Disclosures	IAS 21—The Effects of Changes in Foreign Exchange Rates
825—Financial Instruments	IAS 32—Financial Instruments: Presentation
830—Foreign Currency Matters	IAS 39—Financial Instruments: Recognition and Measurement
946—Financial Services—Investment Companies	

THE TRADE LIFE CYCLE FOR AN INTEREST RATE COLLAR

- Recording the trade—contingent
- Account for the premium if any on the trade
- Receive/pay the premium for the trade
- Reset the interest rate for the ensuing period
- Account for accrued interest if any on valuation date
- Reverse the accrued interest if any on coupon date
- Ascertain and account for the fair value on valuation date
- Pay/receive interest on the pay date
- Termination of the trade and accounting for termination fee
- Payment or receipt of termination fee
- Maturity of the trade
- Reversal of the contingent entry on termination or maturity
- FX revaluation entries (for foreign currency trades)
- FX translation entries (for foreign currency trades)

To understand the different events in the trade life cycle of an interest rate collar contract let us assume the following trade data as an illustration:

INTEREST RATE COLLAR INSTRUMENT—AN ILLUSTRATION

Tables 11.2 and 11.3 gives the details of interest rate collar instrument for the purpose of this illustration.

Table 11.2 Details of interest rate collar trade

Cap strike—receive	2.80
Floor strike—pay	2.65
Notional amount	650,000
Currency	USD
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Collar—reset dates	
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	02-Jan-X8	4-Mar-X8	4.68063
Coupon date-2	29-Feb-X8	4-Jun-X8	3.05750
Coupon date-3	2-Jun-X8	4-Sep-X8	2.67625
Coupon date-4	2-Sep-X8	4-Dec-X8	2.55000

Table 11.3 Other details for the interest rate collar trade

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
IRS contract position taken (inception)	2-Jan-X8	650,000.00	8,226.78	4-Jan-X8
IRS contract termination (unwind)	4-Dec-X8	650,000.00		6-Dec-X8
Upfront fees paid				

Valuation dates and net present values	**Date**	**NPV net**	**LIBOR**
Valuation date 1	31-Mar-X8	(288.71)	2.68906
Valuation date 2	30-Jun-X8	807.99	2.97261
Valuation date 3	30-Sep-X8	21.43	2.81313
Termination date	20-Dec-X8		

Recording the trade—contingent

This interest rate collar agreement is the simultaneous purchase of a cap and the sale of a floor for the same expiration, the length of the period and the contract's notional amount. However, since this is just a notional amount and no physical exchange of money takes place, the off balance sheet entry to record the transaction is made in the book of accounts, as shown in Table 11.4.

Table 11.4 At the inception of the interest rate collar trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Jan-X8	Interest Rate Derivative—Collar account—OBS	650,000.00	
	To Interest Rate Derivative—Collar (Contra) account—OBS		650,000.00
	(Being the recording of interest rate collar—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

Account for the premium if any on the trade

The cost of the collar is referred to as the premium. The premium for an interest rate collar depends on the rate parameters sought as compared to current market interest rates. The net premium can be reduced to zero by choosing the strike rates that allow for the cap and floor premiums to be equal. The premium can also be in the negative, meaning that to take a collar position the buyer of the instrument may receive a premium from the seller.

The buyer of this contract pays a non-refundable premium to the seller of the collar. As for the cap component, if the interest rate rises above the cap rate the seller pays interest to the buyer. The premium is calculated at the time the cap is established on the basis of the cap rate, the reference interest rate, the notional amount, the maturity period, and market volatility of interest rates. The premium for an interest rate cap also depends on several other factors, as this type of contract is very similar to that of an option contract where the premium is based on the strike interest rate (cap rate), current interest rate, time to maturity of the contract, and volatility—both historical and implied. Similarly, for the floor component the buyer of a collar instrument has to make payment to the seller when the interest rate falls below the floor rate and for this protection, the buyer of the collar gets a premium. This floor premium goes towards reducing the cost of the collar as this is reduced from the cap premium. The instrument can be so structured that the net premium may well be zero, in which case there is no need to pay any premium at the inception of the collar contract. As mentioned before if the floor strike rate is near the market rates then it is likely the net premium may well turn out to be negative, enabling the buyer to receive a premium on buying the collar contract.

In this illustration, the entity should pay a net premium at inception of the trade amounting to $8,226.78 to buy the collar. The accounting entry for recording the same is as shown in Table 11.5.

Table 11.5 On accounting for IRD collar premium

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Jan-X8	IRD Collar premium paid account	8,226.78	
	To ABC Counterparty account		8,226.78
	(Being the premium paid at the inception of interest rate collar contract representing the net present value of the collar on this date)		

Receive/pay the premium for the trade

As mentioned in the previous paragraph an interest rate collar can also be structured in such a way that there is no premium for the product. This will be so when the premium on the cap component equals

the premium receivable on the floor component. However, if there is any premium payable for this instrument, then such a premium must usually be paid or received within two business days of entering into the transaction. In this illustration the net premium of $8,226.78 will be paid on 6-Jan-X1 and the entry that is passed to record the transaction is as shown in Table 11.6.

Table 11.6 On payment of IRD collar premium

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
6-Jan-X8	ABC Counterparty account	8,226.78	
	Bank account		8,226.78
	(Being the premium paid to the counter-party for interest rate collar contract)		

Reset the interest rate for the ensuing period

Interest reset dates are agreed upon between the counterparties at the inception of the trade. On the reset dates the reference rate is compared with the cap rate as well as the floor rate to determine if any interest is required to be paid at all by one party to the other. If the reference interest rate is above the cap rate then the interest is payable to the buyer of the collar contract. Similarly, if the reference interest rate is less than the floor rate then the buyer of the collar should pay interest to the seller on the pay date. Since only reset happens, no accounting entry is passed on this date.

Account for the interest accrued—payable/receivable on collar on valuation date

If the reference interest rate is above the cap rate, then the buyer of the collar instrument should be compensated by the seller interest calculated as per the previous paragraphs. When it is ascertained on the reset date that the reference interest rate is above the cap rate and if the valuation date occurs before the pay date then interest accrued on such a collar instrument from the reset date to the valuation date should be computed and accounted for. This entry, however, will be reversed on the pay date when the actual interest calculated until the pay date from the reset date is accounted for.

In this illustration, the cap strike rate is 2.8 percent and on the interest reset date the benchmark interest rate was 3.0575, resulting in the seller of the collar making payment to the buyer on the next pay date, viz. June 4th. Since interest is determined to be receivable, the accrued interest should be calculated on the valuation date and accounted for.

The entry for accounting the accrued interest receivable on the valuation date is as shown in Table 11.7.

Table 11.7 On accounting of interest accrued on valuation date

Calculation of interest on coupon date	USD
Previous coupon date	4-Mar-X8
Current coupon date	31-Mar-X8
Number of days	27
Notional amount on which interest is computed	650,000
Collar strike rate	2.8000 %
Floating interest rate	3.0575 %
Interest accounted for on coupon date	125.53

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest accrued but not due on interest rate collar account	125.53	
	To Interest Income—Interest rate collar account		125.53
	(Being the interest income accounted for until the valuation date representing interest accrued but not due on the interest rate cap instrument)		

Reverse the accrued interest if any on the coupon date

The accrued interest entry for the interest rate collar contract recorded in the previous valuation date must be reversed on the next pay date, when the actual interest until the pay date will be accounted for. The next pay date subsequent to the valuation date falls on 4th June and on that date the following entry will be recorded in the book of accounts for reversal of accrued interest as given in Table 11.8.

Table 11.8 On reversal of interest accrual on coupon date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Jun-X8	Interest Income—Interest rate collar account	125.53	
	To Interest accrued but not due on interest rate collar account		125.53
	(Being reversal of interest accrual on coupon date)		

Ascertain the fair value on valuation date

At the end of every reporting period the net present value of the collar contract is ascertained and entries recorded in the books accordingly. The net present value of the collar contract on 31st March amounts to a negative number of $288.71 and this is accounted for as unrealized gain/loss on the interest rate collar instrument. The entry as shown in Table 11.9 is passed for the same.

Table 11.9 On valuation of IRD collar

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Unrealized gain/loss on IRD Collar (P&L) account	288.71	
	To IRD Collar NPV—(Asset) account		288.71
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

Pay/receive interest on pay date

On each pay date, subsequent to the reset date, interest will be received if the prevailing reference rate rises above the cap level. If the reference rate falls below the floor rate, interest will be paid. If the reference interest rate stays between the cap rate and the floor rate then no interest is paid or received. In this illustration, since the reference interest rate on the reset date of 2nd Jan was 4.68063

percent, which is above the cap rate of 2.80 percent, interest is payable by the seller of the collar instrument amounting to $2,037.35 to the buyer of the collar. The accounting entry that is recorded in the book of accounts is as shown in Table 11.10.

Table 11.10 On accounting of interest income on interest rate collar

Calculation of interest on coupon date	USD
Previous coupon date	4-Jan-X8
Current coupon date	4-Mar-X8
Number of days	60
Notional amount on which interest is computed	650,000
Collar strike rate (cap)	2.80000 %
Floating interest rate	4.68063 %
Interest accounted for on coupon date	2,037.35

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Mar-X8	Bank account	2,037.35	
	To Interest Income—Interest rate collar account		2,037.35
	(Being the interest income received on increase in reference rate than the collar rate)		

Note that since the reference interest rate stays above the floor rate, no interest is payable by the buyer of the collar instrument to the seller.

Termination of the trade and accounting for termination fee

An interest rate collar contract can be terminated at any point by either party. If the parties decide to terminate the contract, then the net present value of the contract at that time would be computed based on the net present value of the contract on such date of termination and the termination fee will be paid by one party to the other party depending upon which party stands to gain and which party stands to lose if the contract is terminated on the said date without being allowed to subsist during the remaining life of the contract. In the following example the present value of the contract on the date of termination, 25th September, is calculated as a positive number amounting to $5,141.98 and the counterparty to the contract will have to pay this termination fee to the investor.

The accounting entry that is recorded in the book of accounts is as shown in Table 11.11.

Table 11.11 On accounting for termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Sep-X8	ABC Counterparty account	5,141.98	
	Realized gain/loss on interest rate collar		5,141.98
	(Being realized gain/loss on termination date)		

Payment or receipt of termination fee

The consideration for such termination is received on T + 2. The accounting entry that is recorded in the book of accounts is as shown in Table 11.12.

Table 11.12 On settlement of termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
27-Sep-X8	Bank account	5,141.98	
	To ABC Counterparty account		5,141.98
	(On receipt of the of termination fee)		

Maturity of the trade

If the trade is not terminated before the maturity date, the trade is matured automatically on the maturity date. No interest is payable or receivable after the maturity date. The net present value on the date of maturity of the interest rate collar contract would be zero as no cash flows subsist subsequent to the maturity date; unlike an early termination where subsequent to the termination date, there would be cash flows both receivable and payable. On the maturity date of the trade, the contingent entry passed at the date of inception of the trade is reversed as mentioned in the next paragraph.

Reversal of the contingent entry on termination or maturity

A collar can be terminated anytime before the maturity date. On termination, the collar contract will be cancelled and the original off balance sheet entry passed at the time of inception of the contract is reversed. Even at the time of maturity the same entry is recorded, as sown in Table 11.13.

Table 11.13 On reversal of contingent entry

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
04-Dec-X8	Interest Rate Derivative—Collar (Contra) account—OBS	650,000.00	
	To Interest Rate Derivative—Collar account—OBS		650,000.00
	(Being reversal of the contingent entry on maturity of the contract)		

COMPLETE SOLUTION TO THE ILLUSTRATION—INTEREST RATE COLLAR

T-1 *On purchase of interest rate collar trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
2-Jan-X8	Interest Rate Derivative—Collar account—OBS	650,000.00	
	To Interest Rate Derivative—Collar (Contra) account—OBS		650,000.00

Journal Entry (*Cont'd*)

Date	Particulars	Debit (USD)	Credit (USD)
	(Being the recording of interest rate collar—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium on purchase of interest rate collar trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
2-Jan-X8	IRD collar premium paid account	8,226.78	
	To ABC counterparty account		8,226.78
	(Being the premium paid at the inception of interest rate collar contract representing the net present value of the collar on this date)		

T-3 *On accounting for payment of the premium:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Jan-X8	ABC counterparty account	8,226.78	
	To Bank account		8,226.78
	(Being the premium paid to the counter-party for interest rate collar contract)		

T-4 *On accounting of interest income on interest rate collar:*

Calculation of interest on coupon date	USD
Previous coupon date	4-Jan-X8
Current coupon date	4-Mar-X8
Number of days	60
Notional amount on which interest is computed	650,000
Collar strike rate (cap)	2.80000 %
Floating interest rate	4.68063 %
Interest accounted for on coupon date	2,037.35

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Mar-X8	Bank account	2,037.35	
	To interest income—interest rate collar account		2,037.35
	(Being the interest income received on increase in reference rate than the collar cap rate)		

T-5 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Unrealized gain/loss on IRD Collar (P&L) account	288.71	
	To IRD collar NPV—(asset/liability) account		288.71
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-6 *On accounting of interest accrued on valuation date:*

Calculation of interest on coupon date	USD
Previous coupon date	4-Mar-X8
Current coupon date	31-Mar-X8
Number of days	27
Notional amount on which interest is computed	650,000
Collar strike rate	2.8000 %
Floating interest rate	3.0575 %
Interest accounted for on coupon date	125.53

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest accrued but not due on interest rate collar account	125.53	
	To Interest Income—Interest rate collar account		125.53
	(Being the interest income accounted for until the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-7 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Jun-X8	Interest Income—Interest rate collar account	125.53	
	To Interest accrued but not due on interest rate collar account		125.53
	(Being reversal of interest accrual on coupon date)		

T-8 *On accounting of interest income on interest rate collar:*

Calculation of interest on coupon date	USD
Previous coupon date	4-Mar-X8
Current coupon date	4-Jun-X8
Number of days	92
Notional amount on which interest is computed	650,000
Collar strike rate	2.8000 %
Floating interest rate	3.0575 %
Interest accounted for on coupon date	427.74

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Jun-X8	Bank account	427.74	
	To Interest Income—Interest rate collar account		427.74
	(Being the interest income received on increase in reference rate than the collar rate)		

T-9 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Collar NPV—(Asset/Liability) account	288.71	
	To Unrealized gain/loss on IRD Collar (P&L) account		288.71
	(Being the reversal of existing net present value of interest rate collar)		

T-10 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Collar NPV—(Asset/Liability) account	807.99	
	To Unrealized gain/loss on IRD Collar (P&L) account		807.99
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-11 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Collar (P&L) account	807.99	
	To IRD Collar NPV—(Asset/Liability) account		807.99
	(Being the reversal of existing net present value of interest rate collar)		

T-12 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD Collar NPV—(Asset/Liability) account	21.43	
	To Unrealized gain/loss on IRD Collar (P&L) account		21.43
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-13 *On accounting of interest expense on interest rate collar:*

Calculation of interest on coupon date	**USD**
Previous coupon date	4-Sep-X8
Current coupon date	30-Sep-X8
Number of days	26
Notional amount on which interest is computed	650,000
Collar strike rate (Floor)	2.650 %
Floating interest rate	2.550 %
Interest accounted for on coupon date	46.94

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
30-Sep-X8	Interest Expenses—Interest rate Collar account	46.94	
	To Interest accrued but not due on interest rate collar account		46.94
	(Being the interest income accounted for until the valuation date representing interest accrued but not due on the interest rate cap instrument)		

T-14 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
4-Dec-X8	Interest accrued but not due on interest rate collar account	46.94	
	To Interest Expenses—Interest rate Collar account		46.94
	(Being reversal of interest accrual on coupon date)		

T-15 *On accounting of interest expense on interest rate collar:*

Calculation of interest on coupon date	**USD**
Previous coupon date	4-Sep-X8
Current coupon date	4-Dec-X8
Number of days	91
Notional amount on which interest is computed	650,000
Collar strike rate (Floor)	2.650 %
Floating interest rate	2.550 %
Interest accounted for on coupon date	164.31

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
4-Dec-X8	Interest Expense—Interest rate collar account	164.31	
	To Bank account		164.31
	(Being the interest expense paid on decrease in reference less than the collar floor rate)		

T-16 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
04-Dec-X8	Unrealized gain/loss on IRD Collar (P&L) account	21.43	
	To IRD Collar NPV—(Asset/Liability) account		21.43
	(Being the reversal of existing net present value of interest rate collar)		

T-17 *On reversal of contingent entry on maturity:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
4-Dec-X8	Interest Rate Derivative—Collar (Contra) account—OBS	650,000.00	
	To Interest Rate Derivative—Collar account—OBS		650,000.00
	(Being reversal of contingent entry on maturity of the interest rate collar contract)		

General Ledger accounts

Interest Rate Derivative—Collar account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
2-Jan-X8	To Interest Rate Derivative—Collar (Contra) account—OBS	650,000.00			
			4-Dec-X8	By Interest Rate Derivative—Collar (Contra) account—OBS	650,000.00
31-Dec-X8	Total	650,000.00	31-Dec-X8	Total	650,000.00

Interest Rate Derivative—Collar (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			2-Jan-X8	By Interest Rate Derivative—Collar account—OBS	650,000.00
4-Dec-X8	To Interest Rate Derivative—Collar account—OBS	650,000.00			
31-Dec-X8	Total	650,000.00	31-Dec-X8	Total	650,000.00

IRD Collar Premium paid account

Date	Particulars	Debit	Date	Particulars	Credit
2-Jan-X8	To ABC Counterparty account	8,226.78			
			31-Dec-X8	By Balance	8,226.78
31-Dec-X8	Total	**8,226.78**	31-Dec-X8	Total	**8,226.78**
31-Dec-X8	To Balance	8,226.78			

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			2-Jan-X8	By IRD Collar Premium paid account	8,226.78
4-Jan-X8	To Bank account	8,226.78			
31-Dec-X8	Total	8,226.78	31-Dec-X8	Total	8,226.78

Interest accrued but not due on interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest Income—Interest rate collar account	125.53			
			4-Jun-X8	By Interest Income—Interest rate collar account	125.53
			30-Sep-X8	By Interest Expense—Interest rate collar account	46.94
4-Dec-X8	To Interest Expense—Interest rate collar account	46.94			
31-Dec-X8	Total	172.47	31-Dec-X8	Total	172.47

Interest Income—Interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
			4-Mar-X8	By Bank account	2,037.35
			31-Mar-X8	By Interest accrued but not due on interest rate collar account	125.53
4-Jun-X8	To Interest accrued but not due on interest rate collar account	125.53			
			4-Jun-X8	By Bank account	427.74
31-Dec-X8	To Balance	2,465.09			
31-Dec-X8	Total	**2,590.62**	31-Dec-X8	Total	**2,590.62**
			31-Dec-X8	By Balance	2,465.09

Interest Expenses—Interest rate Collar

Date	Particulars	Debit	Date	Particulars	Credit
30-Sep-X8	To Interest accrued but not due on interest rate collar account	46.94			
			4-Dec-X8	By Interest accrued but not due on interest rate collar account	46.94
4-Dec-X8	To Bank Account	164.31			
			31-Dec-X8	By Balance	164.31
31-Dec-X8	Total	**211.25**	31-Dec-X8	Total	**211.25**
31-Dec-X8	To Balance	164.31			

IRD Collar NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Unrealized gain/ loss on IRD Collar (P&L) account	288.71
30-Jun-X8	To Unrealized gain/ loss on IRD Collar (P&L) account	288.71			
30-Jun-X8	To Unrealized gain/ loss on IRD Collar (P&L) account	807.99			
			30-Sep-X8	By Unrealized gain/ loss on IRD Collar (P&L) account	807.99
30-Sep-X8	To Unrealized gain/ loss on IRD Collar (P&L) account	21.43			
			4-Dec-X8	By Unrealized gain/ loss on IRD Collar (P&L) account	21.43
31-Dec-X8	Total	1,118.13	31-Dec-X8	Total	1,118.13

Unrealized gain/loss on IRD Collar (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To IRD Collar NPV—(Asset/ Liability) account	288.71			
			30-Jun-X8	By IRD Collar NPV—(Asset/ Liability) account	288.71
			30-Jun-X8	By IRD Collar NPV—(Asset/ Liability) account	807.99
30-Sep-X8	To IRD Collar NPV—(Asset/ Liability) account	807.99			
			30-Sep-X8	By IRD Collar NPV—(Asset/ Liability) account	21.43
4-Dec-X8	To IRD Collar NPV—(Asset/ Liability) account	21.43			
31-Dec-X8	Total	1,118.13	31-Dec-X8	Total	1,118.13

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
			4-Jan-X8	By ABC Counterparty account	8,226.78
4-Mar-X8	To Interest Income—Interest rate collar account	2,037.35			
4-Jun-X8	To Interest Income—Interest rate collar account	427.74			
			4-Dec-X8	By Interest Expense Interest rate collar account	164.31

Date	Particulars	Debit	Date	Particulars	Credit
31-Dec-X8	To Balance	5,926.00			
31-Dec-X8	Total	**8,391.09**	31-Dec-X8	Total	**8,391.09**
			31-Dec-X8	By Balance	5,926.00

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Current liabilities		
Current asset		
Bank account		5,926.00
Income		
Interest expenses—interest rate collar	164.31	
IRD Collar Premium paid account	8,226.78	
Interest Income—Interest rate collar account		2,465.09
Totals	8,391.09	8,391.09

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
Interest Expenses—Interest rate Collar	164.31	Interest Income—Interest rate collar account	2,465.09
IRD Collar Premium paid account	8,226.78		
		Net loss C/o	5,926.00
Total	**8,391.09**	Total	**8,391.09**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
		Current Assets	
Bank account	5,926.00	**Profit & Loss account**	
		Opening Balance	
		Current Period	5,926.00
Total	**5,926.00**	Total	**5,926.00**

PROBLEM 1: INTEREST RATE COLLAR

Collar contract details:

Collar strike—receive	5.85
Floor strike—pay	5.70
Notional amount	2,000,000
Currency	GBP
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Collar—reset dates		
Coupon reset dates	**Reset date**	**FX rate**	**Pay date**	**LIBOR**
Coupon date-1	14-Feb-X8	2.01990	17-Mar-X8	5.63590
Coupon date-2	14-Mar-X8	1.94790	16-Jun-X8	5.65000
Coupon date-3	16-Jun-X8	1.79710	16-Sep-X8	5.78640
Coupon date-4	16-Sep-X8	1.50770	16-Dec-X8	5.95500
Coupon date-5				

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Collar contract position taken (inception)	14-Feb-X8	2,000,000.00	(4,627.35)	16-Feb-X8
Maturity	14-Dec-X8	2,000,000.00		

Valuation dates and net present values	**Date**	**NPV net**	**LIBOR**
Valuation date 1	31-Mar-X8	516.81	5.95500
Valuation date 2	30-Jun-X8	1,058.12	5.83427
Valuation date 3	30-Sep-X8	1,031.91	5.95500
Maturity	14-Dec-X8		

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

SOLUTION TO PROBLEM 1

T-1 *On purchase of interest rate collar trade:*

Journal Entry

Date	**Particulars**	**Debit (GBP)**	**Credit (GBP)**
12-Feb-X8	Interest Rate Derivative—Collar account—OBS	2,000,000.00	
	To Interest Rate Derivative—Collar (Contra) account—OBS		2,000,000.00
	(Being the recording of interest rate collar—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium received on purchase of interest rate collar trade:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
12-Feb-X8	ABC Counterparty account	4,627.35	
	To IRD Collar premium received account		4,627.35
	(Being the premium paid at the inception of interest rate collar contract representing the net present value of the collar on this date)		

T-3 *On accounting of premium received at Bank account:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
14-Feb-X8	Bank account	4,627.35	
	To ABC Counterparty account		4,627.35
	(Being the premium received to the counter-party for interest rate collar contract)		

T-4 *On accounting of interest paid on interest rate collar:*

Calculation of interest on coupon date	GBP
Previous coupon date	14-Feb-X8
Current coupon date	17-Mar-X8
Number of days	32
Notional amount on which interest is computed	2,000,000
Collar strike rate (Floor)	5.7000 %
Floating interest rate	5.6359 %
Interest accounted for on coupon date	113.96

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
17-Mar-X8	Interest Expenses—Interest rate collar account	113.96	
	To Bank account		113.96
	(Being the interest expenses paid on decrease in reference rate lesser than the collar floor rate)		

T-5 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
31-Mar-X8	IRD Collar NPV—(Asset/Liability) account	516.81	
	To Unrealized gain/loss on IRD Collar (P&L) account		516.81
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-6 *On accounting of interest accrued on valuation date:*

Calculation of interest on coupon date	GBP
Previous coupon date	17-Mar-X8
Current coupon date	31-Mar-X8
Number of days	14
Notional amount on which interest is computed	2,000,000
Collar strike rate (Floor)	5.70
Floating interest rate	5.65
Interest accounted for on coupon date	38.89

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
31-Mar-X8	Interest Expenses—Interest rate collar account	38.89	
	To Interest accrued but not due on interest rate collar account		38.89
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate collar instrument)		

T-7 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
16-Jun-X8	Interest accrued but not due on interest rate collar account	38.89	
	To Interest Expenses—Interest rate collar account		38.89
	(Being reversal of interest accrued on valuation date)		

T-8 *On accounting of interest expense on interest rate collar:*

Calculation of interest on coupon date	GBP
Previous coupon date	17-Mar-X8
Current coupon date	16-Jun-X8
Number of days	91
Notional amount on which interest is computed	2,000,000
Collar strike rate (Floor)	5.7000
Floating interest rate	5.650000
Interest accounted for on coupon date	252.78

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
16-Jun-X8	Interest Expenses—Interest rate collar account	252.78	
	To Bank account		252.78
	(Being the interest expenses paid on decrease in reference rate lesser than the collar floor rate)		

T-9 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Jun-X8	Unrealized gain/loss on IRD Collar (P&L) account	516.81	
	To IRD Collar NPV—(Asset/Liability) account		516.81
	(Being the reversal of existing net present value of interest rate collar)		

T-10 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Jun-X8	IRD Collar NPV—(Asset/Liability) account	1,058.12	
	To Unrealized gain/loss on IRD Collar (P&L) account		1,058.12
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-11 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Sep-X8	Unrealized gain/loss on IRD Collar (P&L) account	1,058.12	
	To IRD Collar NPV—(Asset/Liability) account		1,058.12
	(Being the reversal of existing net present value of interest rate collar)		

T-12 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Sep-X8	IRD Collar NPV—(Asset/Liability) account	1,031.91	
	To Unrealized gain/loss on IRD Collar (P&L) account		1,031.91
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-13 *On accounting of interest accrued on valuation date:*

Calculation of interest on coupon date	GBP
Previous coupon date	16-Sep-X8
Current coupon date	30-Sep-X8
Number of days	14
Notional amount on which interest is computed	2,000,000

Calculation of interest on coupon date	GBP
Collar strike rate	5.850 %
Floating interest rate	5.955 %
Interest accounted for on coupon date	81.67

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Sep-X8	Interest accrued but not due on interest rate collar account	81.67	
	To Interest Income—Interest rate collar account		81.67
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate collar instrument)		

T-14 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
16-Dec-X8	Interest Income—Interest rate collar account	81.67	
	To Interest accrued but not due on interest rate collar account		81.67
	(Being reversal of interest accrued on valuation date)		

T-15 *On accounting of interest income on interest rate collar:*

Calculation of interest on coupon date	GBP
Previous coupon date	16-Sep-X8
Current coupon date	16-Dec-X8
Number of days	91
Notional amount on which interest is computed	2,000,000
Collar strike rate (cap)	5.850 %
Floating interest rate	5.955 %
Interest accounted for on coupon date	530.83

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
16-Dec-X8	Bank account	530.83	
	To Interest Income—Interest rate collar account		530.83
	(Being the interest income received on increase in reference rate greater than the collar cap rate)		

T-16 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
16-Dec-X8	Unrealized gain/loss on IRD Collar (P&L) account	1,031.91	

Date	Particulars	Debit (GBP)	Credit (GBP)
	To IRD Collar NPV—(Asset/Liability) account		1,031.91
	(Being the reversal of existing net present value of interest rate collar)		

T-17 *On reversal of contingent entry on termination:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
16-Dec-X8	Interest Rate Derivative—Collar (Contra) account—OBS	2,000,000.00	
	To Interest Rate Derivative—Collar account—OBS		2,000,000.00
	(Being reversal of contingent entry on maturity of the interest rate collar contract)		

General Ledger accounts

Interest Rate Derivative—Collar account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
12-Feb-X8	To Interest Rate Derivative—Collar (Contra) account—OBS	2,000,000.00			
			16-Dec-X8	By Interest Rate Derivative—Collar (Contra) account—OBS	2,000,000.00
31-Dec-X8	Total	2,000,000.00	31-Dec-X8	Total	2,000,000.00

Interest Rate Derivative—Collar (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			12-Feb-X8	By Interest Rate Derivative—Collar account—OBS	2,000,000.00
16-Dec-X8	To Interest Rate Derivative—Collar account—OBS	2,000,000.00			
31-Dec-X8	Total	2,000,000.00	31-Dec-X8	Total	2,000,000.00

IRD Collar Premium received account

Date	Particulars	Debit	Date	Particulars	Credit
			12-Feb-X8	By ABC Counterparty account	4,627.35
31-Dec-X8	To Balance	4,627.35			
31-Dec-X8	Total	4,627.35	31-Dec-X8	Total	4,627.35
			31-Dec-X8	By Balance	4,627.35

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
12-Feb-X8	To IRD Collar Premium received account	4,627.35			
			14-Feb-X8	By Bank account	4,627.35
31-Dec-X8	Total	4,627.35	31-Dec-X8	Total	4,627.35

Interest Expense—Interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
17-Mar-X8	To Bank account	113.96			
31-Mar-X8	To Interest accrued but not due on interest rate collar account	38.89			
			16-Jun-X8	By Interest accrued but not due on interest rate collar account	38.89
16-Jun-X8	To Bank account	252.78			
			31-Dec-X8	By Balance	366.74
31-Dec-X8	Total	**405.63**	31-Dec-X8	Total	**405.63**
31-Dec-X8	By Balance	366.74			

Interest Income—Interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
			30-Sep-X8	By Interest accrued but not due on interest rate collar account	81.67
16-Dec-X8	To Interest accrued but not due on interest rate collar account	81.67			
			16-Dec-X8	By Bank account	530.83
31-Dec-X8	To Balance	530.83			
31-Dec-X8	Total	**612.50**	31-Dec-X8	Total	**612.50**
			31-Dec-X8	By Balance	530.83

Interest accrued but not due on interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Interest Expense—Interest rate collar account	38.89
16-Jun-X8	To Interest Expense—Interest rate collar account	38.89			
30-SepX8	To Interest Income—Interest rate collar account	81.67			
			16-Dec-X8	By Interest Income—Interest rate collar account	81.67
31-Dec-X8	Total	120.56	31-Dec-X8	Total	120.56

IRD Collar NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized gain/loss on IRD Collar (P&L) account	516.81			
			30-Jun-X8	By Unrealized gain/loss on IRD Collar (P&L) account	516.81
30-Jun-X8	To Unrealized gain/loss on IRD Collar (P&L) account	1,058.12			
			30-Sep-X8	By Unrealized gain/loss on IRD Collar (P&L) account	1,058.12
30-Sep-X8	To Unrealized gain/loss on IRD Collar (P&L) account	1,031.91			
			16-Dec-X8	By Unrealized gain/loss on IRD Collar (P&L) account	1,031.91
31-Dec-X8	Total	2,606.84	31-Dec-X8	Total	2,606.84

Unrealized gain/loss on IRD Collar (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By IRD Collar NPV—(Asset/Liability) account	516.81
30-Jun-X8	To IRD Collar NPV—(Asset/Liability) account	516.81			
			30-Jun-X8	By IRD Collar NPV—(Asset/Liability) account	1,058.12
30-Sep-X8	To IRD Collar NPV—(Asset/Liability) account	1,058.12			
			30-Sep-X8	By IRD Collar NPV—(Asset/Liability) account	1,031.91
16-Dec-X8	To IRD Collar NPV—(Asset/Liability) account	1,031.91			
31-Dec-X8	Total	2,606.84	31-Dec-X8	Total	2,606.84

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
14-Feb-X8	To ABC Counterparty account	4,627.35			
			17-Mar-X8	By Interest Expense—Interest rate collar account	113.96
			16-Jun-X8	By Interest Expense—Interest rate collar account	252.78
16-Dec-X8	To Interest Income—Interest rate collar account	530.83			
			31-Dec-X8	By Balance	4,791.44
31-Dec-X8	Total	**5,158.18**	31-Dec-X8	Total	**5,158.18**
31-Dec-X8	To Balance	4,791.44			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Current Liabilities		
Current Asset		
Bank account	4,791.44	
Income		
IRD Collar Premium received account		4,627.35
Interest Expense—Interest rate collar account	366.74	
Interest Income—Interest rate collar account		530.83
Totals	5,158.18	5,158.18

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
Interest Expense—Interest rate collar account	366.74	Interest Income—Interest rate collar account	530.83
		IRD Collar Premium received account	4,627.35
Net profit C/o	4,791.44		
Total	**5,158.18**	Total	**5,158.18**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
		Current Assets	
		Bank account	4,791.44
Profit & Loss account			
Opening Balance			
Current Period	4,791.44		
Total	4,791.44	Total	4,791.44

ENTRIES IN FUNCTIONAL CURRENCY

F-1 *On purchase of interest rate collar trade:* (T-1 @ FX Rate: 1.9474)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Feb-X8	Interest Rate Derivative—Collar account—OBS	3,894,800.00	
	To Interest Rate Derivative—Collar (Contra) account—OBS		3,894,800.00
	(Being the recording of interest rate collar—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-2 *On accounting for premium on purchase of interest rate collar trade:* (T-2 @ FX Rate: 1.9474)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
12-Feb-X8	ABC Counterparty account	9,011.30	
	To IRD Collar premium received account		9,011.30
	(Being the premium received at the inception of interest rate collar contract representing the net present value of the collar on this date)		

F-3 *On accounting of premium received at Bank account:* (T-3 @ FX Rate: 1.9605)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Feb-X8	Bank account	9,071.92	
	To ABC Counterparty account		9,071.92
	(Being the premium received to the counter-party for interest rate collar contract)		

F-4 *On accounting of currency gain/loss on settlement of premium*

Currency gain/loss on settlement date	GBP	USD
a) Premium received (1.9474)	4,627.35	9,011.30
b) Settlement amount in USD terms (1.9605)		9,071.92
c) Realized currency gain on settlement = (a) − (b)		60.62

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
14-Feb-X8	ABC Counterparty account	60.62	
	To Currency gain/loss account		60.62
	(Being accounting of currency gain/loss on settlement of premium)		

F-5 *On accounting of interest paid on interest rate collar:* (T-4 @ FX Rate: 2.0199)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Mar-X8	Interest Expense—Interest rate collar account	230.18	
	To Bank account		230.18
	(Being the interest Expense paid on increase in reference rate than the collar rate)		

F-6 *On valuation of interest rate collar as on date:* (T-5 @ FX Rate: 1.9951)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	IRD Collar NPV—(Asset/Liability) account	1,031.09	
	To Unrealized gain/loss on IRD Collar (P&L) account		1,031.09
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

F-7 *On accounting of interest accrued on valuation date:* (T-6 @ FX Rate: 1.9951)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest Expenses—Interest rate collar account	77.59	
	To Interest accrued but not due on interest rate collar account		77.59
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate collar instrument)		

F-8 *On reversal of interest accrued on valuation date:* (T-7 @ FX Rate: 1.9951)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
16-Jun-X8	Interest accrued but not due on interest rate collar account	77.59	
	To Interest Expenses—Interest rate collar account		77.59
	(Being reversal of interest accrued on valuation date)		

F-9 *On accounting of interest paid on interest rate collar:* (T-8 @ FX Rate: 1.9479)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
16-Jun-X8	Interest Expense—Interest rate collar account	492.39	
	To Bank account		492.39
	(Being the interest Expense received on increase in reference rate than the collar rate)		

F-10 *On reversal of net present value of interest rate collar:* (T-9 @ FX Rate: 1.9951)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Collar (P&L) account	1,031.09	
	To IRD Collar NPV—(Asset/Liability) account		1,031.09
	(Being the reversal of existing net present value of interest rate collar)		

F-11 *On valuation of interest rate collar as on date:* (T-10 @ FX Rate: 1.9954)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Collar NPV—(Asset/Liability) account	2,111.37	
	To Unrealized gain/loss on IRD Collar (P&L) account		2,111.37
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

F-12 *On reversal of net present value of interest rate collar:* (T-11 @ FX Rate: 1.9954)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Collar (P&L) account	2,111.37	
	To IRD Collar NPV—(Asset/Liability) account		2,111.37
	(Being the reversal of existing net present value of interest rate collar)		

F-13 *On valuation of interest rate collar as on date:* (T-12 @ FX Rate: 1.8175)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD Collar NPV—(Asset/Liability) account	1,875.50	
	To Unrealized gain/loss on IRD Collar (P&L) account		1,875.50
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

F-14 *On accounting of interest accrued on valuation date:* (T-13 @ FX Rate: 1.8175)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest accrued but not due on interest rate collar account	148.43	
	To Interest Income—Interest rate collar account		148.43
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate collar instrument)		

F-15 *On reversal of interest accrued on valuation date:* (T-14 @ FX Rate: 1.8175)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
16-Dec-X8	Interest Income—Interest rate collar account	148.43	
	To Interest accrued but not due on interest rate collar account		148.43
	(Being reversal of interest accrued on valuation date)		

F-16 *On accounting of interest income on interest rate collar:* (T-15 @ FX Rate: 1.5077)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
16-Dec-X8	Bank account	800.34	
	To Interest Income—Interest rate collar account		800.34
	(Being the interest income received on increase in reference rate than the collar rate)		

F-17 *On reversal of net present value of interest rate collar:* (T-16 @ FX Rate: 1.8175)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
16-Dec-X8	Unrealized gain/loss on IRD Collar (P&L) account	1,875.50	
	To IRD Collar NPV—(Asset/Liability) account		1,875.50
	(Being the reversal of existing net present value of interest rate collar)		

F-18 *On reversal of contingent entry on termination:* (T-17 @ FX Rate: 1.9474)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
16-Dec-X8	Interest Rate Derivative—Collar (Contra) account—OBS	3,894,800.00	
	To Interest Rate Derivative—Collar account—OBS		3,894,800.00
	(Being reversal of contingent entry on maturity of the interest rate collar contract)		

F-19 *On accounting of currency gain/loss on Bank account*

Particulars	Date	GBP	USD
Premium paid on IRS CAP (1.95)	12-Feb-X8	(4627.35)	(9011.30)
Interest expenses on IRD Floor (2.02)	17-Mar-X8	(113.96)	(230.18)
Interest expenses on IRD Floor (1.95)	16-Jun-X8	(252.78)	(492.39)
Interest income on IRD CAP (1.51)	16-Dec-X8	530.83	800.34
Net Balance		4,463.25	(8933.53)
Net Balance at current FX rate (1.51)	16-Dec-X8	4,463.25	(6,729.24)
FX translation on Bank account			**2,204.29**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
16-Dec-X8	Bank account	2,204.29	
	To Currency gain/loss account		2,204.29
	(Being accounting of currency gain/loss on Bank account)		

General Ledger accounts

Interest Rate Derivative—Collar account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
12-Feb-X8	To Interest Rate Derivative—Collar (Contra) account—OBS	3,894,800.00			
			16-Dec-X8	By Interest Rate Derivative—Collar (Contra) account—OBS	3,894,800.00
31-Dec-X8	Total	3,894,800.00	31-Dec-X8	Total	3,894,800.00

Interest Rate Derivative—Collar (Contra) account—OBS account

Date	Particulars	Debit	Date	Particulars	Credit
			12-Feb-X8	By Interest Rate Derivative—Collar account—OBS	3,894,800.00
16-Dec-X8	To Interest Rate Derivative—Collar account—OBS	3,894,800.00			
31-Dec-X8	Total	3,894,800.00	31-Dec-X8	Total	3,894,800.00

IRD Collar Premium received account

Date	Particulars	Debit	Date	Particulars	Credit
			12-Feb-X8	By ABC Counterparty account	9,011.30
31-Dec-X8	To Balance	9,011.30			
31-Dec-X8	Total	**9,011.30**	31-Dec-X8	Total	**9,011.30**
			31-Dec-X8	By Balance	9,011.30

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
12-Feb-X8	To IRD Collar Premium received account	9,011.30			
			14-Feb-X8	By Bank account	9,071.92
14-Feb-X8	To Currency Gain/Loss account	60.62			
31-Dec-X8	Total	9,071.92	31-Dec-X8	Total	9,071.92

Currency Gain/Loss account

Date	Particulars	Debit	Date	Particulars	Credit
			14-Feb-X8	By ABC Counterparty account	60.62
			16-Dec-X8	By Bank account	2,204.29
16-Dec-X8	To Balance	2,264.91			
31-Dec-X8	Total	**2,264.91**	31-Dec-X8	Total	**2,264.91**
			31-Dec-X8	By Balance	2,264.91

Interest Expense—Interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
17-Mar-X8	To Bank account	230.18			
31-Mar-X8	To Interest accrued but not due on interest rate collar account	77.59			
			16-Jun-X8	By Interest accrued but not due on interest rate collar account	77.59
16-Jun-X8	To Bank account	492.39			
			31-Dec-X8	By Balance	722.57
31-Dec-X8	Total	**800.16**	31-Dec-X8	Total	**800.16**
31-Dec-X8	To Balance	722.57			

Interest Income—Interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
			30-Sep-X8	By Interest accrued but not due on interest rate collar account	148.43
16-Dec-X8	To Interest accrued but not due on interest rate collar account	148.43			
			16-Dec-X8	By Bank account	800.34
31-Dec-X8	To Balance	800.34			
31-Dec-X8	Total	**948.77**	31-Dec-X8	Total	**948.77**
			31-Dec-X8	By Balance	800.34

Interest accrued but not due on interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Interest Expense—Interest rate collar account	77.59
16-Jun-X8	To Interest Expense—Interest rate collar account	77.59			
30-Sep-X8	To Interest Income—Interest rate collar account	148.43			
			16-Dec-X8	By Interest Income—Interest rate collar account	148.43
31-Dec-X8	Total	226.02	31-Dec-X8	Total	226.02

IRD Collar NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized gain/loss on IRD Collar (P&L) account	1,031.09			
			30-Jun-X8	By Unrealized gain/loss on IRD Collar (P&L) account	1,031.09
30-Jun-X8	To Unrealized gain/loss on IRD Collar (P&L) account	2,111.37			
			30-Sep-X8	By Unrealized gain/loss on IRD Collar (P&L) account	2,111.37
30-Sep-X8	To Unrealized gain/loss on IRD Collar (P&L) account	1,875.50			
			16-Dec-X8	By Unrealized gain/loss on IRD Collar (P&L) account	1,875.50
31-Dec-X8	Total	5,017.96	31-Dec-X8	Total	5,017.96

Unrealized gain/loss on IRD Collar (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By IRD Collar NPV—(Asset/Liability) account	1,031.09
30-Jun-X8	To IRD Collar NPV—(Asset/Liability) account	1,031.09			
			30-Jun-X8	By IRD Collar NPV—(Asset/Liability) account	2,111.37
30-Sep-X8	To IRD Collar NPV—(Asset/Liability) account	2,111.37			
			30-Sep-X8	By IRD Collar NPV—(Asset/Liability) account	1,875.50
16-Dec-X8	To IRD Collar NPV—(Asset/Liability) account	1,875.50			
31-Dec-X8	Total	5,017.96	31-Dec-X8	Total	5,017.96

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
14-Feb-X8	To ABC Counterparty account	9,071.92			
			17-Mar-X8	By Interest Expenses—Interest rate collar account	230.18
16-Dec-X8	To Interest Income—Interest rate collar account	800.34	16-Jun-X8	By Interest Expenses—Interest rate collar account	492.39
16-Dec-X8	To Currency Gain/Loss account	2,204.29			
			31-Dec-X8	By Balance	11,353.98
31-Dec-X8	Total	**12,076.55**	31-Dec-X8	Total	**12,076.55**
31-Dec-X8	To Balance	11,353.98			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Current Liabilities		
Current Asset		
Bank account	11,353.98	
Income		
IRD Collar Premium received account		9,011.30
Interest Expense—Interest rate collar account	722.57	
Interest Income—Interest rate collar account		800.34
Currency Gain/Loss account		2,264.91
Totals	12,076.55	12,076.55

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
Interest Expense—Interest rate collar account	722.57	Interest Income—Interest rate collar account	800.34
		IRD Collar Premium received account	9,011.30
		Currency Gain/loss account	2,264.91
Net profit C/o	11,353.98		
Total	**12,076.55**	Total	**12,076.55**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
		Current Assets	
		Bank account	11,353.98
Profit & Loss account			
Opening Balance			
Current Period	11,353.98		
Total	11,353.98	Total	11,353.98

MEANING OF INTEREST RATE REVERSE COLLAR

An interest rate reverse collar is an instrument that gives the buyer protection against falling rates. Hence, the reverse interest rate collar represents buying an interest rate floor and simultaneously selling an interest rate cap.

- The objective is to protect the buyer from falling interest rates.
- The buyer selects the index rate and matches the maturity and notional principal amounts for the floor and cap.
- Buyers can construct zero-cost reverse collars when it is possible to find floor and cap rates with the same premiums that provide an acceptable band.

ACCOUNTING FOR INTEREST RATE REVERSE COLLAR

Accounting for an interest rate reverse collar is very similar to that of accounting for a collar instrument. In the reverse collar there are two components: the cap component and the floor component. Depending upon the strike rates of cap and floor the premium is computed. In a reverse collar, if the benchmark rate is above the cap rate on the reset date, then on the pay date interest above the cap strike rate will be paid by the buyer of the reverse collar instrument to the seller. If the benchmark rate is lower than the floor rate then the seller compensates the buyer interest to that extent.

Just as in a collar instrument, in a reverse collar the premium can be either positive or zero. It can also be negative, meaning that the buyer of the reverse collar may get a premium for taking a position.

THE TRADE LIFE CYCLE FOR INTEREST RATE REVERSE COLLAR

- Recording the trade—contingent
- Account for the premium if any on the trade
- Receive/pay the premium for the trade
- Reset the interest rate for the ensuing period
- Account for accrued interest if any on the valuation date
- Reverse the accrued interest if any on the coupon date
- Ascertain and account for the fair value on the valuation date
- Pay/receive interest on the pay date
- Termination of the trade and accounting for termination fee
- Payment or receipt of termination fee
- Maturity of the trade
- Reversal of the contingent entry on termination or maturity
- FX revaluation entries (for foreign currency trades)
- FX translation entries (for foreign currency trades)

Since the entire events above are already explained, it is not elaborated here.

PROBLEM 1: REVERSE COLLAR

Reverse collar contract details:

Cap strike—pay	3.52
Floor strike—receive	3.25
Notional amount	5,000,000
Currency	USD
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Collar—reset dates	
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	11-Jan-X8	18-Mar-X8	4.25750
Coupon date-2	14-Mar-X8	18-Jun-X8	2.76375
Coupon date-3	16-Jun-X8	18-Sep-X8	3.37560
Coupon date-4	16-Sep-X8	18-Dec-X8	2.87625

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Collar contract position taken (inception)	15-Jan-X8	5,000,000.00	(12,493.47)	17-Jan-X8
Maturity	18-Dec-X8	5,000,000.00		

Valuation dates and net present values	**Date**	**NPV net**	**Premium**
Valuation date 1	31-Mar-X8	26,006.19	0.5201
Valuation date 2	30-Jun-X8	5,590.78	0.1118
Valuation date 3	30-Sep-X8	4,685.27	0.0937
Maturity	20-Dec-X8		

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

SOLUTION TO PROBLEM 1: REVERSE COLLAR

T-1 *On purchase of interest rate collar trade:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
13-Jan-X8	Interest Rate Derivative—Collar account—OBS	5,000,000.00	
	To Interest Rate Derivative—Collar (Contra) account—OBS		5,000,000.00
	(Being the recording of interest rate collar—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium received on purchase of interest rate reverse collar trade:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
13-Jan-X8	ABC Counterparty account	12,493.47	
	To IRD Collar premium received account		12,493.47
	(Being the premium received at the inception of interest rate reverse collar contract representing the net present value of the collar on this date)		

T-3 *On accounting of premium received at Bank account:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Jan-X8	Bank account	12,493.47	
	ABC Counterparty account		12,493.47
	(Being the premium received to the counter-party for interest rate collar contract)		

T-4 *On accounting of interest expenses on interest rate reverse collar:*

Calculation of interest on coupon date	USD
Previous coupon date	15-Jan-X8
Current coupon date	18-Mar-X8
Number of days	63
Notional amount on which interest is computed	5,000,000
Collar strike rate (cap)	3.5200
Floating interest rate	4.257500
Interest accounted for on coupon date	6,453.13

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Mar-X8	Interest Expenses—Interest rate collar account	6,453.13	
	To Bank account		6,453.13
	(Being the interest expenses paid on increase in reference rate than the collar rate)		

T-5 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	IRD Collar NPV—(Asset/Liability) account	26,006.19	
	To Unrealized gain/loss on IRD Collar (P&L) account		26,006.19
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-6 *On accounting of interest accrued on valuation date:*

Calculation of interest on coupon date	USD
Previous coupon date	18-Mar-X8
Current coupon date	31-Mar-X8
Number of days	13
Notional amount on which interest is computed	5,000,000
Collar strike rate (Floor)	3.2500%
Floating interest rate	2,763750%
Interest accounted for on coupon date	877.95

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest accrued but not due on interest rate collar account	877.95	
	To Interest Income—Interest rate collar account		877.95
	(Being the interest income accounted for until the valuation date representing interest accrued but not due on the interest rate collar instrument)		

T-7 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jun-X8	Interest Income—Interest rate collar account	877.95	
	To Interest accrued but not due on interest rate collar account		877.95
	(Being reversal of interest accrual on coupon date)		

T-8 *On accounting of interest income on interest rate collar:*

Calculation of interest on coupon date	USD
Previous coupon date	18-Mar-X8
Current coupon date	18-Jun-X8
Number of days	92
Notional amount on which interest is computed	5,000,000
Collar strike rate (Floor)	3.2500%
Floating interest rate	2,763750%
Interest accounted for on coupon date	6,213.19

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jun-X8	Bank account	6,213.19	
	To Interest Income—Interest rate collar account		6,213.19
	(Being the interest income received on decrease in reference rate than the collar rate)		

T-9 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Collar (P&L) account	26,006.19	
	To IRD Collar NPV—(Asset/Liability) account		26,006.19
	(Being the reversal of existing net present value of interest rate collar)		

T-10 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Collar NPV—(Asset/Liability) account	5,590.78	
	To Unrealized gain/loss on IRD Collar (P&L) account		5,590.78
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-11 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Collar (P&L) account	5,590.78	
	To IRD Collar NPV—(Asset/Liability) account		5,590.78
	(Being the reversal of existing net present value of interest rate collar)		

T-12 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD Collar NPV—(Asset/Liability) account	4,685.27	
	To Unrealized gain/loss on IRD Collar (P&L) account		4,685.27
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-13 *On accounting of interest accrued on valuation date:*

Calculation of interest on coupon date	USD
Previous coupon date	18-Sep-X8
Current coupon date	30-Sep-X8
Number of days	12
Notional amount on which interest is computed	5,000,000
Collar strike rate (Floor)	3.2500%
Floating interest rate	2.87625%
Interest accounted for on coupon date	622.92

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest accrued but not due on interest rate collar account	622.92	
	To Interest Income—Interest rate collar account		622.92
	(Being the interest income accounted for until the valuation date representing interest accrued but not due on the interest rate collar instrument)		

T-14 *On reversal of interest accrual on coupon date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	Interest Income—Interest rate collar account	622.92	
	To Interest accrued but not due on interest rate collar account		622.92
	(Being reversal of interest accrual on coupon date)		

T-15 *On accounting of interest income on interest rate collar:*

Calculation of interest on coupon date	USD
Previous coupon date	18-Sep-X8
Current coupon date	18-Dec-X8
Number of days	91
Notional amount on which interest is computed	5,000,000
Collar strike rate (Floor)	3.2500%
Floating interest rate	2.876250%
Interest accounted for on coupon date	4,723.78

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	Bank account	4,723.78	
	To Interest Income—Interest rate collar account		4,723.78
	(Being the interest income received on decrease in reference rate than the collar rate)		

T-16 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	Unrealized gain/loss on IRD Collar (P&L) account	4,685.27	
	To IRD Collar NPV—(Asset/Liability) account		4,685.27
	(Being the reversal of existing net present value of interest rate collar)		

T-17 *On reversal of contingent entry on reversal*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	Interest Rate Derivative—Collar (Contra) account—OBS	5,000,000.00	
	To Interest Rate Derivative—Collar account—OBS		5,000,000.00
	(Being reversal of contingent entry on maturity of the interest rate collar contract)		

General Ledger accounts

Interest Rate Derivative—Collar account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
13-Jan-X8	To Interest Rate Derivative—Collar (Contra) account—OBS	5,000,000.00			
			18-Dec-X8	By Interest Rate Derivative—Collar (Contra) account—OBS	5,000,000.00
31-Dec-X8	Total	5,000,000.00	31-Dec-X8	Total	5,000,000.00

Interest Rate Derivative—Collar (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			13-Jan-X8	By Interest Rate Derivative—Collar account—OBS	5,000,000.00
18-Dec-X8	To Interest Rate Derivative—Collar account—OBS	5,000,000.00			
31-Dec-X8	Total	5,000,000.00	31-Dec-X8	Total	5,000,000.00

IRD Collar Premium received account

Date	Particulars	Debit	Date	Particulars	Credit
			13-Jan-X8	By ABC Counterparty account	12,493.47
31-Dec-X8	To Balance	12,493.47			
31-Dec-X8	Total	**12,493.47**	31-Dec-X8	Total	**12,493.47**
			31-Dec-X8	By Balance	12,493.47

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
13-Jan-X8	To IRD Collar Premium received account	12,493.47			
			17-Jan-X8	By Bank account	12,493.47
31-Dec-X8	Total	12,493.47	31-Dec-X8	Total	12,493.47

Interest Expense—Interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
18-Mar-X8	To Bank account	6,453.13			
			31-Dec-X8	By Balance	6,453.13
31-Dec-X8	Total	**6,453.13**	31-Dec-X8	Total	**6,453.13**
31-Dec-X8	To Balance	6,453.13			

Interest Income—Interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Interest accrued but not due on interest rate collar account	877.95
18-Jun-X8	To Interest accrued but not due on interest rate collar account	877.95			
			18-Jun-X8	By Bank account	6,213.19
			30-Sep-X8	By Interest accrued but not due on interest rate collar account	622.92
18-Dec-X8	To Interest accrued but not due on interest rate collar account	622.92			
			18-Dec-X8	By Bank account	4,723.78
31-Dec-X8	To Balance	10,936.97			
31-Dec-X8	Total	**12,437.84**	31-Dec-X8	Total	**12,437.84**
			31-Dec-X8	By Balance	10,936.97

Interest accrued but not due on interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest Income—Interest rate collar account	877.95			
			18-Jun-X8	By Interest Income—Interest rate collar account	877.95
30-Sep-X8	To Interest Income—Interest rate collar account	622.92			
			18-Dec-X8	By Interest Income—Interest rate collar account	622.92
31-Dec-X8	Total	1,500.87	31-Dec-X8	Total	1,500.87

IRD Collar NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Unrealized gain/loss on IRD Collar (P&L) account	26,006.19			
			30-Jun-X8	By Unrealized gain/loss on IRD Collar (P&L) account	26,006.19
30-Jun-X8	To Unrealized gain/loss on IRD Collar (P&L) account	5,590.78			

Date	Particulars	Debit	Date	Particulars	Credit
			30-Sep-X8	By Unrealized gain/ loss on IRD Collar (P&L) account	5,590.78
30-Sep-X8	To Unrealized gain/ loss on IRD Collar (P&L) account	4,685.27			
			18-Dec-X8	To Unrealized gain/ loss on IRD Collar (P&L) account	4,685.27
31-Dec-X8	Total	36,282.24	31-Dec-X8	Total	36,282.24

Unrealized gain/loss on IRD Collar (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By IRD Collar NPV—(Asset/Liability) account	26,006.19
30-Jun-X8	To IRD Collar NPV—(Asset/Liability) account	26,006.19			
			30-Jun-X8	By IRD Collar NPV—(Asset/Liability) account	5,590.78
30-Sep-X8	To IRD Collar NPV—(Asset/Liability) account	5,590.78			
			30-Sep-X8	By IRD Collar NPV—(Asset/Liability) account	4,685.27
18-Dec-X8	To IRD Collar NPV—(Asset/Liability) account	4,685.27			
31-Dec-X8	Total	36,282.24	31-Dec-X8	Total	36,282.24

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
17-Jan-X8	To ABC Counterparty account	12,493.47			
			18-Mar-X8	By Interest Expense—Interest rate collar account	6,453.13
18-Jun-X8	To Interest Income—Interest rate collar account	6,213.19			
18-Dec-X8	To Interest Income—Interest rate collar account	4,723.78			
			31-Dec-X8	By Balance	16,977.31
31-Dec-X8	Total	**23,430.44**	31-Dec-X8	Total	**23,430.44**
31-Dec-X8	To Balance	16,977.31			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Current Liabilities		
Current Asset		
Bank account	16,977.31	
Income		
Interest Income—Interest rate collar account		10,936.97
IRD Collar Premium received account		12,493.47
Interest Expense—Interest rate collar account	6,453.13	
Totals	23,430.44	23,430.44

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
		Direct Income	
Interest Expense—Interest rate collar account	6,453.13	Interest Income—Interest rate collar account	10,936.97
		IRD Collar Premium received account	12,493.47
Net profit C/o	16,977.31		
Total	**23,430.44**	Total	**23,430.44**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
		Current Assets	
		Bank account	16,977.31
Profit & Loss account			
Opening Balance			
Current Period	16,977.31		
Total	16,977.31	Total	16,977.31

PROBLEM 2: REVERSE COLLAR

Contract details:	Reverse Collar
Collar strike—Pay	4.50
Floor strike—Receive	4.35
Notional amount	6,000,000
Currency	EURO

Contract details:	**Reverse collar**
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Collar—reset dates		
Coupon reset dates	**Reset date**	**FX rate**	**Pay date**	**LIBOR**
Coupon date-1	26-Feb-X8	1.56780	17-Mar-X8	4.28000
Coupon date-2	26-Feb-X8	1.54320	17-Jun-X8	4.38200
Coupon date-3	13-Jun-X8	1.42160	17-Sep-X8	4.31000
Coupon date-4	13-Sep-X8	1.37220	17-Dec-X8	4.96100

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Collar contract position taken (inception)	28-Feb-X8	6,000,000.00	6,892.84	03-Mar-X8
Maturity	15-Dec-X8	6,000,000.00		

Valuation dates and net present values	**Date**	**NPV net**	**LIBOR**	**Premium**
Valuation date 1	31-Mar-X8	(1,555.52)	2.57180	(0.02593)
Valuation date 2	30-Jun-X8	(13,825.91)	3.09406	0.23043
Valuation date 3	30-Sep-X8	(6,915.55)	2.87625	(0.11526)

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

SOLUTION TO PROBLEM 2: REVERSE COLLAR

T-1 *On purchase of interest rate collar trade:*

Journal Entry

Date	**Particulars**	**Debit (EUR)**	**Credit (EUR)**
26-Feb-X8	Interest Rate Derivative—Collar account—OBS	6,000,000.00	
	To Interest Rate Derivative—Collar (Contra) account—OBS		6,000,000.00
	(Being the recording of interest rate collar—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *On accounting for premium paid on purchase of interest rate collar trade:*

Journal Entry

Date	**Particulars**	**Debit (EUR)**	**Credit (EUR)**
28-Feb-X8	IRD Collar Premium paid account	6,892.84	
	To ABC Counterparty account		6,892.84
	(Being the premium paid at the inception of interest rate collar contract representing the net present value of the collar on this date)		

T-3 *On accounting of premium paid to Bank account:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
03-Mar-X8	ABC Counterparty account	6,892.84	
	To Bank account		6,892.84
	(Being the premium paid to the broker for purchase of interest rate collar)		

T-4 *On accounting of interest income on interest rate collar:*

Calculation of interest on coupon date	EUR
Previous coupon date	28-Feb-X8
Current coupon date	17-Mar-X8
Number of days	18
Notional amount on which interest is computed	6,000,000
Collar strike rate (Floor)	4.35
Floating interest rate	4.28
Interest accounted for on coupon date	210.00

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
17-Mar-X8	Bank account	210.00	
	To Interest Income—Interest rate collar account		210.00
	(Being the interest income received on decrease in reference rate than the collar rate)		

T-5 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
31-Mar-X8	Unrealized gain/loss on IRD Collar (P&L) account	1,555.52	
	To IRD Collar NPV—(Asset) account		1,555.52
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-6 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
30-Jun-X8	IRD Collar NPV—(Asset/Liability) account	1,555.52	
	To Unrealized gain/loss on IRD Collar (P&L) account		1,555.52
	(Being the reversal of existing net present value of interest rate collar)		

T-7 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
30-Jun-X8	Unrealized gain/loss on IRD Collar (P&L) account	13,825.91	
	To IRD Collar NPV—(Asset/Liability) account		13,825.91
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-8 *On accounting of interest accrued on valuation date:*

Calculation of interest on coupon date	EUR
Previous coupon date	17-Jun-X8
Current coupon date	30-Jun-X8
Number of days	13
Notional amount on which interest is computed	6,000,000
Collar strike rate(Floor)	4.3500%
Floating interest rate	4.310000%
Interest accounted for on coupon date	86.67

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
30-Jun-X8	Interest accrued but not due on interest rate collar account	86.67	
	To Interest Income—Interest rate collar account		86.67
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate collar instrument)		

T-9 *On reversal of interest accrued on pay date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
17-Sep-X8	Interest Income—Interest rate collar account	86.67	
	To Interest accrued but not due on interest rate collar account		86.67
	(Being reversal of interest accrued on valuation date)		

T-10 *On accounting of interest income on interest rate collar:*

Calculation of interest on coupon date	EUR
Previous coupon date	17-Jun-X8
Current coupon date	17-Sep-X8
Number of days	92
Notional amount on which interest is computed	6,000,000
Collar strike rate(Floor)	4.3500%
Floating interest rate	4.310000%
Interest accounted for on coupon date	613.33

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
17-Sep-X8	Bank account	613.33	
	To Interest Income—Interest rate collar account		613.33
	(Being the interest income received on decrease in reference rate than the collar rate)		

T-11 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
30-Sep-X8	IRD Collar NPV—(Asset/Liability) account	13,825.91	
	To Unrealized gain/loss on IRD Collar (P&L) account		13,825.91
	(Being the reversal of existing net present value of interest rate collar)		

T-12 *On valuation of interest rate collar as on date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
30-Sep-X8	Unrealized gain/loss on IRD Collar (P&L) account	6,915.55	
	To IRD Collar NPV—(Asset/Liability) account		6,915.55
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

T-13 *On accounting of interest accrued on valuation date:*

Calculation of interest on coupon date	EUR
Previous coupon date	17-Sep-X8
Current coupon date	30-Sep-X8
Number of days	13
Notional amount on which interest is computed	6,000,000
Collar strike rate (cap)	4.5000%
Floating interest rate	4.9610%
Interest accounted for on coupon date	998.83

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
30-Sep-X8	Interest Expense—Interest rate collar account	998.83	
	To Interest accrued but not due on interest rate collar account		998.83
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate collar instrument)		

T-14 *On reversal of interest accrued on valuation date:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
17-Dec-X8	Interest accrued but not due on interest rate collar account	998.83	
	To Interest Expense—Interest rate collar account		998.83
	(Being reversal of interest accrued on pay date)		

T-15 *On accounting of interest income on interest rate collar:*

Calculation of interest on coupon date	EUR
Previous coupon date	17-Sep-X8
Current coupon date	17-Dec-X8
Number of days	91
Notional amount on which interest is computed	6,000,000
Collar strike rate (cap)	4.5000
Floating interest rate	4.961000
Interest accounted for on coupon date	6,991.83

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
17-Dec-X8	Interest Expenses—Interest rate collar account	6,991.83	
	To Bank account		6,991.83
	(Being the interest expenses paid on increase in reference rate than the collar rate)		

T-16 *On reversal of net present value of interest rate collar:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
17-Dec-X8	IRD Collar NPV—(Asset/Liability) account	6,915.55	
	To Unrealized gain/loss on IRD Collar (P&L) account		6,915.55
	(Being the reversal of existing net present value of interest rate collar)		

T-17 *On reversal of contingent entry on termination:*

Journal Entry

Date	Particulars	Debit (EURO)	Credit (EURO)
17-Dec-X8	Interest Rate Derivative—Collar (Contra) account—OBS	6,000,000.00	
	To Interest Rate Derivative—Collar account—OBS		6,000,000.00
	(Being reversal of contingent entry on maturity of the interest rate collar contract)		

General Ledger accounts

Interest Rate Derivative—Collar account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
26-Feb-X8	To Interest Rate Derivative—Collar (Contra) account—OBS	6,000,000.00			
			17-Dec-X8	By Interest Rate Derivative—Collar (Contra) account—OBS	6,000,000.00
31-Dec-X8	Total	6,000,000.00	31-Dec-X8	Total	6,000,000.00

Interest Rate Derivative—Collar (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			26-Feb-X8	By Interest Rate Derivative—Collar account—OBS	6,000,000.00
17-Dec-X8	To Interest Rate Derivative—Collar account—OBS	6,000,000.00			
31-Dec-X8	Total	6,000,000.00	31-Dec-X8	Total	6,000,000.00

IRD Collar Premium paid account

Date	Particulars	Debit	Date	Particulars	Credit
28-Feb-X8	To ABC Counterparty account	6,892.84			
			31-Dec-X8	By Balance	6,892.84
31-Dec-X8	Total	**6,892.84**	31-Dec-X8	Total	**6,892.84**
31-Dec-X8	To Balance	6,892.84			

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			28-Feb-X8	By IRD Collar Premium paid account	6,892.84
3-Mar-X8	To Bank account	6,892.84			
31-Dec-X8	Total	6,892.84	31-Dec-X8	Total	6,892.84

Interest Income—Interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
			17-Mar-X8	By Bank account	210.00
			30-Jun-X8	By Interest accrued but not due on interest rate collar account	86.67
17-Sep-X8	To Interest accrued but not due on interest rate collar account	86.67			

Date	Particulars	Debit	Date	Particulars	Credit
			17-Sep-X8	By Bank account	613.33
31-Dec-X8	By Balance	823.33			
31-Dec-X8	Total	910.00	31-Dec-X8	Total	910.00
			31-Dec-X8	To Balance	823.33

Interest Expense—Interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
30-Sep-X8	To Interest accrued but not due on interest rate collar account	998.83			
			17-Dec-X8	By Interest accrued but not due on interest rate collar account	998.83
17-Dec-X8	To Bank account	6,991.83			
			31-Dec-X8	By Balance	6,991.83
31-Dec-X8	Total	**7,990.66**	31-Dec-X8	Total	**7,990.66**
31-Dec-X8	To Balance	6,991.83			

Interest accrued but not due on interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
30-Jun-X8	To Interest Income—Interest rate collar account	86.67			
			17-Sep-X8	By Interest Income—Interest rate collar account	86.67
			30-Sep-X8	By Interest Expense—Interest rate collar account	998.83
17-Dec-X8	To Interest Expense—Interest rate collar account	998.83			
31-Dec-X8	Total	1085.50	31-Dec-X8	Total	1085.50

IRD Collar NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Unrealized gain/loss on IRD Collar (P&L) account	1,555.52
30-Jun-X8	To Unrealized gain/loss on IRD Collar (P&L) account	1,555.52			
			30-Jun-X8	By Unrealized gain/loss on IRD Collar (P&L) account	13,825.91
30-Sep-X8	To Unrealized gain/loss on IRD Collar (P&L) account	13,825.91			
			30-Sep-X8	By Unrealized gain/loss on IRD Collar (P&L) account	6,915.55
17-Dec-X8	To Unrealized gain/loss on IRD Collar (P&L) account	6,915.55			
31-Dec-X8	Total	22,296.98	31-Dec-X8	Total	22,296.98

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
			3-Mar-X8	By ABC Counterparty account	6,892.84
17-Mar-X8	To Interest Income—Interest rate collar account	210.00			
17-Sep-X8	To Interest Income—Interest rate collar account	613.33			
			17-Dec-X8	By Interest Expense—Interest rate collar account	6,991.83
31-Dec-X8	To Balance	13,061.34			
31-Dec-X8	Total	13,884.67	31-Dec-X8	Total	13,884.67
			31-Dec-X8	To Balance	13,061.34

Unrealized gain/loss on IRD Collar (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To IRD Collar NPV—(Asset/Liability) account	1,555.52			
			30-Jun-X8	By IRD Collar NPV—(Asset/Liability) account	1,555.52
30-Jun-X8	To IRD Collar NPV—(Asset/Liability) account	13,825.91			
			30-Sep-X8	By IRD Collar NPV—(Asset/Liability) account	13,825.91
30-Sep-X8	To IRD Collar NPV—(Asset/Liability) account	6,915.55			
			17-Dec-X8	By IRD Collar NPV—(Asset/Liability) account	6,915.55
31-Dec-X8	Total	22,296.98	31-Dec-X8	Total	22,296.98

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Current Liabilities		
Current Asset		
Bank account		13,061.34
Income		
IRD Collar Premium paid account	6,892.84	
Interest Expense—Interest rate collar account	6,991.83	
Interest Income—Interest rate collar account		823.33
Totals	13,884.67	13,884.67

Income Statement

For the period ending 31-Dec-X8

Expenses		**Income**	
Direct Expenses		Direct Income	
IRD Collar Premium paid account	6,892.84	Interest Income—Interest rate collar account	823.33
Interest Expense—Interest rate collar account	6,991.83		
		Net profit C/o	13,061.34
Total	13,884.67	Total	13,884.67

Balance Sheet

As at 31-Dec-X8

Liabilities		**Assets**	
Capital account			
Bank account	13,061.34	Current Assets	
		Profit & Loss account	
		Opening Balance	
		Current Period	13,061.34
Total	13,061.34	Total	13,061.34

ENTRIES IN FUNCTIONAL CURRENCY

F-1 *On purchase of interest rate collar trade:* (T-1 @ FX Rate: 1.4823)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
26-Feb-X8	Interest Rate Derivative—Collar account—OBS	4,047,763.61	
	To Interest Rate Derivative—Collar (Contra) account—OBS		4,047,763.61
	(Being the recording of interest rate collar—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-2 *On accounting for premium received on purchase of IRS Trade:* (T-2 @ FX Rate: 1.4823)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
28-Feb-X8	IRD Collar Premium paid account	4,650.10	
	To ABC Counterparty account		4,650.10
	(Being the premium paid at the inception of interest rate collar contract representing the net present value of the collar on this date)		

F-3 *On accounting of premium received to Bank account:* (T-3 @ FX Rate: 1.5038)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
28-Feb-X8	ABC Counterparty account	4,583.61	
	To Bank account		4,583.61
	(Being the premium paid to the broker for purchase of interest rate collar)		

F-4 *On accounting of currency gain/loss on settlement of premium:*

Currency gain/loss on settlement date	EUR	USD
a) Premium received (1.4823)	6,892.84	4,650.10
b) Settlement amount in USD terms (1.5038)		4,583.61
c) Realized Currency Gain on settlement = (a) − (b)		66.49

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
28-Feb-X8	ABC Counterparty account	66.49	
	To Currency gain/loss a/c account		66.49
	(Being accounting of currency gain/loss on settlement of premium)		

F-5 *On accounting of interest income on interest rate collar:* (T-4 @ FX Rate: 1.5678)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Mar-X8	Bank account	133.95	
	To Interest Income—Interest rate collar account		133.95
	(Being the interest income received on increase in reference rate than the collar rate)		

F-6 *On valuation of interest rate collar as on date:* (T-5 @ FX Rate: 1.5800)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Unrealized gain/loss on IRD Collar (P&L) account	984.51	
	To IRD Collar NPV—(Asset/Liability) account		984.51
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

F-7 *On reversal of net present value of interest rate collar:* (T-6 @ FX Rate: 1.5800)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	IRD Collar NPV—(Asset/Liability) account	984.51	
	To Unrealized gain/loss on IRD Collar (P&L) account		984.51
	(Being the reversal of existing net present value of interest rate collar)		

F-8 *On valuation of interest rate collar as on date:* (T-7 @ FX Rate: 1.5799)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on IRD Collar (P&L) account	8,751.13	
	To IRD Collar NPV—(Asset/Liability) account		8,751.13
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

F-9 *On accounting of interest accrued on valuation date:* (T-8 @ FX Rate: 1.57990)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest accrued but not due on interest rate collar account	54.86	
	To Interest Income—Interest rate collar account		54.86
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate collar instrument)		

F-10 *On reversal of interest accrued on valuation date:* (T-9 @ FX Rate: 1.57990)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Sep-X8	Interest Income—Interest rate collar account	54.86	
	To Interest accrued but not due on interest rate collar account		54.86
	(Being reversal of interest accrued on valuation date)		

F-11 *On accounting of interest income on interest rate collar:* (T-10 @ FX Rate: 1.42160)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Sep-X8	Bank account	431.44	
	To Interest Income—Interest rate collar account		431.44
	(Being the interest income received on increase in reference rate than the collar rate)		

F-12 *On reversal of net present value of interest rate collar:* (T-11 @ FX Rate: 1.5799)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	IRD Collar NPV—(Asset/Liability) account	8,751.13	
	To Unrealized gain/loss on IRD Collar (P&L) account		8,751.13
	(Being the reversal of existing net present value of interest rate collar)		

F-13 *On valuation of interest rate collar as on date:* (T-12 @ FX Rate: 1.4449)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on IRD Collar (P&L) account	4,786.18	
	To IRD Collar NPV—(Asset/Liability) account		4,786.18
	(Being the unrealized gain/loss on interest rate collar as on valuation date representing the net present value of the contract as on date)		

F-14 *On accounting of interest accrued on valuation date:* (T-13 @ FX Rate: 1. 4449)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest Expense—Interest rate collar account	691.28	
	To Interest accrued but not due on interest rate collar account		691.28
	(Being the interest expense accounted for until the valuation date representing interest accrued but not due on the interest rate collar instrument)		

F-15 *On reversal of interest accrued on valuation date:* (T-14 @ FX Rate: 1. 4449)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Dec-X8	Interest accrued but not due on interest rate collar account	691.28	
	To Interest Expense—Interest rate collar account		691.28
	(Being reversal of interest accrued on valuation date)		

F-16 *On accounting of interest income on interest rate collar:* (T-15 @ FX Rate: 1.3722)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Dec-X8	Interest Expense—Interest rate collar account	5,095.35	
	To Bank account		5,095.35
	(Being the interest income received on increase in reference rate than the collar rate)		

F-17 *On reversal of net present value of interest rate collar:* (T-16 @ FX Rate: 1.4449)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Dec-X8	IRD Collar NPV—(Asset/Liability) account	4,786.18	
	To Unrealized gain/loss on IRD Collar (P&L) account		4,786.18
	(Being the reversal of existing net present value of interest rate collar)		

F-18 *On reversal of contingent entry on termination:* (T-17 @ FX Rate: 1.9474)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Dec-X8	Interest Rate Derivative—Collar (Contra) account—OBS	4,047,763.61	
	To Interest Rate Derivative—Collar account—OBS		4,047,763.61
	(Being reversal of contingent entry on maturity of the interest rate collar contract)		

F-19 *On accounting of currency gain/loss on Bank account*

Particulars	Date	EUR	USD
Premium received on IRS CAP (1.48)	28-Feb-X8	(6,892.84)	(4,650.10)
Interest income on IRD Floor (1.57)	17-Mar-X8	210.00	133.95
Interest income on IRD Floor (1.54)	17-Jun-X8	613.33	431.44
Interest Expenses on IRD CAP (1.37)	17-Dec-X8	(6,991.83)	(5,095.35)
Net Balance		(13,061.34)	(9,180.06)
Net Balance at current FX rate(1.37)	16-Dec-X8	(13,061.34)	(9,518.54)
FX translation on Bank account			**338.48**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
17-Dec-X8	Currency gain/loss account	338.48	
	To Bank account		338.48
	(Being accounting of currency gain/loss on Bank account)		

General Ledger accounts

Interest Rate Derivative—Collar account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
26-Feb-X8	To Interest Rate Derivative—Collar (Contra) account—OBS	4,047,763.61			
			17-Dec-X8	By Interest Rate Derivative—Collar (Contra) account—OBS	4,047,763.61
31-Dec-X8	Total	4,047,763.61	31-Dec-X8	Total	4,047,763.61

Interest Rate Derivative—Collar (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			26-Feb-X8	By Interest Rate Derivative—Collar account—OBS	4,047,763.61
17-Dec-X8	To Interest Rate Derivative—Collar account—OBS	4,047,763.61			
31-Dec-X8	Total	4,047,763.61	31-Dec-X8	Total	4,047,763.61

IRD Collar Premium paid account

Date	Particulars	Debit	Date	Particulars	Credit
26-Feb-X8	To ABC Counterparty account	4,650.10			
			31-Dec-X8	By Balance	4,650.10
31-Dec-X8	Total	**4,650.10**	31-Dec-X8	Total	**4,650.10**
31-Dec-X8	To Balance	4,650.10			

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			26-Feb-X8	By IRD Collar Premium paid account	4,650.10
28-Feb-X8	To Bank account	4,583.61			
28-Feb-X8	To Currency Gain/Loss account	66.49			
31-Dec-X8	Total	4,650.10	31-Dec-X8	Total	4,650.10

Currency Gain/Loss account

Date	Particulars	Debit	Date	Particulars	Credit
			28-Feb-X8	By ABC Counterparty account	66.49
17-Dec-X8	To Bank account	338.48			
			31-Dec-X8	By Balance	271.99
31-Dec-X8	Total	**338.48**	31-Dec-X8	Total	**338.48**
31-Dec-X8	To Balance	271.99			

Interest Income—Interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
			17-Mar-X8	By Bank account	133.95
			30-Jun-X8	By Interest accrued but not due on interest rate collar account	54.86
17-Sep-X8	To Interest accrued but not due on interest rate collar account	54.86			
			17-Sep-X8	By Bank account	431.44

Date	Particulars	Debit	Date	Particulars	Credit
31-Dec-X8	To Balance	565.39			
31-Dec-X8	Total	**620.25**	31-Dec-X8	Total	**620.25**
			31-Dec-X8	By Balance	565.39

Interest Expense—Interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
30-Sep-X8	To Interest accrued but not due on interest rate collar account	691.28			
			17-Dec-X8	By Interest accrued but not due on interest rate collar account	691.28
17-Dec-X8	To Bank account	5,095.35			
			31-Dec-X8	By Balance	5,095.35
31-Dec-X8	Total	**5,786.63**	31-Dec-X8	Total	**5,786.63**
31-Dec-X8	To Balance	5,095.35			

Interest accrued but not due on interest rate collar account

Date	Particulars	Debit	Date	Particulars	Credit
30-Jun-X8	To Interest Income—Interest rate collar account	54.86			
			17-Sep-X8	By Interest Income—Interest rate collar account	54.86
			30-Sep-X8	By Interest Expense—Interest rate collar account	691.28
17-Dec-X8	To Interest Expense—Interest rate collar account	691.28			
31-Dec-X8	Total	746.14	31-Dec-X8	Total	746.14

IRD Collar NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Unrealized gain/loss on IRD Collar (P&L) account	984.51
30-Jun-X8	To Unrealized gain/loss on IRD Collar (P&L) account	984.51			
			30-Jun-X8	By Unrealized gain/loss on IRD Collar (P&L) account	8,751.13
30-Sep-X8	To Unrealized gain/loss on IRD Collar (P&L) account	8,751.13			
			30-Sep-X8	By Unrealized gain/loss on IRD Collar (P&L) account	4,786.18
17-Dec-X8	To Unrealized gain/loss on IRD Collar (P&L) account	4,786.18			
31-Dec-X8	Total	14,521.82	31-Dec-X8	Total	14,521.82

Unrealized gain/loss on IRD Collar (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To IRD Collar NPV—(Asset/Liability) account	984.51			
			30-Jun-X8	By IRD Collar NPV—(Asset/Liability) account	984.51
30-Jun-X8	To IRD Collar NPV—(Asset/Liability) account	8,751.13			
			30-Sep-X8	By IRD Collar NPV—(Asset/Liability) account	8,751.13
30-Sep-X8	To IRD Collar NPV—(Asset/Liability) account	4,786.18			
			17-Dec-X8	By IRD Collar NPV—(Asset/Liability) account	4,786.18
31-Dec-X8	Total	14,521.82	31-Dec-X8	Total	14,521.82

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
			28-Feb-X8	By ABC Counterparty account	4,583.61
17-Mar-X8	To Interest Income—Interest rate collar account	133.95			
17-Sep-X8	To Interest Income—Interest rate collar account	431.44			
			17-Dec-X8	By Interest Expense—Interest rate collar account	5,095.35
			17-Dec-X8	By Currency Gain/Loss account	338.48
31-Dec-X8	To Balance	9,452.05			
31-Dec-X8	Total	10,017.44	31-Dec-X8	Total	10,017.44
			31-Dec-X8	By Balance	9,452.05

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Current Liabilities		
Current Asset		
Bank account		9,452.05
Income		
Interest Income—Interest rate collar account		565.39
IRD Collar Premium paid account	4,650.10	
Interest Expense—Interest rate collar account	5,095.35	
Currency Gain/Loss account	271.99	
Totals	10,017.44	10,017.44

Income Statement

For the period ending 31-Dec-X8

Expenses		**Income**	
Direct Expenses		Direct Income	
Interest Expense—Interest rate collar account	5,095.35	Interest Income—Interest rate collar account	565.39
IRD Collar Premium paid account	4,650.10		
Currency Gain/loss account	271.99		
		Net profit C/o	9,452.05
Total	10,017.44	Total	10,017.44

Balance Sheet

As at 31-Dec-X8

Liabilities		**Assets**	
Capital account			
		Current Assets	
Bank account	9,452.05		
		Profit & Loss account	
		Opening Balance	
		Current Period	9,452.05
Total	9,452.05	Total	9,452.05

SUMMARY

- An interest rate collar is an instrument that combines both a cap and a floor. The cap component of the instrument gives the investor protection against rising rates by guaranteeing that the investor will never pay above a pre-agreed rate.
- The floor component of the collar at the same time allows the investor to take advantage of the falling interest rates until the interest rate hits a predetermined rate, known as floor rate.
- A collar effectively creates an interest rate range with an upper and lower limit and depending upon where the cap and floor levels are set, will reduce or eliminate the requirement for a premium.
- An interest rate collar protects the investor against increases in interest rates beyond a pre-determined level known as the cap rate, while still allowing the investor to take advantage of falling interest rates down to a predetermined level, known as the floor rate.
- The investor, however, is exposed to a further fall in the interest rates below the floor rate. In a nutshell, an interest rate collar is equivalent to that of buying a cap and selling a floor.
- Since an interest rate collar includes the buying of a cap instrument, all the benefits of a cap instrument are applicable for this instrument. Caps provide the entity with protection against unfavorable interest rate movements above the strike rate. Cap contracts are flexible as they are over-the-counter products and are customized to suit the requirements of the parties to

the trade. The strike rate can be positioned to reflect the level of protection sought by the buyer or willing to be written by the seller.

- The investor will not benefit from a fall in rates below the pre-fixed floor rate. In fact, a fall in the rates below the floor rate forces the investor to compensate the counterparty to that extent.
- Unwinding the collar during its lifetime involves termination fees depending on the then prevailing market rates.
- The investor will still be exposed to interest rate movements if the term of the collar is shorter than that of the underling facility.
- An interest rate collar or other derivative instrument that includes a written option cannot be designated as a hedging instrument if it is a net written option, because the standard precludes the use of a written option as a hedging instrument unless it is designated as an offset to a purchased option. An interest rate collar or other derivative instrument that includes a written option may be designated as a hedging instrument, however, if the combination is a net-purchased option or zero-cost collar.
- The following factors taken together suggest that an interest rate collar or other derivative instrument that includes a written option is not a net-written option:
  - No net premium is received either at inception **or over the life of the combination of options**. The distinguishing feature of a written option is the receipt of a premium to compensate the writer for the risk incurred.
  - Except for the strike prices, the critical terms and conditions of the written option component and the purchased option component are the same (including the underlying variable or variables, currency denomination and maturity date). Also, the notional amount of the written option component is not greater than the notional amount of the purchased option component.
- Obviously in the case of an interest rate collar the notional amount, currency and the maturity are one and the same and hence the collar will qualify as a hedging instrument if the net present value of the instrument stays positive throughout the life of the contract and not merely at the inception of the contract. This condition will ensure that the entity will never lose on account of the hedging instrument but always has the potential to gain, which is the intention of the standard.

QUESTIONS

Theory questions

1. What is the meaning of an interest rate collar instrument?
2. Explain the benefits of an interest rate collar instrument?
3. What are the risks associated with an interest rate collar instrument?
4. What are the significant events in the trade life cycle of an interest rate collar instrument?
5. What is the meaning of an interest rate reverse collar instrument?
6. Can an interest rate collar instrument be designated as a hedging instrument?

Objective questions

1. An interest rate _____ is an instrument that gives you protection against rising rates by guaranteeing that you will never pay above a pre-agreed rate, but at the same time sets a downside (floor) rate below which you cannot benefit if rates do fall further.
   a) Cap
   b) Floor

c) Collar

d) None of the above

2. An interest rate collar protects you against increases in interest rates beyond a predetermined level known as the _____.

   a) Floor rate

   b) Cap rate

   c) Average rate

   d) None of the above

3. An interest rate collar provides known upside protection against a rise in rates with the potential to benefit from a fall in rates, down to a _____.

   a) Post-agreed level

   b) Agreed level

   c) Pre-agreed level

   d) None of the above

4. A collar protects a company against adverse movement in _____.

   a) Exchange rate

   b) Bank rate

   c) Interest rate

   d) None of the above

5. While recording the trade contingent, since an interest rate collar agreement is a notional amount and no physical exchange of money takes place, we record a _____ transaction to record the same.

   a) Profit/loss entry

   b) Off balance sheet entry

   c) Balance sheet entry

   d) None of the above

6. The cost of the collar is referred to as the _____.

   a) Discount

   b) Premium

   c) Exchange rate

   d) None of the above

7. To calculate the interest rate collar premium, several factors are considered, including _____.

   a) Cap rate

   b) Floor rate

   c) Notional amount

   d) All of the above

8. On each reset date, interest will be received if the prevailing reference rate rises above the _____.

   a) Reference level

   b) Floor level

c) Cap level
d) None of the above

9. A collar can be terminated anytime before the _____.
   a) Reset date
   b) Settlement date
   c) Maturity date
   d) None of the above

10. An interest rate reverse collar is an instrument that gives you protection against _____.
   a) Rising interest rate
   b) Exchange rate
   c) Falling interest rate
   d) None of the above

11. The reverse interest rate collar represents buying an interest rate _____.
   a) Cap
   b) Floor
   c) Exchange rate
   d) None of the above

12. The reverse interest rate collar represents selling an interest rate _____.
   a) Cap
   b) Floor
   c) Exchange rate
   d) None of the above

13. You will be exposed to interest rate movements if the term of the reverse collar is _____ than that of the underling facility.
   a) Longer
   b) Higher
   c) Shorter
   d) None of the above

14. In a reverse collar interest rate if the reference rate falls below the floor rate, interest will be _____.
   a) Paid
   b) Received
   c) Rolled over
   d) None of the above

15. An interest rate collar is _____.
   a) Writing a floor and writing a cap
   b) Buying a cap and writing a floor
   c) An option on a futures contract
   d) Buying a cap and buying a floor
   e) None of the above

Journal questions

1. Interest rate collar—Exercise 1

Collar contract details:	**Collar—USD**
Cap strike—receive	3.85
Floor strike—pay	3.65
Notional amount	300,000
Currency	USD
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

	Collar—reset dates		
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	18-Jan-X8	20-Mar-X8	3.89375
Coupon date-2	18-Mar-X8	20-Jun-X8	2.54188
Coupon date-3	18-Jun-X8	22-Sep-X8	2.80250
Coupon date-4	18-Sep-X8	22-Dec-X8	3.20375

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Collar contract position taken (inception)	18-Jan-X8	300,000.00	(9,136.28)	20-Jan-X8
Maturity	18-Dec-X8	300,000.00		

Valuation dates and net present values	**date**	**NPV net**	**LIBOR**
Valuation date 1	31-Mar-X8	(26,426.92)	2.49310
Valuation date 2	30-Jun-X8	(8,815.84)	3.10065
Valuation date 3	30-Sep-X8	(3355.05)	3.20375
Maturity	20-Dec-X8		

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

2. Interest rate collar—Exercise 2

Collar contract details:	
Collar strike—receive	5.30
Floor strike—pay	5.70
Notional amount	4,000,000
Currency	GBP
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

	Collar—reset dates		
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	07-Jan-X8	07-Mar-X8	5.74625
Coupon date-2	07-Mar-X8	09-Jun-X8	5.77750
Coupon date-3	09-Jun-X8	08-Sep-X8	5.91125
Coupon date-4	08-Sep-X8	08-Dec-X8	5.73700

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Collar contract position taken (inception)	05-Jan-X8	4,000,000.00	7,137.07	07-Jan-X8
Maturity	05-Dec-X8	4,000,000.00		

Valuation dates and net present values	**Date**	**NPV net**	**LIBOR**
Valuation date 1	31-Mar-X8	13,840.43	5.72700
Valuation date 2	30-Jun-X8	15,702.82	6.09785
Valuation date 3	30-Sep-X8	4,307.95	5.73700
Maturity	14-Dec-X8		

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

3. Interest rate reverse collar—Exercise 3

Collar contract details:	**Reverse Collar**
Collar strike—pay	4.60
Floor strike—receive	4.36
Notional amount	2,000,000
Currency	USD
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

	Collar—reset dates		
Coupon reset dates	**Reset date**	**Pay date**	**LIBOR**
Coupon date-1	03-Jan-X8	07-Mar-X8	4.64625
Coupon date-2	05-Mar-X8	09-Jun-X8	3.0000
Coupon date-3	05-Jun-X8	08-Sep-X8	2.67688
Coupon date-4	04-Sep-X8	08-Dec-X8	2.81500

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**
Collar contract position taken (inception)	05-Jan-X8	2,000,000.00	7,060.47	07-Jan-X8
Maturity	05-Dec-X8	2,000,000.00		

Valuation dates and net present values	Date	NPV net	LIBOR
Valuation date 1	31-Mar-X8	25,514.60	2.66688
Valuation date 2	30-Jun-X8	13,651.63	2.98977
Valuation date 3	30-Sep-X8	7,705.13	2.81500
Maturity	20-Dec-X8		

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

4. Interest rate reverse collar—Exercise 4

Collar contract details:	Reverse Collar
Collar strike—pay	4.15
Floor strike—receive	3.85
Notional amount	5,000,000
Currency	EUR
Day count	Actual/360
Interest payment terms	Quarterly
Reset frequency and tenor	US 3 months LIBOR
Reset terms	Prefix/post paid

		Collar—reset dates	
Coupon reset dates	Reset date	Pay date	LIBOR
Coupon date-1	24-Jan-X8	26-Mar-X8	4.30200
Coupon date-2	20-Mar-X8	26-Jun-X8	4.67400
Coupon date-3	24-Jun-X8	26-Sep-X8	4.95800
Coupon date-4	24-Sep-X8	29-Dec-X8	5.06600

Other details	Trade date	Notional amount	Premium	Settle date
Collar contract position taken (inception)	24-Jan-X8	5,000,000.00	(528.73)	26-Jan-X8
Maturity	24-Dec-X8	5,000,000.00		

Valuation dates and net present values	Date	NPV net	LIBOR
Valuation date 1	31-Mar-X8	(11,065.36)	4.38503
Valuation date 2	30-Jun-X8	(21,181.58)	4.98417
Valuation date 3	30-Sep-X8	(11,807.32)	5.06600
Maturity	20-Dec-X8		

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

CHAPTER 12

Cross-Currency Swaps (XCCY Swaps)

LEARNING OBJECTIVES

After studying this chapter you will be able to get a grasp of the following:

- Meaning of cross-currency interest rate swaps
- Different types of cross-currency swaps
- Accounting for cross-currency interest rate swaps
- Trade life cycle of cross-currency interest rate swaps
- Accounting journal entries to be recorded during the different phases of the trade life cycle
- Illustration of investments in cross-currency interest rate swaps
- Preparation of general ledger accounts
- Preparation of income statement, balance sheet after the investments in interest rate swaps are made
- FX revaluation and FX translation process
- Functional currency, foreign currency and presentation currency

A MEANING OF CROSS-CURRENCY SWAPS (XCCY SWAPS)

Currency swaps are over-the-counter derivatives, and are similar to interest rate swaps covered already in this volume except that in cross-currency swaps the principal amounts are in different currencies. Also, unlike interest rate swaps, cross-currency swaps can involve the exchange of the principal. Even where there is no exchange of principal, the counterparties are subject to the foreign exchange rate fluctuation during the substance of the trade. Cross-currency swaps can also mean a simple currency swap, also known as an FX-swap. But in this chapter the term "cross-currency swap" is used to mean a cross-currency interest rate swap.

A cross-currency swap is a foreign-exchange contract between two parties to exchange principal and/or interest payments of a loan in one currency for an equivalent loan in another currency. A cross-currency basis swap is an exchange of a fixed or floating rate note in one currency for a fixed or floating rate note in another currency. It may involve swapping payments in one currency for payments in another. At maturity the notional principal may also be swapped.

Features of cross-currency swap

The tenure of a cross-currency swap typically ranges from one to fifteen years. Cross-currency swaps are suitable for entities that have loan commitments denominated in one currency, while

the revenues generated by the entity are denominated in a different currency, resulting in a currency mismatch between the currency of the loan and the currency of the revenues. Cross-currency swaps are available in different currency pairs. Effectively, a cross-currency swap serves as an excellent hedging strategy for hedgers who wish to protect against both the currency rates as well as interest rate risks.

Benefits of a cross-currency swap

- A Cross-currency interest rate swap allow an entity to switch its loan from one currency to another.
- A Cross-currency interest rate swap enable an entity to manage foreign currency exposures. With a cross-currency swap the entity can use money it receives in one currency to pay off its loans in another currencycross-currency.
- The entity can focus on raising debt in the domestic market where it has its own strengths and still be able to swap the domestic local currency debt with any foreign currency with a cross-currency swap, thus effectively procuring foreign currency funds at low costs.

Risks involved in a cross-currency swap

Interest rate risk: Since a cross-currency swap is basically an interest rate swap, all the risks associated with an interest rate swap in terms of interest rates do exist in this instrument. Both the counterparties of a cross-currency swap are exposed to a risk of loss if the market interest level moves against their favor.

Currency risk: The single important reason for entering into a cross-currency swap is to manage foreign exchange exposure. This also becomes a huge risk if not managed properly. Even in instruments where the principal is not exchanged, both the counterparties are exposed to the currency risk as the net present value of the instrument takes into account the fluctuation in the exchange rates as compared with the exchange rates at the inception of the trade.

Credit risk: As cross currency swaps involve exchange risk on the principal, the credit risk associated with these types of transactions is substantially greater than with interest rate swaps.

Dubious low effective interest rate: Even though it can be argued that the cross-currency interest rate swap achieves an apparently lower interest rate, when coupled with the exchange rate fluctuations the effective interest rate may well be higher than procured otherwise. In other words, the difference in interest rates resulting in a gain may be neutralized in turn by exchange losses.

Types of cross-currency swaps

- First is to exchange the principal only with the counterparty, at a rate agreed now, at some specified point in the future. The principal-only currency swaps are often used as a cost-effective way to fix forward rates. This type of currency swap is also known as an FX-swap. (This type of swap is not considered in this chapter.)
- Second is to combine the exchange of loan principal, as above, with an interest rate swap. In such a swap, interest cash flows are not netted before they are paid to the counterparty as the interest is denominated in different currencies. In this type the principal is exchanged between the parties.
- Third is to swap only interest payment cash flows on loans of the same size and term. Again, as this is a currency swap, the exchanged cash flows are in different denominations and so are not netted. Even though principal is not exchanged, the counterparties are still exposed to the currency rate fluctuations. This type of swap is known as a cross-currency interest rate swap, or cross-currency swap, and this type is covered in this chapter.

Purpose of cross-currency swaps

- To effectively reduce the cost of borrowing by the principle of comparative cost advantage viz. procuring debt by borrowing at the best available rate regardless of currency and then swapping for debt in desired currency using a back-to-back-loan.
- The second important purpose of a cross-currency swap is to hedge against exchange-rate fluctuations.

Interest rate cross-currency swaps as a hedging instruments

Being a derivative instrument, an interest rate cross-currency swap per se qualifies as a hedging instrument. It should be noted that in an interest rate swap, the risk reward is symmetric and can be more or less compared to an equity futures position. A cross-currency interest rate swap instrument can be used to hedge primarily interest rate risk as well as foreign exchange risk.

It should be noted that the derivative financial instrument of a cross-currency swap may be designated as hedging instrument provided it is with an external party. Intra-group derivatives do not qualify as a hedging instrument in consolidated financial statements, although they may qualify in the separate financial statements of individual entities in the group. A derivative may be designated as a hedging instrument only in its entirety or as a proportion i.e., a percentage of the notional amount.

ACCOUNTING FOR CROSS-CURRENCY SWAPS

In this chapter we will cover the accounting requirements for investments in cross-currency interest rate swaps. Table 12.1 provides the list of relevant accounting standards for this chapter.

Table 12.1 Relevant accounting standards

US GAAP Topics	IFRS
220—Comprehensive Income	IFRS 7—Financial Instruments: Disclosure
815—Derivatives and Hedging	IFRS 9—Financial Instruments
820—Fair Value Measurements and Disclosures	IAS 21—The Effects of Changes in Foreign Exchange Rates
825—Financial Instruments	IAS 32—Financial Instruments: Presentation
830—Foreign Currency Matters	IAS 39—Financial Instruments: Recognition and Measurement
946—Financial Services—Investment Companies	

THE TRADE LIFE CYCLE FOR CROSS-CURRENCY SWAPS

- Recording the trade—contingent
- Account for the upfront fee (premium on the trade)
- Pay/receive the upfront fee for the trade
- Reset the interest rate for both legs—receivable and payable
- Account for accrued interest on pay leg on valuation date
- Account for accrued interest on receive leg on valuation date
- Reverse the accrued interest on pay leg on coupon date
- Reverse the accrued interest on receive leg on coupon date
- Account for the interest payable on the pay leg on coupon date
- Account for the interest receivable on the receive leg on coupon date
- Pay the pay leg (one currency)

- Receive the receive leg (another currency)
- Reverse the existing net present value of the trade
- Ascertain the fair value on valuation date
- Termination of the trade and accounting for termination fee
- Payment or receipt of termination fee
- Maturity of the trade
- Reversal of the contingent entry on maturity/termination
- FX revaluation entries
- FX translation entries

Let us assume the contract data as shown in Table 12.2 for the purpose of understanding the trade life cycle for a cross-currency interest rate swap.

Table 12.2 Details of cross-currency swap contract

XCCY Swap contract details:	**Receive leg**	**Pay leg**
Notional amount	10,000,000	5,145,000
Currency	USD	GBP
Day count	Actual/360	Actual/360
Interest payment terms	Quarterly	Quarterly
Rate of interest	US 3 months LIBOR	GBP 3 months LIBOR
Reset terms	Floating	Floating

	Receive leg—floating (USD)			
Coupon reset dates	**Trade date**	**FX rate**	**Settle date**	**LIBOR**
Inception	21-Jan-X8	1.0000	23-Jan-X8	3.84750
Coupon date-1	23-Apr-X8	1.0000	25-Apr-X8	3.84750
Coupon date-2	23-Jul-X8	1.0000	25-Jul-X8	2.92000
Coupon date-3	23-Oct-X8	1.0000	25-Oct-X8	2.79938

		Pay leg floating			
	Trade date	**FX rate**	**Settle date**	**FX rate**	**LIBOR**
Inception	21-Jan-X8	1.944405	23-Jan-X8	1.944405	5.49818
Coupon date-1	23-Apr-X8	1.985600	25-Apr-X8	1.975900	5.40375
Coupon date-2	23-Jul-X8	2.000100	25-Jul-X8	1.991000	5.40375
Coupon date-3	23-Oct-X8	1.641500	27-Oct-X8	1.589100	5.99750
		1.552400	20-Dec-X8	1.502000	5.99750

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**	**FX rate**
XCCY Swap contract position taken (inception) Maturity 21-Jan-10	21-Jan-X8	10,000,000.00	(3,963.26)	23-Jan-X8	1.943350
XCCY Swap contract termination (unwind)	18-Dec-X8	10,000,000.00	1,928,229.00	20-Dec-X8	1.557900

Valuation dates and net present values	**Date**	**NPV net**
Valuation date 1	31-Mar-X8	(285,375.00)
Valuation date 2	30-Jun-X8	(312,858.00)

Valuation dates and net present values	Date	NPV net
Valuation date 3	30-Sep-X8	(446,958.00)
Termination date	18-Dec-X8	1,928,229.00

Other details	Date	USD	GBP
Capital introduced	20-Jan-X8	10,000,000	500,000

Recording the trade—contingent

Unlike interest rate swaps there may be an exchange of principal taking place during the purchase and at maturity of the swap. If there is no principal exchange then the entry will only be a contingent and off balance sheet. For the actual principal exchange, the respective entries for money transfers will be recorded.

In the current example, there is no principal exchange and hence a contingent entry that is an off balance sheet would be recorded at the inception of the cross-currency interest rate swap. This cross-currency interest rate swap agreement is based on "floating-for-floating," a series of payments calculated by applying a floating rate of interest to a notional principal in USD in exchange for a stream of payments similarly calculated but using a floating rate of interest in GBP with the respective three months LIBOR rates.

As this is a notional amount and no physical exchange of money takes place, an off balance sheet entry is made to record the transaction, as shown in Table 12.3.

Table 12.3 On purchase of a cross-currency interest rate swap trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Jan-X8	XCCY Swap account—OBS account	10,000,000.00	
	To XCCY Swap (Contra) account—OBS		10,000,000.00
	(Being the recording of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
21-Jan-X8	XCCY Swap (Contra) account—OBS account	5,145,000.00	
	To XCCY Swap account—OBS account		5,145,000.00
	(Being the recording of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

Account for the upfront fee (premium on the trade)

The net present value of the trade at the time of entering into the contract is also known as the upfront fee on the trade. The present value of the pay leg and the receive leg is computed separately and discounted back based on the yield curve of the respective currencies to arrive at the net present value of the contract. This may either be a positive or negative value meaning that the upfront fee may have to be either paid or received depending upon the present value of the notional amount of the two legs. Some also refer to the upfront fee as a premium on the trade even though strictly speaking the term "premium" is used for option contracts like an interest rate cap or floor.

If the notional amounts of the two legs are not equally computed based on the spot exchange rate, then there will be an amount to be paid or received so as to compensate for the anomaly in the form of premium for the trade. It should be noted that the interest computation for both the legs are based on the notional amount.

In the current example the net present value is a negative value meaning this amount will be received by the investor at the time of entering into this contract. The net present value of the receive leg and the payments leg is $3,963.26 and the entry to record the upfront fee is as shown in Table 12.4.

Table 12.4 On accounting for the premium on purchase of a cross-currency interest rate swap trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Jan-X8	ABC counterparty account	3,963.26	
	To XCCY swap NPV—(Asset/Liability) account		3,963.26
	(Being the premium on purchase of cross-currency interest rate swap receivable from the counterparty)		

Pay the upfront fee for the trade

The next event in the trade life cycle is the payment or receipt of the upfront fee as the case may be. In this illustration the upfront fee is payable to the counterparty and as such it is paid on the settle date. Assuming that the counterparty is paid on T + 2 then the accounting entry that is recorded in the books of accounts is as shown in Table 12.5

Table 12.5 On receipt of the premium on purchase of a cross-currency interest rate swap trade

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Mar-X8	Bank account	3,963.26	
	To ABC Counterparty account		3,963.26
	(Being the premium received at the inception of cross currencycross-currency interest rate swap contract representing the net present value of the swap on this date)		

Reset the interest rate for the floating leg

Interest based on the benchmark to arrive at the floating rate for the pay leg as well as the receive leg is reset for the next payment period. Usually the interest is prefixed for the next payment period based on the benchmark rate. The frequency of the reset is based on the swap contract.

In this case, on the receive leg the rate of 3.8475 percent, which represents the benchmark interest rate three months LIBOR, is reset for the next quarter commencing from the date of reset. For the pay leg the benchmark rate is 5.40375 percent. No accounting entry is recorded at this stage.

Account for accrued interest on the pay leg on valuation date

Interest is payable on the pay leg based on the day count and the interest that is reset as determined in the previous step. In this case the interest rate is set at 5.40375 percent and the day count is actual/360.

On the valuation date any interest accrued on the pay leg based on the floating rate of interest is computed and accounted for. This entry is reversed on the coupon date when the interest is actually settled.

To account for the interest accrued on pay leg on the date of valuation, the accounting entry as shown in Table 12.6 is recorded in the book of accounts.

Table 12.6 On accounting for interest on the valuation date—pay leg

Calculation of interest—pay leg	**GBP**
Previous coupon date	23-Jan-X8
Current coupon date	31-Mar-X8
Number of days (Actual/360) (Actual/360)	68
Notional amount on which interest is computed	5,145,000.00
Rate of interest p.a.(%)	5.403750
Accrued interest on pay leg	52,515.44

Journal Entry

Date	**Particulars**	**Debit (GBP)**	**Credit (GBP)**
31-Mar-X8	Interest—pay leg—XCCY Swap account	52,515.44	
	To Interest accrued but not due on XCCY Swap account		52,515.44
	(Being the interest accrued but not due on pay leg accounted for on the valuation date)		

Account for accrued interest on receive leg on valuation date

Interest is receivable on the receive leg based on the day count and the contracted fixed interest rate. In this case the interest rate for the receive leg is agreed at 3.8475 percent and the day count is actual/365.

The accounting entry that is recorded in the book of accounts is shown in Table 12.7.

Table 12.7 On accounting for accrued interest on the receive leg

Calculation of accrued interest—receive leg	**USD**
Previous coupon date	23-Jan-X8
Current reporting date	31-Mar-X8
Number of days (Actual/360) (Actual/360)	68
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	3.84750
Accrued interest on receive leg	72,675.00

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Mar-X8	Interest accrued but not due on XCCY Swap account	72,675.00	
	To Interest—receive leg—XCCY Swap account		72,675.00
	(Being the interest accrued on receive leg accounted for on the valuation date)		

Reverse the accrued interest on the pay leg on the coupon date

The accrued interest entry for the pay leg recorded in the previous valuation date must be reversed on the next coupon date, when the actual interest until the coupon date will be accounted for. The next coupon date subsequent to the valuation date falls on 23rd April and on that date the entry as shown in Table 12.8 will be recorded in the book of accounts for reversal of accrued interest on the pay leg.

Table 12.8 On reversal of accrued interest on the coupon date—pay leg

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
23-Apr-X8	Interest accrued but not due on XCCY Swap account	52,515.44	
	To Interest—pay leg—XCCY Swap account		52,515.44
	(Being the reversal of interest accrued but not due on the pay leg of the XCCY Swap)		

Reverse the accrued interest on the receive leg on the coupon date

The accrued interest entry for the receive leg recorded in the previous valuation date must be reversed on the next coupon date, when the actual interest until the coupon date will be accounted for. The next coupon date subsequent to the valuation date falls on 23rd April and on that date the entry as shown in Table 12.9 will be recorded in the book of accounts for reversal of accrued interest on the receive leg.

Table 12.9 On reversal of accrued interest on the coupon date—receive leg

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-April-X3	Interest—receive leg—XCCY Swap account	72,675.00	
	To Interest accrued but not due on XCCY Swap account		72,675.00
	(Being the reversal of interest accrued on the receive leg of the XCCY Swap on coupon date)		

Account for the interest payable on the pay leg on the coupon date

Interest is payable on the pay leg based on the day count and the interest that is reset as determined in the previous step. In this case the interest rate is set to 5.40375 percent and the day count is actual/360. This entry is recorded after reversing the accrued interest entry passed on the previous valuation date, i.e., 31st March.

The accounting entry that is recorded in the book of accounts is as shown in Table 12.10.

Table 12.10 On accounting for interest on the coupon date—pay leg

Calculation of interest—pay leg	GBP
Previous coupon date	23-Jan-X8
Current coupon date	23-Apr-X8
Number of days (actual/360) (actual/360)	91
Notional amount on which interest is computed	5,145,000
Rate of interest p.a.(%)	5.40
Accrued interest on pay leg	70,278.02

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
23-April-X8	Interest—pay leg—XCCY Swap account	70,278.02	
	To ABC Counterparty account		70,278.02
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

Account for the interest receivable on the receive leg on the coupon date

Interest is receivable on the receive leg based on the day count and the contracted fixed interest rate. In this case the interest rate for the receive leg is agreed at 3.8475 percent and day count is actual/365. This entry is recorded after reversing the accrued interest entry passed on the previous valuation date, i.e., 31st March.

The accounting entry that is recorded in the books of accounts is as shown in Table 12.11.

Table 12.11 On accounting for interest on the coupon date—receive leg

Calculation of accrued interest—receive leg	USD
Previous coupon date	23-Jan-X8
Current reporting date	23-Apr-X8
Number of days (Actual/360) (Actual/360)	91
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	3.84750
Accrued interest on receive leg	97,256.25

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Apr-X8	ABC Counterparty account	97,256.25	
	To Interest—receive leg—XCCY Swap account		97,256.25
	(Being the interest accounted on the receive leg of the XCCY Swap on coupon date)		

Pay and receive the interest

The dates on which the interest is payable on the pay leg and the interest that is receivable on the receive leg, and the respective payment and receipt of the interest component is completed on the settle date. Unlike the regular interest rate swap, where the payment and receipt are netted in a cross-currency interest rate swap, netting cannot happen as both the payment and receipt are denominated in different currencies.

The accounting entries that are recorded in the books of accounts are as shown in Tables 12.12 and 12.13.

Table 12.12 On settlement of interest on the pay leg

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
25-Apr-X8	ABC counterparty account	70,278.02	
	To bank account		70,278.02
	(Being the payment of interest on pay leg of the XCCY swap)		

Table 12.13 On settlement of interest on the receive leg

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Apr-X8	Bank account	97,256.25	
	To ABC counterparty account		97,256.25
	(Being the receipt of interest on receive leg of the XCCY swap)		

Reverse the existing net present value of the trade

The present value as on the valuation date should be recorded and before that the existing present value in the book of accounts should be reversed. The entry that is reversed is either the entry passed on the date of inception of the trade or the valuation entry passed on the previous valuation date. The following entry shows the reversal of the entry passed at the inception of the trade.

It should be noted that the net present value of the cross-currency interest rate swap automatically takes into account the impact of currency fluctuation. In this case, the net present value of the contract at the time of inception was a negative amount of $3,963.26 representing a net liability, while the net present value of the same contract as on 31st March is a negative amount of $285,375.00, again representing a liability but the quantum of the liability has gone up as the currency exchange rate has moved against the entity. It is pertinent to note that the valuation of the contract on 30th September results in a positive number of $446,958.00 representing a net asset, as by then the currency exchange rate has moved in favor of the entity, i.e., from 1.9444049 at the inception to 1.8446.

Table 12.14 On reversal of existing net present value of a cross-currency interest rate swap on the valuation date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	XCCY Swap NPV—(Asset/Liability) account	3,963.26	
	To Unrealized gain/loss on XCCY Swap (P&L) account		3,963.26
	(Being the reversal of existing net present value of XCCY Swap on valuation date as the current net present value of XCCY Swap should be recorded on this date)		

Ascertain the fair value on the valuation date

At the end of every valuation date the fair value of the cross-currency interest rate swap contract is ascertained and the swap contract is marked to market to reflect the net present value of the contract. The value of the swap is computed based on the expected cash inflows and cash outflows on the remaining period of the life of the contract and discounted based on the yield curve of the respective currency. Also, the foreign exchange rate fluctuation between the two currencies is factored into this while arriving at the net present value. This value can be either a positive value or a negative value depending upon the movement of the interest rates as well as the foreign exchange rate movement. If the foreign exchange as well as the interest rate moves unfavorably then the net present value of the cross-currency interest rate swap contract will be a negative value.

The accounting entry that is recorded in the book of accounts is as shown in Table 12.15

Table 12.15 On accounting of fair value on the valuation date

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Unrealized gain/loss on XCCY Swap (P&L) account	285,375.00	
	To XCCY Swap NPV—(Asset/Liability) account		285,375.00
	(Being the unrealized gain/loss on XCCY Swap as on valuation date representing the net present value of the receive leg of the XCCY Swap)		

Termination of the trade and accounting for termination fee

The contract of a cross-currency interest rate swap can be terminated at any point of time by either one of the parties to contract. If the parties decide to terminate the contract, then the net present value of the contract at that point of time would be computed based on the expected cash inflows and outflows for the remaining period of life of the contract and discounted based on the yield curve of the respective currencies to arrive at the net present value of such cash flows. Also more importantly, the net present value as mentioned in the above paragraphs factors into account the foreign currency rate movements between the two currencies.

The net present value of the contract on such date of termination will be the termination fee and will be paid by one party to the other party depending upon which party stands to gain and which party stands to lose if the contract is terminated on the said date without being allowed to subsist during the remaining life of the contract.

In this example the present value of the contract on the date of termination viz. 18th December is calculated as a positive number amounting to $1,928,229.00 and the counterparty to the contract will have to pay this termination fee to the entity. The termination fee paid represents realized gain from the interest rate swap trade and as such is taken to the profit and loss account.

The accounting entry that is recorded in the book of accounts is as shown in Table 12.16.

Table 12.16 On accounting for the termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	ABC Counterparty account	1,928,229.00	
	To Realized gain/loss on XCCY Swap		1,928,229.00
	(Being realized gain/loss on Termination date)		

Payment or receipt of the termination fee

The consideration is received on T + 2 or based on the exchange concerned. The consideration is received net of brokerage.

The accounting entry that is recorded in the book of accounts is as shown in Table 12.17.

Table 12.17 On settlement of the termination fee

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	Bank account	1,928,229.00	
	To ABC counterparty account		1,928,229.00
	(On settlement of termination fee)		

Maturity of the trade

If the trade is not terminated before the maturity date, the trade is matured automatically on the maturity date. No interest is payable or receivable after the maturity date. The net present value on the date of maturity of the cross currency swap contract would be zero as no cash flows subsist subsequent to the maturity date, unlike an early termination where subsequent to the termination date, there would be cash flows both receivable and payable. On the maturity date of the trade, the contingent entry passed at the date of inception of the trade is reversed, as mentioned in the next paragraph.

Reversal of the contingent entry on maturity/termination

Upon the termination of the interest rate derivative or upon the maturity of the contract, the original contingent entry passed will have to be reversed. Note that the original entry passed for recording the transaction was an off balance sheet entry and accordingly the reversal of such an entry will also be an off balance sheet entry. However, if there was principal exchange at the inception of the contract, then there would be no off balance sheet or contingent entry passed at the inception of the trade and hence there is no question of reversal of any entry. In such a situation the required entries for exchange of the principal will have to be recorded in the book of accounts.

The accounting entry to reverse the contingent off balance sheet entry that is recorded in the books of accounts is as shown in Table 12.18.

Table 12.18 On accounting for reversal of the contingent entry

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	XCCY swap (contra) account—OBS	10,000,000.00	
	To XCCY swap account—OBS		10,000,000.00
	(Being the recording of termination of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
18-Dec-X8	XCCY Swap account—OBS	5,145,000.00	
	To XCCY Swap (Contra) account—OBS		5,145,000.00
	(Being the recording of termination of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

COMPLETE SOLUTION TO ILLUSTRATION 1: CROSS CURRENCY INTEREST RATE SWAP—USD/GBP

T-1 *On purchase of cross-currency interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
21-Jan-X8	XCCY Swap (Contra) account—OBS account	5,145,000.00	
	To XCCY Swap account—OBS account		5,145,000.00
	(Being the recording of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *Accrued interest on valuation date -pay leg:*

Calculation of interest—pay leg	GBP
Previous coupon date	23-Jan-X8
Current coupon date	31-Mar-X8
Number of days (Actual/360) (Actual/360)	68
Notional amount on which interest is computed	5,145,000.00
Rate of interest p.a.(%)	5.403750
Accrued interest on pay leg	52,515.44

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
31-Mar-X8	Interest—pay leg—XCCY Swap account	52,515.44	
	To Interest accrued but not due on XCCY Swap account		52,515.44
	(Being the interest accrued but not due on pay leg accounted for on the valuation date)		

T-3 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
23-Apr-X8	Interest accrued but not due on XCCY Swap account	52,515.44	
	To Interest—pay leg—XCCY Swap account		52,515.44
	(Being the reversal of interest accrued but not due on the pay leg of the XCCY Swap)		

T-4 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	GBP
Previous coupon date	23-Jan-X8
Current coupon date	23-Apr-X8
Number of days (Actual/360) (Actual/360)	91

Calculation of interest—pay leg	GBP
Notional amount on which interest is computed	5,145,000
Rate of interest p.a.(%)	5.40
Accrued interest on pay leg	70,278.02

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
23-April-X8	Interest—pay leg—XCCY Swap account	70,278.02	
	To ABC Counterparty account		70,278.02
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

T-5 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
25-Apr-X8	ABC Counterparty account	70,278.02	
	To Bank account		70,278.02
	(Being the payment of interest on pay leg of the XCCY Swap)		

T-6 *Accrued interest on valuation date—pay leg:*

Calculation of interest—pay leg	GBP
Previous coupon date	23-Apr-X8
Current coupon date	30-Jun-X8
Number of days (Actual/360) (Actual/360)	68
Notional amount on which interest is computed	5,145,000
Rate of interest p.a.(%)	5.40
Accrued interest on pay leg	52,515.44

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Jun-X8	Interest—pay leg—XCCY Swap account	52,515.44	
	To Interest accrued but not due on XCCY Swap account		52,515.44
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-7 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
23-Jul-X8	Interest accrued but not due on XCCY Swap account	52,515.44	
	To Interest—pay leg—XCCY Swap account		52,515.44
	(Being the reversal of interest accrued but not due on the receive leg of the XCCY Swap)		

T-8 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	GBP
Previous coupon date	23-Apr-X8
Current coupon date	23-Jul-X8
Number of days (Actual/360) (Actual/360)	91
Notional amount on which interest is computed	5,145,000
Rate of interest p.a.(%)	5.40
Accrued interest on pay leg	70,278.02

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
23-Jul-X8	Interest—pay leg—XCCY Swap account	70,278.02	
	To ABC Counterparty account		70,278.02
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

T-9 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
25-Jul-X8	ABC Counterparty account	70,278.02	
	To Bank account		70,278.02
	(Being the payment of interest on pay leg of the XCCY Swap)		

T-10 *Accrued interest on valuation date—pay leg:*

Calculation of interest—pay leg	GBP
Previous coupon date	23-Jul-X8
Current coupon date	30-Sep-X8
Number of days (Actual/360) (Actual/360)	69
Notional amount on which interest is computed	5,145,000
Rate of interest p.a.(%)	6.00
Accrued interest on pay leg	59,142.85

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
30-Sep-X8	Interest—pay leg—XCCY Swap account	59,142.85	
	To Interest accrued but not due on XCCY Swap account		59,142.85
	(Being the interest accrued but not due on pay leg accounted for on the valuation date)		

T-11 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
23-Oct-X8	Interest accrued but not due on XCCY Swap account	59,142.85	
	To Interest—pay leg—XCCY Swap account		59,142.85
	(Being the reversal of interest accrued but not due on the receive leg of the XCCY Swap)		

T-12 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	GBP
Previous coupon date	23-Jul-X8
Current coupon date	23-Oct-X8
Number of days (Actual/360) (Actual/360)	92
Notional amount on which interest is computed	5,145,000
Rate of interest p.a.(%)	6.00
Accrued interest on pay leg	78,857.13

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
23-Oct-X8	Interest—pay leg—XCCY Swap account	78,857.13	
	To ABC Counterparty account		78,857.13
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

T-13 *On accounting for interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
27-Oct-X8	ABC Counterparty account	78,857.13	
	To Bank account		78,857.13
	(Being the payment of interest on pay leg of the XCCY Swap)		

T-14 *On termination of cross-currency interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
18-Dec-X8	XCCY Swap account—OBS	5,145,000.00	
	To XCCY Swap (Contra) account—OBS		5,145,000.00
	(Being the recording of termination of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-15 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	GBP
Previous coupon date	23-Oct-X8
Current coupon date	20-Dec-X8
Number of days (Actual/360) (Actual/360)	58
Notional amount on which interest is computed	5,145,000.00
Rate of interest p.a.(%)	6.00
Accrued interest on pay leg	49,714.28

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
18-Dec-X8	Interest—pay leg—XCCY Swap account	49,714.28	
	To ABC Counterparty account		49,714.28
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

T-16 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (GBP)	Credit (GBP)
20-Oct-X8	ABC Counterparty account	49,714.28	
	To Bank account		49,714.28
	(Being the payment of interest on pay leg of the XCCY Swap)		

XCCY Swap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
21-Jan-X8	To XCCY Swap account—OBS	5,145,000.00			
			18-Dec-X8	By XCCY Swap account—OBS	5,145,000.00
31-Dec-X8	Totals	5,145,000.00	31-Dec-X8	Totals	5,145,000.00

XCCY Swap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			21-Jan-X8	By XCCY Swap (Contra) account—OBS	5,145,000.00
18-Dec-X8	To XCCY Swap (Contra) account—OBS	5,145,000.00			
31-Dec-X8	Totals	5,145,000.00	31-Dec-X8	Totals	5,145,000.00

Interest—pay leg—XCCY Swap account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest accrued but not due on XCCY Swap account	52,515.44			
			23-Apr-X8	By Interest accrued but not due on XCCY Swap account	52,515.44
23-Apr-X8	To ABC Counterparty account	70,278.02			
30-Jun-X8	To Interest accrued but not due on XCCY Swap account	52,515.44			
			23-Jul-X8	By Interest accrued but not due on XCCY Swap account	52,515.44
23-Jul-X8	To ABC Counterparty account	70,278.02			
30-Sep-X8	To Interest accrued but not due on XCCY Swap account	59,142.85			
			23-Oct-X8	By Interest accrued but not due on XCCY Swap account	59,142.85
23-Oct-X8	To ABC Counterparty account	78,857.13			
18-Dec-X8	To ABC Counterparty account	49,715.28			
			31-Dec-X8	By Balance	269,128.45
31-Dec-X8	Total	**433,302.28**	31-Dec-X8	Total	**433,302.28**
31-Dec-X8	To Balance	269,128.45			

Interest accrued but not due on XCCY Swap account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Interest—pay leg—XCCY Swap account	52,515.44
23-Apr-X8	To Interest—pay leg—XCCY Swap account	52,515.44			

Date	Particulars	Debit	Date	Particulars	Credit
			30-Jun-X8	By Interest—pay leg—XCCY Swap account	52,515.44
23-Jul-X8	To Interest—pay leg—XCCY Swap account	52,515.44			
			30-Sep-X8	By Interest—pay leg—XCCY Swap account	59,142.85
23-Oct-X8	To Interest—pay leg—XCCY Swap account	59,142.85			
31-Dec-X8	Total	**164,173.73**	31-Dec-X8	Total	**164,173.73**

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			23-Apr-X8	By Interest—pay leg—XCCY Swap account	70,278.02
25-Apr-X8	To Bank account	70,278.02			
			23-Jul-X8	By Interest—pay leg—XCCY Swap account	70,278.02
25-Jul-X8	To Bank account	70,278.02			
			23-Oct-X8	By Interest—pay leg—XCCY Swap account	78,857.13
27-Oct-X8	To Bank account	78,857.13			
			18-Dec-X8	By Interest—pay leg—XCCY Swap account	49,715.28
20-Dec-X8	To Bank account	49,715.28			
31-Dec-X8	Total	**269,128.45**	31-Dec-X8	Total	**269,128.45**

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
21-Jan-X8	To Share capital	500,000.00			
			25-Apr-X8	By ABC Counterparty account	70,278.02
			25-Jul-X8	By ABC Counterparty account	70,278.02
			27-Oct-X8	By ABC Counterparty account	78,857.13

Bank account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
			20-Dec-X8	By ABC Counterparty account	49,715.28
			31-Dec-X8	By Balance	230,871.55
31-Dec-X8	Total	**500,000.00**	31-Dec-X8	Total	**500,000.00**
31-Dec-X8	To Balance	230,871.55			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
		500,000.00
Current Liabilities		
Current Asset		
Bank account	230,871.55	
Income		
Interest—pay leg—XCCY Swap account	269,128.45	
Total	500,000.00	500,000.00

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
Direct Expense		**Direct Income**	
Interest—pay leg—XCCY Swap account	269,128.45		
		Net profit C/o	269,128.45
Total	269,128.45	Total	269,128.45

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
Share Capital	500,000.00		
		Investments	
		Current Assets	
		Bank account	230,871.55
		Profit & Loss account	
		Opening Balance	
		Current Period	269,128.45
Total	500,000.00	Total	500,000.00

ACCOUNTING ENTRIES IN FUNCTIONAL CURRENCY

F-1 *On introducing cash into the fund:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Jan-X8	Bank account	10,000,000.00	
	To Share Capital account		10,000,000.00
	(Being the capital introduced)		

F-2 *On purchase of cross-currency interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Jan-X8	XCCY Swap account—OBS account	10,000,000.00	
	To XCCY Swap (Contra) account—OBS		10,000,000.00
	(Being the recording of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-3 *On purchase of cross-currency interest rate swap trade:* (T-1 @ FX Rate: 1.9444)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Jan-X8	XCCY Swap (Contra) account—OBS account	10,003,963.26	
	To XCCY Swap account—OBS account		10,003,963.26
	(Being the recording of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-4 *On accounting for premium on purchase of cross-currency interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
21-Jan-X8	ABC Counterparty account	3,963.26	
	To XCCY Swap NPV—(Asset/Liability) account		3,963.26
	(Being the premium on purchase of cross-currency interest rate swap receivable from the counterparty)		

F-5 *On receipt of premium on purchase of cross-currency interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Jan-X8	Bank account	3,963.26	
	To ABC Counterparty account		3,963.26
	(Being the premium received at the inception of cross-currency interest rate swap contract representing the net present value of the swap on this date)		

F-6 *On reversal of existing net present value of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	XCCY Swap NPV—(Asset/Liability) account	3,963.26	
	To Unrealized gain/loss on XCCY Swap (P&L) account		3,963.26
	(Being the reversal of existing net present value of XCCY Swap on valuation date as the current net present value of XCCY Swap should be recorded on this date)		

F-7 *On valuation of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Unrealized gain/loss on XCCY Swap (P&L) account	285,375.00	
	To XCCY Swap NPV—(Asset/Liability) account		285,375.00
	(Being the unrealized gain/loss on XCCY Swap as on valuation date representing the net present value of the receive leg of the XCCY Swap)		

F-8 *On accounting for accrued interest on receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	23-Jan-X8
Current reporting date	31-Mar-X8
Number of days (Actual/360) (Actual/360)	68
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	3.84750
Accrued interest on receive leg	72,675.00

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest accrued but not due on XCCY Swap account	72,675.00	
	To Interest—receive leg—XCCY Swap account		72,675.00
	(Being the interest accrued on receive leg accounted for on the valuation date)		

F-9 *Accrued interest on valuation date -pay leg:* (T-2 @ FX Rate: 1.94430)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X8	Interest—pay leg—XCCY Swap account	104,731.54	
	To Interest accrued but not due on XCCY Swap account		104,731.54
	(Being the interest accrued but not due on pay leg accounted for on the valuation date)		

F-10 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Apr-X8	Interest—receive leg—XCCY Swap account	72,675.00	
	To Interest accrued but not due on XCCY Swap account		72,675.00
	(Being the reversal of interest accrued on the receive leg of the XCCY Swap on coupon date)		

F-11 *On accounting for interest on coupon date—receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	23-Jan-X8
Current reporting date	23-Apr-X8
Number of days (Actual/360) (Actual/360)	91
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	3.84750
Accrued interest on receive leg	97,256.25

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Apr-X8	ABC Counterparty account	97,256.25	
	To Interest—receive leg—XCCY Swap account		97,256.25
	(Being the interest accounted on the receive leg of the XCCY Swap on coupon date)		

F-12 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Apr-X8	Bank account	97,256.25	
	To ABC Counterparty account		97,256.25
	(Being the receipt of interest on receive leg of the XCCY Swap)		

F-13 *On reversal of accrued interest on coupon date—pay leg:* (T-3 @ FX Rate: 1.94430)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Apr-X8	Interest accrued but not due on XCCY Swap account	104,731.54	
	To Interest—pay leg—XCCY Swap account		104,731.54
	(Being the reversal of interest accrued but not due on the pay leg of the XCCY Swap)		

F-14 *On accounting for interest on coupon date—pay leg:* (T-4 @ FX Rate: 1.985600)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Apr-X8	Interest—pay leg—XCCY Swap account	139,544.04	
	To ABC Counterparty account		139,544.04
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

F-15 *On settlement of interest on pay leg:* (T-5 @ FX Rate: 1.975900)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Apr-X8	ABC Counterparty account	138,862.34	
	To Bank account		138,862.34
	(Being the payment of interest on pay leg of the XCCY Swap)		

F-16 *On accounting for FX Translation on settlement of interest on pay leg of XCCY Swap:*

Currency gain/loss on settlement date	GBP	FX Rate	USD
a) Interest accrued on XCCY Swap contract in Trade currency	70,278.02	1.98560	139,544.04
b) Settlement amount in functional currency			138,862.34
c) Realized currency gain/loss (a) − (b)			**681.70**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Apr-X8	ABC Counterparty account	681.70	
	To Realized currency gain/loss account		681.70
	(Being the realized currency gain/loss on settlement)		

F-17 *On reversal of existing net present value of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	XCCY Swap NPV—(Asset/Liability) account	285,375.00	
	To Unrealized gain/loss on XCCY Swap (P&L) account		285,375.00
	(Being the reversal of existing net present value of XCCY Swap on valuation date as the current net present value of XCCY Swap should be recorded on this date)		

F-18 *On valuation of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Unrealized gain/loss on XCCY Swap (P&L) account	312,858.00	
	To XCCY Swap NPV—(Asset/Liability) account		312,858.00
	(Being the unrealized gain/loss on XCCY Swap as on valuation date representing the net present value of the receive leg of the XCCY Swap)		

F-19 *Accrued interest on valuation date—receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	23-Apr-X8
Current reporting date	30-Jun-X8
Number of days (Actual/360) (Actual/360)	68
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	2.92000
Accrued interest on receive leg	55,155.56

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest accrued but not due on XCCY Swap account	55,155.56	
	To Interest—receive leg—XCCY Swap account		55,155.56
	(Being the interest accrued on pay leg accounted for on the valuation date)		

F-20 *Accrued interest on valuation date—pay leg:* (T-6 @ FX Rate: 1.99495)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X8	Interest—pay leg—XCCY Swap account	104,765.68	
	To Interest accrued but not due on XCCY Swap account		104,765.68
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

F-21 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Jul-X8	Interest—receive leg—XCCY Swap account	55,155.56	
	To Interest accrued but not due on XCCY Swap account		55,155.56
	(Being the reversal of interest accrued on the pay leg of the XCCY Swap on coupon date)		

F-22 *On accounting for interest on coupon date—receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	23-Apr-X8
Current reporting date	23-Jul-X8
Number of days (Actual/360) (Actual/360)	91
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	2.92000
Accrued interest on receive leg	73,811.11

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Jul-X8	ABC Counterparty account	73,811.11	
	To Interest—receive leg—XCCY Swap account		73,811.11
	(Being the interest accounted on the receive leg of the XCCY Swap on coupon date)		

F-23 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Jul-X8	Bank account	73,811.11	
	To ABC Counterparty account		73,811.11
	(Being the receipt of interest on receive leg of the XCCY Swap)		

F-24 *On reversal of accrued interest on coupon date—pay leg:* (T-7 @ FX Rate: 1.99495)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Jul-X8	Interest accrued but not due on XCCY Swap account	104,765.68	
	To Interest—pay leg—XCCY Swap account		104,765.68
	(Being the reversal of interest accrued but not due on the receive leg of the XCCY Swap)		

F-25 *On accounting for interest on coupon date—pay leg:* (T-8 @ FX Rate: 2.00010)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Jul-X8	Interest—pay leg—XCCY Swap account	140,563.07	
	To ABC Counterparty account		140,563.07
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

F-26 *On settlement of interest on pay leg:* (T-9 @ FX Rate: 1.99100)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Jul-X8	ABC Counterparty account	139,923.54	
	To Bank account		139,923.54
	(Being the payment of interest on pay leg of the XCCY Swap)		

F-27 *On accounting for FX Translation on settlement of interest on pay leg of XCCY Swap:*

Currency gain/loss on settlement date	GBP	FX Rate	USD
a) Interest accrued on XCCY Swap contract in Trade currency	70,278.02	2.00010	140,563.07
b) Settlement amount in functional currency			139,923.54
c) Realized currency gain/loss (a) − (b)			**639.53**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Jul-X8	ABC Counterparty account	639.53	
	To Realized currency gain/loss account		639.53
	(Being the realized currency gain/loss on settlement)		

F-28 *On reversal of existing net present value of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	XCCY Swap NPV—(Asset/Liability) account	312,858.00	
	To Unrealized gain/loss on XCCY Swap (P&L) account		312,858.00
	(Being the reversal of existing net present value of XCCY Swap on valuation date as the current net present value of XCCY Swap should be recorded on this date)		

F-29 *On valuation of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Unrealized gain/loss on XCCY Swap (P&L) account	446,958.00	
	To XCCY Swap NPV—(Asset/Liability) account		446,958.00
	(Being amount received on the sale of the bond)		

F-30 *Accrued interest on valuation date—receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	23-Jul-X8
Current reporting date	30-Sep-X8
Number of days (Actual/360) (Actual/360)	69
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	2.80000
Accrued interest on receive leg	53,654.78

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest accrued but not due on XCCY Swap account	53,654.78	
	To Interest—receive leg—XCCY Swap account		53,654.78
	(Being the interest accrued on pay leg accounted for on the valuation date)		

F-31 *Accrued interest on valuation date—pay leg:* (T-10 @ FX Rate: 1.84460)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X8	Interest—pay leg—XCCY Swap account	109,094.90	
	To Interest accrued but not due on XCCY Swap account		109,094.90
	(Being the interest accrued but not due on pay leg accounted for on the valuation date)		

F-32 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Oct-X8	Interest—receive leg—XCCY Swap account	53,654.78	
	To Interest accrued but not due on XCCY Swap account		53,654.78
	(Being the reversal of interest accrued on the pay leg of the XCCY Swap on coupon date)		

F-33 *On accounting for interest on coupon date—receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	23-Jul-X8
Current reporting date	23-Oct-X8
Number of days (Actual/360) (Actual/360)	92
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	2.80
Interest on receive leg	71,539.71

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Oct-X8	ABC Counterparty account	71,539.71	
	To Interest—receive leg—XCCY Swap account		71,539.71
	(Being the interest accounted on the receive leg of the XCCY Swap on coupon date)		

F-34 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
25-Oct-X8	Bank account	71,539.71	
	To ABC Counterparty account		71,539.71
	(Being the receipt of interest on receive leg of the XCCY Swap)		

F-35 *On reversal of accrued interest on coupon date—receive leg:* (T-11 @ FX Rate: 1.84460)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Oct-X8	Interest accrued but not due on XCCY Swap account	109,094.90	
	To Interest—pay leg—XCCY Swap account		109,094.90
	(Being the reversal of interest accrued but not due on the receive leg of the XCCY Swap)		

F-36 *On accounting for interest on coupon date—pay leg:* (T-12 @ FX Rate: 1.64150)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
23-Oct-X8	Interest—pay leg—XCCY Swap account	129,443.98	
	To ABC Counterparty account		129,443.98
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

F-37 *On settlement of interest on pay leg:* (T-13 @ FX Rate: 1.58910)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
27-Oct-X8	ABC Counterparty account	125,311.87	
	To Bank account		125,311.87
	(Being the payment of interest on pay leg of the XCCY Swap)		

F-38 *On accounting for FX Translation on settlement of interest on pay leg of XCCY Swap:*

Currency gain/loss on settlement date	GBP	FX Rate	USD
a) Interest accrued on XCCY Swap contract in Trade currency	78,857.13	1.64150	129,443.98
b) Settlement amount in functional currency			125,311.87
c) Realized currency gain/loss (a) − (b)			**4,132.11**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
27-Oct-X8	ABC Counterparty account	4,132.11	
	To Realized currency gain/loss account		4,132.11
	(Being the realized currency gain/loss on settlement)		

F-39 *On termination of cross-currency interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	XCCY Swap (Contra) account—OBS	10,000,000.00	
	To XCCY Swap account—OBS		10,000,000.00
	(Being the recording of termination of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-40 *On reversal of accrued interest on coupon date—receive leg:* (T-14 @ FX Rate: 1.94000)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	XCCY Swap account—OBS	10,003,963.26	
	To XCCY Swap (Contra) account—OBS		10,003,963.26
	(Being the recording of termination of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-41 *On reversal of existing net present value of XCCY Swap on Termination date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	XCCY Swap NPV—(Asset/Liability) account	446,958.00	
	To Unrealized gain/loss on XCCY Swap (P&L) account		446,958.00
	(Being the reversal of existing net present value of XCCY Swap on termination date)		

F-42 *On accounting realized gain/loss:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	ABC Counterparty account	1,928,229.00	
	To Realized gain/loss on XCCY Swap		1,928,229.00
	(Being realized gain/loss on Termination date)		
18-Dec-X8	Unrealized gain/loss on XCCY Swap (P&L) account	3,963.26	
	To Realized gain/loss on XCCY Swap		3,963.26
	(Being unrealized gain/loss transferred to realized gain/ loss on termination)		

F-43 *On Settlement of gain/loss:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	Bank account	1,928,229.00	
	To ABC Counterparty account		1,928,229.00
	(On Settlement of gain/Loss)		

F-44 *On accounting for interest on coupon date—receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	23-Oct-X8
Current reporting date	20-Dec-X8
Number of days (Actual/360) (Actual/360)	58
Notional amount on which interest is computed	10,000,000
Rate of interest p.a.(%)	3.83
Interest on receive leg	61,765.97

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	ABC Counterparty account	61,765.97	
	To Interest—receive leg—XCCY Swap account		61,765.97
	(Being the interest accounted on the receive leg of the XCCY Swap on coupon date)		

F-45 *On Settlement of receive leg interest:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	Bank account	61,765.97	
	To ABC Counterparty account		61,765.97
	(On Settlement of pay leg interest)		

F-46 *On accounting for interest on coupon date—pay leg:* (T-15 @ FX Rate: 1.55240)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X8	Interest—pay leg—XCCY Swap account	77,176.45	
	To ABC Counterparty account		77,176.45
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

F-47 *On settlement of interest on pay leg:* (T-16 @ FX Rate: 1.50200)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	ABC Counterparty account	74,670.85	
	To Bank account		74,670.85
	(Being the payment of interest on pay leg of the XCCY Swap)		

F-48 *On accounting for FX Translation on settlement of interest on pay leg of XCCY Swap:*

Currency gain/loss on settlement date	GBP	FX Rate	USD
a) Interest accrued on XCCY Swap contract in Trade currency	49,714.28	1.552400	77,176.45
b) Settlement amount in functional currency			74,670.85
c) Realized currency gain/loss (a) − (b)			**2,505.60**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	ABC Counterparty account	2,505.60	
	To Realized currency gain/loss account		2,505.60
	(Being the realized currency gain/loss on settlement)		

F-49 *On accounting for FX Translation on Bank account:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X8	Realized currency gain/loss account	146,310.84	
	To Bank account		146,310.84
	(Being realized gain/loss on Termination date)		

Interest—pay leg—XCCY Swap account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest accrued but not due on XCCY Swap account	104,731.54			

Date	Particulars	Debit	Date	Particulars	Credit
			23-Apr-X8	By Interest accrued but not due on XCCY Swap account	104,731.54
23-Apr-X8	To ABC Counterparty account	139,544.04			
30-Jun-X8	To Interest accrued but not due on XCCY Swap account	104,765.68			
			23-Jul-X8	By Interest accrued but not due on XCCY Swap account	104,765.68
23-Jul-X8	To ABC Counterparty account	140,563.07			
30-Sep-X8	To Interest accrued but not due on XCCY Swap account	109,094.90			
			23-Oct-X8	By Interest accrued but not due on XCCY Swap account	109,094.90
23-Oct-X8	To ABC Counterparty account	129,443.98			
18-Dec-X8	To ABC Counterparty account	77,176.45			
			31-Dec-X8	By Balance	486,727.54
31-Dec-X8	Total	**805,319.66**	31-Dec-X8	Total	**805,319.66**
31-Dec-X8	To Balance	486,727.54			

Interest accrued but not due on XCCY Swap account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X8	To Interest—receive leg—XCCY Swap account	72,675.00			
			31-Mar-X8	By Interest—pay leg—XCCY Swap account	104,731.54
			23-Apr-X8	By Interest—receive leg—XCCY Swap account	72,675.00
23-Apr-X8	To Interest—pay leg—XCCY Swap account	104,731.54			
30-Jun-X8	To Interest—receive leg—XCCY Swap account	55,155.56			
			30-Jun-X8	By Interest—pay leg—XCCY Swap account	104,765.68
			23-Jul-X8	By Interest—receive leg—XCCY Swap account	55,155.56

Interest accrued but not due on XCCY Swap account (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
23-Jul-X8	To Interest—pay leg—XCCY Swap account	104,765.68			
			30-Sep-X8	By Interest—pay leg—XCCY Swap account	109,094.90
30-Sep-X8	To Interest—receive leg—XCCY Swap account	53,654.78			
			23-Oct-X8	By Interest—receive leg—XCCY Swap account	53,654.78
23-Oct-X8	To Interest—pay leg—XCCY Swap account	109,094.90			
31-Dec-X8	Total	**500,077.46**	31-Dec-X8	Total	**500,077.46**

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
21-Jan-X8	To XCCY Swap NPV—(Asset/ Liability) account	3,963.26			
			23-Jan-X8	By Bank account	3,963.26
			23-Apr-X8	By Interest—pay leg—XCCY Swap account	139,544.04
23-Apr-X8	To Interest—receive leg—XCCY Swap account	97,256.25			
			25-Apr-X8	By Bank account	97,256.25
25-Apr-X8	To Bank account	138,862.34			
25-Apr-X8	To Realized currency gain/loss account	681.70			
23-Jul-X8	To Interest—receive leg—XCCY Swap account	73,811.11			
			25-Jul-X8	By Bank account	73,811.11
			23-Jul-X8	By Interest—pay leg—XCCY Swap account	140,563.07
25-Jul-X8	To Bank account	139,923.64			
25-Jul-X8	To Realized currency gain/ loss account	639.53			
23-Oct-X8	To Interest—receive leg—XCCY Swap account	71,539.71			

Date	Particulars	Debit	Date	Particulars	Credit
			25-Oct-X8	By Bank account	71,539.71
			23-Oct-X8	By Interest—pay leg—XCCY Swap account	129,443.98
27-Oct-X8	To Bank account	125,311.87			
27-Oct-X8	To Realized currency gain/ loss account	4,132.11			
			18-Dec-X8	By Interest—pay leg—XCCY Swap account	77,176.45
18-Dec-X8	To Realized gain/ loss on XCCY Swap	1,928,229.00			
			20-Dec-X8	By Bank account	1,928,229.00
18-Dec-X8	To Interest—receive leg—XCCY Swap account	61,765.97			
			20-Dec-X8	By Bank account	61,765.97
20-Dec-X8	To Bank account	74,670.85			
20-Dec-X8	To Realized currency gain/ loss account	2,505.60			
31-Dec-X8	Total	**2,723,292.94**	31-Dec-X8	Total	**2,723,292.94**

XCCY Swap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
21-Jan-X8	To XCCY Swap (Contra) account—OBS	10,000,000.00			
			21-Jan-X8	By XCCY Swap (Contra) account—OBS	10,003,963.26
			18-Dec-X8	By XCCY Swap (Contra) account—OBS	10,000,000.00
18-Dec-X8	To XCCY Swap (Contra) account—OBS	10,003,963.26			
31-Dec-X8	Totals	**20,003,963.26**	31-Dec-X8	Totals	**20,003,963.26**

XCCY Swap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			21-Jan-X8	By XCCY Swap account—OBS	10,000,000.00
21-Jan-X8	To XCCY Swap account—OBS	10,003,963.26			

XCCY Swap (Contra) account—OBS (*Cont'd*)

Date	Particulars	Debit	Date	Particulars	Credit
18-Dec-X8	To XCCY Swap account—OBS	10,000,000.00			
			18-Dec-X8	By XCCY Swap account—OBS	10,003,963.26
31-Dec-X8	Total	**20,003,963.26**	31-Dec-X8	Total	**20,003,963.26**

Interest—receive leg—XCCY Swap account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By Interest accrued but not due on XCCY Swap account	72,675.00
23-Apr-X8	To Interest accrued but not due on XCCY Swap account	72,675.00			
			23-Apr-X8	By ABC Counterparty account	97,256.25
			30-Jun-X8	By Interest accrued but not due on XCCY Swap account	55,155.56
23-Jul-X8	To Interest accrued but not due on XCCY Swap account	55,155.56			
			23-Jul-X8	By ABC Counterparty account	73,811.11
			30-Sep-X8	By Interest accrued but not due on XCCY Swap account	53,654.78
23-Oct-X8	To Interest accrued but not due on XCCY Swap account	53,654.78			
			23-Oct-X8	By ABC Counterparty account	71,539.71
			18-Dec-X8	By ABC Counterparty account	61,765.97
31-Dec-X8	To Balance	304,373.04			
31-Dec-X8	Total	**485,858.38**	31-Dec-X8	Total	**485,858.38**
			31-Dec-X8	By Balance	304,373.04

Unrealized gain/loss on XCCY Swap (P&L) account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X8	By XCCY Swap NPV—(Asset/ Liability) account	3,963.26
31-Mar-X8	To XCCY Swap NPV—(Asset/ Liability) account	285,375.00			
			30-Jun-X8	By XCCY Swap NPV—(Asset/ Liability) account	285,375.00
30-Jun-X8	To XCCY Swap NPV—(Asset/ Liability) account	312,858.00			
			30-Sep-X8	By XCCY Swap NPV—(Asset/ Liability) account	312,858.00
30-Sep-X8	To XCCY Swap NPV—(Asset/ Liability) account	446,958.00			
18-Dec-X8	To Realized gain/loss on XCCY Swap	3,963.26			
			18-Dec-X8	By XCCY Swap NPV—(Asset/ Liability) account	446,958.00
31-Dec-X8	Total	**1,049,154.26**	31-Dec-X8	Total	**1,049,154.26**

XCCY Swap NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
			21-Jan-X8	By ABC Counterparty account	3,963.26
31-Mar-X8	To Unrealized gain/ loss on XCCY Swap (P&L) account	3,963.26			
			31-Mar-X8	By Unrealized gain/ loss on XCCY Swap (P&L) account	285,375.00
30-Jun-X8	To Unrealized gain/ oss on XCCY Swap (P&L) account	285,375.00			
			30-Jun-X8	By Unrealized gain/ loss on XCCY Swap (P&L) account	312,858.00

XCCY Swap NPV—(Asset/Liability) account *(Con'd)*

Date	Particulars	Debit	Date	Particulars	Credit
30-Sep-X8	To Unrealized gain/ loss on XCCY Swap (P&L) account	312,858.00			
			30-Sep-X8	By Unrealized gain/ loss on XCCY Swap (P&L) account	446,958.00
18-Dec-X8	To Unrealized gain/ loss on XCCY Swap (P&L) account	446,958.00			
31-Dec-X8	Total	**1,049,154.26**	31-Dec-X8	Total	**1,049,154.26**

Realized currency gain/loss account

Date	Particulars	Debit	Date	Particulars	Credit
			25-Apr-X8	By ABC Counterparty account	681.70
			25-Jul-X8	By ABC Counterparty account	639.53
			27-Oct-X8	By ABC Counterparty account	4,132.11
			20-Dec-X8	By ABC Counterparty account	2,505.60
20-Dec-X8	To Bank account	146,310.84			
			31-Dec-X8	By Balance	138,351.90
31-Dec-X8	Total	**146,310.84**	31-Dec-X8	Total	**146,310.84**
31-Dec-X8	To Balance	138,351.90			

Realized gain/loss on XCCY Swap

Date	Particulars	Debit	Date	Particulars	Credit
			18-Dec-X8	By ABC Counterparty account	1,928,229.00
			18-Dec-X8	By Unrealized gain/loss on XCCY Swap (P&L) account	3,963.26
31-Dec-X8	To Balance	1,932,192.26			
31-Dec-X8	Total	**1,932,192.26**	31-Dec-X8	Total	**1,932,192.26**
			31-Dec-X8	By Balance	1,932,192.26

Share Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			21-Jan-X8	By Bank account	10,000,000.00
31-Dec-X8	To Balance	10,000,000.00			
31-Dec-X8	Total	**10,000,000.00**	31-Dec-X8	Total	**10,000,000.00**
			31-Dec-X8	By Balance	10,000,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
21-Jan-X8	To Opening Balance	971,850.00			
21-Jan-X8	To Share Capital account	10,000,000.00			
23-Jan-X8	To ABC Counterparty account	3,963.26			
25-Apr-X8	To ABC Counterparty account	97,256.25			
			25-Apr-X8	By ABC Counterparty account	138,862.34
25-Jul-X8	To ABC Counterparty account	73,811.11			
			25-Jul-X8	By ABC Counterparty account	139,923.54
25-Oct-X8	To ABC Counterparty account	71,539.71			
			27-Oct-X8	By ABC Counterparty account	125,311.87
20-Dec-X8	To ABC Counterparty account	1,928,229.00			
20-Dec-X8	To ABC Counterparty account	61,765.97			
			20-Dec-X8	By ABC Counterparty account	74,670.85
			20-Dec-X8	By Realized currency gain/loss account	146,310.84
			31-Dec-X8	By Balance	12,583,335.86
31-Dec-X8	Total	**13,208,415.30**	31-Dec-X8	Total	**13,208,415.30**
31-Dec-X8	To Balance	12,583,335.86			

Trial Balance

As on 31-Dec-X8

Particulars	Debit	Credit
Capital account		
Opening Balance		971,850.00
Share Capital		10,000,000.00
Current Liabilities		Nil
Current Asset		
Bank account	12,583,335.86	
Income		
Realized gain/loss on XCCY Swap		1,932,192.26
Interest—pay leg—XCCY Swap account	486,727.54	
Interest—receive leg—XCCY Swap account		304,373.04
Realized currency gain/loss account	138,351.90	
Total	**13,208,415.30**	**13,208,415.30**

Income Statement

For the period ending 31-Dec-X8

Expenses		Income	
Direct Expense		**Direct Income**	
Interest—pay leg—XCCY Swap account	486,727.54	Realized gain/loss on XCCY Swap	1,932,192.26
Realized currency gain/loss account	138,351.90	Interest—receive leg—XCCY Swap account	304,373.04
Net profit C/o	1,611,485.86		
Total	**2,236,565.30**	Total	**2,236,565.30**

Balance Sheet

As at 31-Dec-X8

Liabilities		Assets	
Capital account			
Opening balance	971,850.00		
Share Capital	10,000,000.00		
		Current Assets	
		Bank account	12,583,335.86
		Current Liabilities	
Profit & Loss account			
Opening Balance			
Current Period	1,611,485.86		
Total	**12,583,335.86**	Total	**12,583,335.86**

PROBLEM 1: CROSS CURRENCY INTEREST RATE SWAP—USD/EUR

XCCY Swap contract details:	Receive leg	Pay leg
Terms	Floating	Floating
Notional amount	12,000,000	9,289,364
Currency	USD	EUR
Day count—actual/365; 30/360	360	360
Interest payment terms	Quarterly	Quarterly
Rate of interest	US 3 months LIBOR	EUR 3 months LIBOR
Reset terms	Floating	Floating

Receive leg—floating (USD)

Coupon reset dates	Trade date	FX rate	Settle date	LIBOR
Inception	16-Jan-07	1.0000	18-Jan-07	5.3600
Coupon date-1	18-Apr-07	1.0000	20-Apr-07	5.3600

Coupon reset dates	Trade date	FX rate	Settle date	LIBOR
Coupon date-2	18-Jul-07	1.0000	20-Jul-07	5.3588
Coupon date-3	18-Oct-07	1.0000	20-Oct-07	5.3600

Pay leg floating (EUR)

Coupon reset dates	Trade date	FX rate	Settle date	FX rate	LIBOR
Inception	16-Jan-07	1.291800	18-Jan-07	1.291800	3.74600
Coupon date-1	18-Apr-07	1.354900	20-Apr-07	1.359800	3.74600
Coupon date-2	18-Jul-07	1.378100	20-Jul-07	1.380800	3.97500
Coupon date-3	18-Oct-07	1.418300	22-Oct-07	1.428600	4.21500
Termination		1.439450	20-Dec-07	1.502000	4.65500

Other details	Trade date	Notional amount	Premium	Settle date	FX rate
XCCY Swap contract position taken (inception)	16-Jan-07	12,000,000.00	5,551.74	18-Jan-07	1.291750
XCCY Swap contract termination (unwind)	18-Dec-07	12,000,000.00	(1,418,303.31)	20-Dec-07	1.439450

Valuation dates and net present values	Date	NPV net	Interest net
Valuation date 1	31-Mar-07	(377,146,78)	35,861.69
Valuation date 2	30-Jun-07	(490,869.65)	29,695.33
Valuation date 3	30-Sep-07	(1,263,405.56)	17,385.96
Termination date	18-Dec-07	(1,418,303.31)	188.30

Other details	Date	USD	FX rate	EURO
Capital introduced	20-Jan-07	10,000,000	1.000000	500,000.00

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

T-1 *On purchase of cross-currency interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
16-Jan-X7	XCCY Swap (Contra) account—OBS account	9,289,364.00	
	To XCCY Swap account—OBS account		9,289,364.00
	(Being the recording of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-2 *Accrued interest on valuation date—pay leg:*

Calculation of interest—pay leg	EUR
Previous coupon date	18-Jan-X7
Current coupon date	31-Mar-X7
Number of days (Actual/360) (Actual/360)	72

Calculation of interest—pay leg	EUR
Notional amount on which interest is computed	9,289,364
Rate of interest p.a.(%)	3.746000
Accrued interest on pay leg	69,595.92

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
31-Mar-X7	Interest—pay leg—XCCY Swap account	69,595.92	
	To Interest accrued but not due on XCCY Swap account		69,595.92
	(Being the interest accrued but not due on pay leg accounted for on the valuation date)		

T-3 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
18-Apr-X7	Interest accrued but not due on XCCY Swap account	69,595.92	
	To Interest—pay leg—XCCY Swap account		69,595.92
	(Being the reversal of interest accrued but not due on the pay leg of the XCCY Swap)		

T-4 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	EUR
Previous coupon date	18-Jan-X7
Current coupon date	18-Apr-X7
Number of days (Actual/360) (Actual/360)	90
Notional amount on which interest is computed	9,289,364
Rate of interest p.a.(%)	3.75
Accrued interest on pay leg	86,994.89

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
18-Apr-X7	Interest—pay leg—XCCY Swap account	86,994.89	
	To ABC Counterparty account		86,994.89
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

T-5 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
20-Apr-X7	ABC Counterparty account	86,994.89	
	To Bank account		86,994.89
	(Being the payment of interest on pay leg of the XCCY Swap)		

T-6 *Accrued interest on valuation date—pay leg:*

Calculation of interest—pay leg	EUR
Previous coupon date	18-Apr-X7
Current coupon date	30-Jun-X7
Number of days (Actual/360) (Actual/360)	73
Notional amount on which interest is computed	9,289,364
Rate of interest p.a.(%)	3.98
Accrued interest on pay leg	74,876.14

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
30-Jun-X7	Interest—pay leg—XCCY Swap account	74,876.14	
	To Interest accrued but not due on XCCY Swap account		74,876.14
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

T-7 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
18-Jul-X7	Interest accrued but not due on XCCY Swap account	74,876.14	
	To Interest—pay leg—XCCY Swap account		74,876.14
	(Being the reversal of interest accrued but not due on the receive leg of the XCCY Swap)		

T-8 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	EUR
Previous coupon date	18-Apr-X7
Current coupon date	18-Jul-X7
Number of days (Actual/360) (Actual/360)	91
Notional amount on which interest is computed	9,289,364
Rate of interest p.a.(%)	3.98
Accrued interest on pay leg	93,338.76

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
18-Jul-X7	Interest—pay leg—XCCY Swap account	93,338.76	
	To ABC Counterparty account		93,338.76
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

T-9 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
20-Jul-X7	ABC Counterparty account	93,338.76	
	To Bank account		93,338.76
	(Being the payment of interest on pay leg of the XCCY Swap)		

T-10 *Accrued interest on valuation date—pay leg:*

Calculation of interest—pay leg	EUR
Previous coupon date	18-Jul-X7
Current coupon date	30-Sep-X7
Number of days (Actual/360) (Actual/360)	74
Notional amount on which interest is computed	9,289,364
Rate of interest p.a.(%)	4.22
Accrued interest on pay leg	80,484.60

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
30-Sep-X7	Interest—pay leg—XCCY Swap account	80,484.60	
	To Interest accrued but not due on XCCY Swap account		80,484.60
	(Being the interest accrued but not due on pay leg accounted for on the valuation date)		

T-11 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
18-Oct-X7	Interest accrued but not due on XCCY Swap account	80,484.60	
	To Interest—pay leg—XCCY Swap account		80,484.60
	(Being the reversal of interest accrued but not due on the receive leg of the XCCY Swap)		

T-12 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	**EUR**
Previous coupon date	18-Jul-X7
Current coupon date	18-Oct-X7
Number of days (Actual/360) (Actual/360)	92
Notional amount on which interest is computed	9,289,364
Rate of interest p.a.(%)	4.22
Accrued interest on pay leg	100,061.93

Journal Entry

Date	**Particulars**	**Debit (EUR)**	**Credit (EUR)**
18-Oct-X7	Interest—pay leg—XCCY Swap account	100,061.93	
	To ABC Counterparty account		100,061.93
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

T-13 *On accounting for interest on coupon date—pay leg:*

Journal Entry

Date	**Particulars**	**Debit (EUR)**	**Credit (EUR)**
22-Oct-X7	ABC Counterparty account	100,061.93	
	To Bank account		100,061.93
	(Being the payment of interest on pay leg of the XCCY Swap)		

T-14 *On termination of cross-currency interest rate swap trade:*

Journal Entry

Date	**Particulars**	**Debit (EUR)**	**Credit (EUR)**
18-Dec-X7	XCCY Swap account—OBS	9,289,364.00	
	To XCCY Swap (Contra) account—OBS		9,289,364.00
	(Being the recording of termination of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

T-15 *On accounting for interest on coupon date—pay leg:*

Calculation of interest—pay leg	**EUR**
Previous coupon date	18-Oct-X7
Current coupon date	26-Dec-X7
Number of days (Actual/360)	69
Notional amount on which interest is computed	9,289,364
Rate of interest p.a.(%)	4.66
Accrued interest on pay leg	75,673.48

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
18-Dec-X7	Interest—pay leg—XCCY Swap account	75,673.48	
	To ABC Counterparty account		75,673.48
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

T-16 *On settlement of interest on pay leg:*

Journal Entry

Date	Particulars	Debit (EUR)	Credit (EUR)
20-Oct-X7	ABC Counterparty account	75,673.48	
	To Bank account		75,673.48
	(Being the payment of interest on pay leg of the XCCY Swap)		

XCCY Swap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
16-Jan-X7	To XCCY Swap account—OBS	9,289,364.00			
			18-Dec-X7	By XCCY Swap account—OBS	9,289,364.00
31-Dec-X7	Totals	9,289,364.00	31-Dec-X7	Totals	9,289,364.00

XCCY Swap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			16-Jan-X7	By XCCY Swap (Contra) account—OBS	9,289,364.00
18-Dec-X7	To XCCY Swap (Contra) account—OBS	9,289,364.00			
31-Dec-X7	Totals	9,289,364.00	31-Dec-X7	Totals	9,289,364.00

Interest—pay leg—XCCY Swap account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To Interest accrued but not due on XCCY Swap account	65,595.92			
			18-Apr-X7	By Interest accrued but not due on XCCY Swap account	65,595.92
18-Apr-X7	To ABC Counterparty account	86,994.89			
30-Jun-X7	To Interest accrued but not due on XCCY Swap account	74,876.14			

Date	Particulars	Debit	Date	Particulars	Credit
			18-Jul-X7	By Interest accrued but not due on XCCY Swap account	74,876.14
18-Jul-X7	To ABC Counterparty account	93,338.76			
30-Sep-X7	To Interest accrued but not due on XCCY Swap account	80,484.60			
			18-Oct-X7	By Interest accrued but not due on XCCY Swap account	80,484.60
18-Oct-X7	To ABC Counterparty account	100,061.93			
18-Dec-X7	To ABC Counterparty account	75,673.48			
			31-Dec-X7	By Balance	356,069.06
31-Dec-X7	Total	**577,025.72**	31-Dec-X7	Total	**577,025.72**
31-Dec-X7	To Balance	356,069.06			

Interest accrued but not due on XCCY Swap account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X7	By Interest—pay leg—XCCY Swap account	65,595.92
18-Apr-X7	To Interest—pay leg—XCCY Swap account	65,595.92			
			30-Jun-X7	By Interest—pay leg—XCCY Swap account	74,876.14
18-Jul-X7	To Interest—pay leg—XCCY Swap account	74,876.14			
			30-Sep-X7	By Interest—pay leg—XCCY Swap account	80,484.60
18-Oct-X7	To Interest—pay leg—XCCY Swap account	80,484.60			
31-Dec-X7	Total	**220,956.66**	31-Dec-X7	Total	**220,956.66**

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			18-Apr-X7	By Interest—pay leg—XCCY Swap account	86,994.89
20-Apr-X7	To Bank account	86,994.89			
			18-Jul-X7	By Interest—pay leg—XCCY Swap account	93,338.76
20-Jul-X7	To Bank account	93,338.76			
			18-Oct-X7	By Interest—pay leg—XCCY Swap account	100,061.93

ABC Counterparty account *(Con'd)*

Date	Particulars	Debit	Date	Particulars	Credit
22-Oct-X7	To Bank account	100,061.93			
			18-Dec-X7	By Interest—pay leg—XCCY Swap account	75,673.48
20-Dec-X7	To Bank account	75,673.48			
31-Dec-X7	Total	**256,069.06**	31-Dec-X7	Total	**256,069.06**

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
20-Jan-X7	To Opening balance	500,000.00			
			20-Apr-X7	By ABC Counterparty account	86,994.89
			20-Jul-X7	By ABC Counterparty account	93,338.76
			22-Oct-X7	By ABC Counterparty account	100,061.93
			20-Dec-X7	By ABC Counterparty account	75,673.48
			31-Dec-X7	By Balance	143,930.94
31-Dec-X7	Total	**500,000.00**	31-Dec-X7	Total	**500,000.00**
31-Dec-X7	To Balance	143,930.94			

Trial Balance

As on 31-Dec-X7

Particulars	Debit	Credit
Capital account		
Opening Balance		500,000.00
Current Liabilities		
Current Asset		
Bank account	143,930.94	
Income		
Interest—pay leg—XCCY Swap account	356,069.06	
Total	500,000.00	500,000.00

Income Statement

For the period ending 31-Dec-X7

Expenses		Income	
Direct Expense		**Direct Income**	
Interest—pay leg—XCCY Swap account	356,069.06		
		Net profit C/o	356,069.06
Total	356,069.06	Total	356,069.06

Balance Sheet

As at 31-Dec-X7

Liabilities		**Assets**	
Capital account			
Opening balance	500,000.00		
		Investments	
		Current Assets	
		Bank account	143,930.94
		Profit & Loss account	
		Opening Balance	
		Current Period	356,069.06
Total	500,000.00	Total	500,000.00

ACCOUNTING ENTRIES IN FUNCTIONAL CURRENCY

F-1 *On introducing cash into the fund:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
20-Jan-X7	Bank account	10,000,000.00	
	To Share Capital account		10,000,000.00
	(Being the capital introduced)		

F-2 *On purchase of XCCY Swap trade:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
16-Jan-X7	XCCY Swap account—OBS account	12,000,000.00	
	To XCCY Swap (Contra) account—OBS		12,000,000.00
	(Being the recording of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-3 *On purchase of cross-currency interest rate swap trade:* (T-1 @ FX Rate: 1.2924)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
16-Jan-X7	XCCY Swap (Contra) account—OBS account	7,187,698.27	
	To XCCY Swap account—OBS account		7,187,698.27
	(Being the recording of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-4 *On accounting for premium on purchase of cross-currency interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
16-Jan-X7	XCCY Swap NPV—(Asset/Liability) account	5,551.74	
	To ABC Counterparty account		5,551.74
	(Being the premium on purchase of cross-currency interest rate swap)		

F-5 *On payment of premium on purchase of cross-currency interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Mar-X7	ABC Counterparty account	5,551.74	
	To Bank account		5,551.74
	(Being the premium received at the inception of cross-currency interest rate swap contract representing the net present value of the swap on this date)		

F-6 *On reversal of existing net present value of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Unrealized gain/loss on XCCY Swap (P&L) account	5,551.74	
	To XCCY Swap NPV—(Asset/Liability) account		5,551.74
	(Being the reversal of existing net present value of XCCY Swap on valuation date as the current net present value of XCCY Swap should be recorded on this date)		

F-7 *On valuation of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
31-Mar-X7	Unrealized gain/loss on XCCY Swap (P&L) account	377,146.78	
	To XCCY Swap NPV—(Asset/Liability) account		377,146.78
	(Being the unrealized gain/loss on XCCY Swap as on valuation date representing the net present value of the receive leg of the XCCY Swap)		

F-8 *Accrued interest on valuation date—pay leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	18-Jan-X7
Current reporting date	31-Mar-X7
Number of days (Actual/360)	72

Calculation of accrued interest—receive leg	**USD**
Notional amount on which interest is computed	12,000,000
Rate of interest p.a.(%)	5.36000
Accrued interest on receive leg	128,640.00

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Mar-X7	Interest accrued but not due on XCCY Swap account	128,640.00	
	To Interest—receive leg—XCCY Swap account		128,640.00
	(Being the interest accrued on receive leg accounted for on the valuation date)		

F-9 *Accrued interest on valuation date -pay leg:* (T-2 @ FX Rate: 1.3331)

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
31-Mar-X7	Interest—pay leg—XCCY Swap account	52,206.08	
	To Interest accrued but not due on XCCY Swap account		52,206.08
	(Being the interest accrued but not due on pay leg accounted for on the valuation date)		

F-10 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	**Particulars**	**Debit (USD)**	**Credit (USD)**
18-Apr-X7	Interest—receive leg—XCCY Swap account	128,640.00	
	To Interest accrued but not due on XCCY Swap account		128,640.00
	(Being the reversal of interest accrued on the receive leg of the XCCY Swap on coupon date)		

F-11 *On accounting for interest on coupon date—receive leg:*

Calculation of accrued interest—receive leg	**USD**
Previous coupon date	18-Jan-X7
Current reporting date	18-Apr-X7
Number of days (Actual/360)	90
Notional amount on which interest is computed	12,000,000
Rate of interest p.a.(%)	5.36000
Interest on receive leg	160,800.00

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Apr-X7	ABC Counterparty account	160,800.00	
	To Interest—receive leg—XCCY Swap account		160,800.00
	(Being the interest accounted on the receive leg of the XCCY Swap on coupon date)		

F-12 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Apr-X7	Bank account	160,800.00	
	To ABC Counterparty account		160,800.00
	(Being the receipt of interest on receive leg of the XCCY Swap)		

F-13 *On reversal of accrued interest on coupon date—pay leg:* (T-3 @ FX Rate: 1.3331)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Apr-X7	Interest accrued but not due on XCCY Swap account	52,206.08	
	To Interest—pay leg—XCCY Swap account		52,206.08
	(Being the reversal of interest accrued but not due on the pay leg of the XCCY Swap)		

F-14 *On accounting for interest on coupon date—pay leg:* (T-4 @ FX Rate: 1.3549)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Apr-X7	Interest—pay leg—XCCY Swap account	64,207.61	
	To ABC Counterparty account		64,207.61
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

F-15 *On settlement of interest on pay leg:* (T-5 @ FX Rate: 1.3598)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Apr-X7	ABC Counterparty account	63,976.24	
	To Bank account		63,976.24
	(Being the payment of interest on pay leg of the XCCY Swap)		

F-16 *On accounting for FX Translation on settlement of interest on pay leg of XCCY Swap:*

Currency gain/loss on settlement date	EUR	FX Rate	USD
a) Interest accrued on XCCY Swap contract in Trade currency	86,994.89	1.354900	64,207.61
b) Settlement amount in functional currency			63,976.24
c) Realized currency gain/loss (a) − (b)			**231.37**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Apr-X7	ABC Counterparty account	231.37	
	To Realized currency gain/loss account		231.37
	(Being the realized currency gain/loss on settlement)		

F-17 *On reversal of existing net present value of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	XCCY Swap NPV—(Asset/Liability) account	377,146.78	
	To Unrealized gain/loss on XCCY Swap (P&L) account		377,146.78
	(Being the reversal of existing net present value of XCCY Swap on valuation date as the current net present value of XCCY Swap should be recorded on this date)		

F-18 *On valuation of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Unrealized gain/loss on XCCY Swap (P&L) account	490,869.65	
	To XCCY Swap NPV—(Asset/Liability) account		490,869.65
	(Being the unrealized gain/loss on XCCY Swap as on valuation date representing the net present value of the receive leg of the XCCY Swap)		

F-19 *Accrued interest on valuation date—receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	18-Apr-X7
Current reporting date	30-Jun-X7
Number of days (Actual/360)	73
Notional amount on which interest is computed	12,000,000
Rate of interest p.a.(%)	5.358750
Accrued interest on receive leg	130,396.25

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest accrued but not due on XCCY Swap account	130,396.25	
	To Interest—receive leg—XCCY Swap account		130,396.25
	(Being the interest accrued on pay leg accounted for on the valuation date)		

F-20 *Accrued interest on valuation date—pay leg:* (T-6 @ FX Rate: 1.34570)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Jun-X7	Interest—pay leg—XCCY Swap account	55,669.99	
	To Interest accrued but not due on XCCY Swap account		55,669.99
	(Being the interest accrued but not due on receive leg accounted for on the valuation date)		

F-21 *On reversal of accrued interest on coupon date—receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jul-X7	Interest—receive leg—XCCY Swap account	130,396.25	
	To Interest accrued but not due on XCCY Swap account		130,396.25
	(Being the reversal of interest accrued on the pay leg of the XCCY Swap on coupon date)		

F-22 *On accounting for interest on coupon date—receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	18-Apr-X7
Current reporting date	18-Jul-X7
Number of days (Actual/360)	91
Notional amount on which interest is computed	12,000,000
Rate of interest p.a.(%)	5.36
Interest on receive leg	162,548.75

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jul-X7	ABC Counterparty account	162,548.75	
	To Interest—receive leg—XCCY Swap account		162,548.75
	(Being the interest accounted on the receive leg of the XCCY Swap on coupon date)		

F-23 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Jul-X7	Bank account	162,548.75	
	To ABC Counterparty account		162,548.75
	(Being the receipt of interest on receive leg of the XCCY Swap)		

F-24 *On reversal of accrued interest on coupon date—pay leg:* (T-7 @ FX Rate: 1.3450)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jul-X7	Interest accrued but not due on XCCY Swap account	55,669.99	
	To Interest—pay leg—XCCY Swap account		55,669.99
	(Being the reversal of interest accrued but not due on the receive leg of the XCCY Swap)		

F-25 *On accounting for interest on coupon date—pay leg:* (T-8 @ FX Rate: 1.3781)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Jul-X7	Interest—pay leg—XCCY Swap account	67,730.03	
	To ABC Counterparty account		67,730.03
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

F-26 *On settlement of interest on pay leg:* (T-9 @ FX Rate: 1.99100)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Jul-X7	ABC Counterparty account	67,597.60	
	To Bank account		67,597.60
	(Being the payment of interest on pay leg of the XCCY Swap)		

F-27 *On accounting for FX Translation on settlement of interest on pay leg of XCCY Swap:*

Currency gain/loss on settlement date	EUR	FX Rate	USD
a) Interest accrued on XCCY Swap contract in Trade currency	93,338.76	1.37810	67,730.03
b) Settlement amount in functional currency			67,597.60
c) Realized currency gain/loss (a) – (b)			**132.43**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Jul-X7	ABC Counterparty account	132.43	
	To Realized currency gain/loss account		132.43
	(Being the realized currency gain/loss on settlement)		

F-28 *On reversal of existing net present value of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Unrealized gain/loss on XCCY Swap (P&L) account	490,869.65	
	To XCCY Swap NPV—(Asset/Liability) account		490,869.65
	(Being the reversal of existing net present value of XCCY Swap on valuation date as the current net present value of XCCY Swap should be recorded on this date)		

F-29 *On valuation of XCCY Swap on valuation date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Unrealized gain/loss on XCCY Swap (P&L) account	1,263,405.56	
	To XCCY Swap NPV—(Asset/Liability) account		1,263,405.56
	(Being amount received on the sale of the bond)		

F-30 *Accrued interest on valuation date—receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	18-Jul-X7
Current reporting date	30-Sep-X7
Number of days (Actual/360)	74
Notional amount on which interest is computed	12,000,000
Rate of interest p.a.(%)	5.36
Accrued interest on receive leg	132,213.33

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Interest accrued but not due on XCCY Swap account	132,213.33	
	To Interest—receive leg—XCCY Swap account		132,213.33
	(Being the interest accrued on pay leg accounted for on the valuation date)		

F-31 *Accrued interest on valuation date—pay leg:* (T-10 @ FX Rate: 1.4268)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
30-Sep-X7	Interest—pay leg—XCCY Swap account	56,411.14	
	To Interest accrued but not due on XCCY Swap account		56,411.14
	(Being the interest accrued but not due on pay leg accounted for on the valuation date)		

F-32 *On reversal of accrued interest on coupon date—pay leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Oct-X7	Interest—receive leg—XCCY Swap account	132,213.33	
	To Interest accrued but not due on XCCY Swap account		132,213.33
	(Being the reversal of interest accrued on the pay leg of the XCCY Swap on coupon date)		

F-33 *On accounting for interest on coupon date—receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	18-Jul-X7
Current reporting date	18-Oct-X7
Number of days (Actual/360)	92
Notional amount on which interest is computed	12,000,000
Rate of interest p.a.(%)	5.36
Interest on receive leg	164.373.33

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Oct-X7	ABC Counterparty account	164.373.33	
	To Interest—receive leg—XCCY Swap account		164.373.33
	(Being the interest accounted on the receive leg of the XCCY Swap on coupon date)		

F-34 *On settlement of interest on receive leg:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Oct-X7	Bank account	164.373.33	
	To ABC Counterparty account		164.373.33
	(Being the receipt of interest on receive leg of the XCCY Swap)		

F-35 *On reversal of accrued interest on coupon date—receive leg:* (T-11 @ FX Rate: 1.4268)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Oct-X7	Interest accrued but not due on XCCY Swap account	56,411.14	
	To Interest—pay leg—XCCY Swap account		56,411.14
	(Being the reversal of interest accrued but not due on the receive leg of the XCCY Swap)		

F-36 *On accounting for interest on coupon date—pay leg:* (T-12 @ FX Rate: 1.4183)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Oct-X7	Interest—pay leg—XCCY Swap account	70,550.61	
	To ABC Counterparty account		70,550.61
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

F-37 *On settlement of interest on pay leg:* (T-13 @ FX Rate: 1.4286)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Oct-X7	ABC Counterparty account	70,041.95	
	To Bank account		70,041.95
	(Being the payment of interest on pay leg of the XCCY Swap)		

F-38 *On accounting for FX Translation on settlement of interest on pay leg of XCCY Swap:*

Currency gain/loss on settlement date	EUR	FX Rate	USD
a) Interest accrued on XCCY Swap contract in Trade currency	100,061.93	1.418300	70,550.61
b) Settlement amount in functional currency			70,041.95
c) Realized currency gain/loss (a) − (b)			**508.66**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
22-Oct-X7	ABC Counterparty account	508.66	
	To Realized currency gain/loss account		508.66
	(Being the realized currency gain/loss on settlement)		

F-39 *On termination of cross-currency interest rate swap trade:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X7	XCCY Swap (Contra) account—OBS	12,000,000.00	
	To XCCY Swap account—OBS		12,000,000.00
	(Being the recording of termination of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-40 *On reversal of accrued interest on coupon date—receive leg:* (T-14 @ FX Rate: 1.2918)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X7	XCCY Swap account—OBS	7,187,698.27	
	To XCCY Swap (Contra) account—OBS		7,187,698.27
	(Being the recording of termination of cross-currency interest rate swap contract—since the amount is only notional and there is no exchange of money the entry is off balance sheet)		

F-41 *On reversal of existing net present value of XCCY Swap on Termination date:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X7	XCCY Swap NPV—(Asset/Liability) account	1,263,405.56	
	To Unrealized gain/loss on XCCY Swap (P&L) account		1,263,405.56
	(Being the reversal of existing net present value of XCCY Swap on termination date)		

F-42 *On accounting realized gain/loss:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X7	Realized gain/loss on XCCY Swap	1,418,303.31	
	To ABC Counterparty account		1,418,303.31
	(Being realized gain/loss on Termination date)		
18-Dec-X7	Realized gain/loss on XCCY Swap	5,551.74	
	To Unrealized gain/loss on XCCY Swap		5,551.74
	(Being unrealized gain/loss transferred to realized gain/loss on termination)		

F-43 *On Settlement of gain/loss:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X7	ABC Counterparty account	1,418,303.31	
	To Bank account		1,418,303.31
	(On Settlement of gain/Loss)		

F-44 *On accounting for interest on coupon date—receive leg:*

Calculation of accrued interest—receive leg	USD
Previous coupon date	18-Oct-X7
Current reporting date	20-Dec-X7
Number of days (Actual/360)	63
Notional amount on which interest is computed	12,000,000
Rate of interest p.a.(%)	5.21
Interest on receive leg	109,383.75

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X7	ABC Counterparty account	109,383.75	
	To Interest—receive leg—XCCY Swap account		109,383.75
	(Being the interest accounted on the receive leg of the XCCY Swap on coupon date)		

F-45 *On Settlement of receive leg interest:*

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X7	Bank account	109,383.75	
	To ABC Counterparty account		109,383.75
	(On Settlement of pay leg interest)		

F-46 *On accounting for interest on coupon date—pay leg:* (T-15 @ FX Rate: 1.4395)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
18-Dec-X7	Interest—pay leg—XCCY Swap account	52,571.11	
	To ABC Counterparty account		52,571.11
	(Being the interest accounted on the pay leg of the XCCY Swap on coupon date)		

F-47 *On settlement of interest on pay leg:* (T-16 @ FX Rate: 1.5020)

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X7	ABC Counterparty account	50,381.81	
	To Bank account		50,381.81
	(Being the payment of interest on pay leg of the XCCY Swap)		

F-48 *On accounting for FX Translation on settlement of interest on pay leg of XCCY Swap:*

Currency gain/loss on settlement date	EUR	FX Rate	USD
a) Interest accrued on XCCY Swap contract in Trade currency	75,673.48	1.439450	52,571.11
b) Settlement amount in functional currency			50,381.81
c) Realized currency gain/loss (a) − (b)			**2,189.30**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X7	ABC Counterparty account	2,189.30	
	To Realized currency gain/loss account		2,189.30
	(Being the realized currency gain/loss on settlement)		

F-49 *On accounting for FX Translation on Bank account:*

Calculation of currency gain/loss on Bank account

Description	Date	GBP	Fx rate	USD
Opening balance	20-Jan-07	500,000.00	1.29	389,105.06
Interest payment to ABC counterparty	20-Apr-07	(86,994.89)	1.36	(63,976.24)
Interest payment to ABC counterparty	20-Jul-07	(93,338.76)	1.38	(67,597.60)
Interest payment to ABC counterparty	22-Oct-07	100,061.93)	1.43	(70,041.95)
Interest payment to ABC counterparty	20-Dec-07	(75,673.48)	1.50	(50,381.81)
Net balance		143,930.94		137,107.46
Net balance at current FX rate	As of 12-Dec-07	143,930.94	1.50	95,826.19
FX translation on Bank account				**(41,281.27)**

Journal Entry

Date	Particulars	Debit (USD)	Credit (USD)
20-Dec-X7	Realized currency gain/loss account	41,281.27	
	To Bank account		41,281.27
	(Being realized gain/loss on Termination date)		

Interest—pay leg—XCCY Swap account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To Interest accrued but not due on XCCY Swap account	52,206.08			
			18-Apr-X7	By Interest accrued but not due on XCCY Swap account	52,206.08
18-Apr-X7	To ABC Counterparty account	64,207.61			

Interest—pay leg—XCCY Swap account *(Con'd)*

Date	Particulars	Debit	Date	Particulars	Credit
30-Jun-X7	To Interest accrued but not due on XCCY Swap account	55,669.99			
			18-Jul-X7	By Interest accrued but not due on XCCY Swap account	55,669.99
18-Jul-X7	To ABC Counterparty account	67,730.03			
30-Sep-X7	To Interest accrued but not due on XCCY Swap account	56,411.14			
			18-Oct-X7	By Interest accrued but not due on XCCY Swap account	56,411.14
18-Oct-X7	To ABC Counterparty account	70,550.61			
18-Dec-X7	To ABC Counterparty account	52,571.11			
			31-Dec-X7	By Balance	255,059.36
31-Dec-X7	Total	**419,346.57**	31-Dec-X7	Total	**419,346.57**
31-Dec-X7	To Balance	255,059.36			

Interest accrued but not due on XCCY Swap account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To Interest—receive leg—XCCY Swap account	128,640.00			
			31-Mar-X7	By Interest—pay leg—XCCY Swap account	52,206.08
			18-Apr-X7	By Interest—receive leg—XCCY Swap account	128,640.00
18-Apr-X7	To Interest—pay leg—XCCY Swap account	52,206.08			
30-Jun-X7	To Interest—receive leg—XCCY Swap account	130,396.25			
			30-Jun-X7	By Interest—pay leg—XCCY Swap account	55,669.99
			18-Jul-X7	By Interest—receive leg—XCCY Swap account	130,396.25
18-Jul-X7	To Interest—pay leg—XCCY Swap account	55,669.99			
			30-Sep-X7	By Interest—pay leg—XCCY Swap account	56,411.14

Date	Particulars	Debit	Date	Particulars	Credit
30-Sep-X7	To Interest—receive leg—XCCY Swap account	132,213.33			
			18-Oct-X7	By Interest—receive leg—XCCY Swap account	132,213.33
18-Oct-X7	To Interest—pay leg—XCCY Swap account	56,411.14			
31-Dec-X7	Total	555,536.79	31-Dec-X7	Total	555,536.79

ABC Counterparty account

Date	Particulars	Debit	Date	Particulars	Credit
			16-Jan-X7	By XCCY Swap NPV—(Asset/ Liability) account	5,551.74
18-Jan-X7	To Bank account	5,551.74			
18-Apr-X7	To Interest—receive leg—XCCY Swap account	160,800.00			
			18-Apr-X7	By Interest—pay leg—XCCY Swap account	64,207.61
			20-Apr-X7	By Bank account	160,800.00
20-Apr-X7	To Bank account	63,976.24			
20-Apr-X7	To Realized currency gain/loss account	231.37			
18-Jul-X7	To Interest—receive leg—XCCY Swap account	162,548.75			
			20-Jul-X7	By Bank account	162,548.75
			18-Jul-X7	By Interest—pay leg—XCCY Swap account	67,730.03
20-Jul-X7	To Bank account	67,597.60			
20-Jul-X7	To Realized currency gain/loss account	132.43			
18-Oct-X7	To Interest—receive leg—XCCY Swap account	164,373.33			
			18-Oct-X7	By Interest—pay leg—XCCY Swap account	70,550.61
			20-Oct-X7	By Bank account	164,373.33
22-Oct-X7	To Bank account	70,041.95			
22-Oct-X7	To Realized currency gain/loss account	508.66			
			18-Dec-X7	By Interest—pay leg—XCCY Swap account	52,571.11

ABC Counterparty account *(Con'd)*

Date	Particulars	Debit	Date	Particulars	Credit
			18-Dec-X7	By Realized gain/ loss on XCCY Swap	1,418,303.31
18-Dec-X7	To Interest—receive leg—XCCY Swap account	109,383.75			
20-Dec-X7	To Bank account	1,418,303.31			
			20-Dec-X7	By Bank account	109,383.75
20-Dec-X7	To Bank account	50,381.81			
20-Dec-X7	To Realized currency gain/loss account	2,189.30			
31-Dec-X7	Total	1,815,182.11	31-Dec-X7	Total	1,815,182.11

XCCY Swap account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
16-Jan-X7	To XCCY Swap (Contra) account—OBS	12,000,000.00			
			16-Jan-X7	By XCCY Swap (Contra) account—OBS	7,187,698.27
			18-Dec-X7	By XCCY Swap (Contra) account—OBS	12,000,000.00
18-Dec-X7	To XCCY Swap (Contra) account—OBS	7,187,698.27			
31-Dec-X7	Totals	19,187,698.27	31-Dec-X7	Totals	19,187,698.27

XCCY Swap (Contra) account—OBS

Date	Particulars	Debit	Date	Particulars	Credit
			16-Jan-X7	By XCCY Swap account—OBS	12,000,000.00
16-Jan-X7	To XCCY Swap account—OBS	7,187,698.27			
18-Dec-X7	To XCCY Swap account—OBS	12,000,000.00			
			18-Dec-X7	By XCCY Swap account—OBS	7,187,698.27
31-Dec-X7	Total	19,187,698.27	31-Dec-X7	Total	19,187,698.27

Interest—Receive Leg—XCCY Swap Account

Date	Particulars	Debit	Date	Particulars	Credit
			31-Mar-X7	By Interest accrued but not due on XCCY Swap account	128,640.00
18-Apr-X7	To Interest accrued but not due on XCCY Swap account	128,640.00			
			18-Apr-X7	By ABC Counterparty account	160,800.00
			30-Jun-X7	By Interest accrued but not due on XCCY Swap account	130,396.25
18-Jul-X7	To Interest accrued but not due on XCCY Swap account	130,396.25			
			18-Jul-X7	By ABC Counterparty account	162,548.75
			30-Sep-X7	By Interest accrued but not due on XCCY Swap account	132,213.33
18-Oct-X7	To Interest accrued but not due on XCCY Swap account	132,213.33			
			18-Oct-X7	By ABC Counterparty account	164,373.33
			18-Dec-X7	By ABC Counterparty account	109,383.75
31-Dec-X7	To Balance	597,105.83			
31-Dec-X7	Total	**988,355.41**	31-Dec-X7	Total	**988,355.41**
			31-Dec-X7	By Balance	597,105.83

Unrealized Gain/Loss on XCCY Swap (P&L) Account

Date	Particulars	Debit	Date	Particulars	Credit
31-Mar-X7	To XCCY Swap NPV—(Asset/ Liability) account	5,551.74			
31-Mar-X7	To XCCY Swap NPV—(Asset/ Liability) account	377,146.78			
			30-Jun-X7	By XCCY Swap NPV—(Asset/ Liability) account	377,146.78
30-Jun-X7	To XCCY Swap NPV—(Asset/ Liability) account	490,869.65			
			30-Sep-X7	By XCCY Swap NPV—(Asset/ Liability) account	490,869.65
30-Sep-X7	To XCCY Swap NPV—(Asset/ Liability) account	1,263,405.56			

Unrealized Gain/Loss on XCCY Swap (P&L) Account *(Con'd)*

Date	Particulars	Debit	Date	Particulars	Credit
			18-Dec-X7	By XCCY Swap NPV—(Asset/ Liability) account	1,263,405.56
			18-Dec-X7	By Realized gain/ loss on XCCY Swap	5,551.74
31-Dec-X7	Total	**2,136,973.73**	31-Dec-X7	Total	**2,136,973.73**

XCCY Swap NPV—(Asset/Liability) account

Date	Particulars	Debit	Date	Particulars	Credit
16-Jan-X7	To ABC Counterparty account	5,551.74			
			31-Mar-X7	By Unrealized gain/ loss on XCCY Swap (P&L) account	5,551.74
			31-Mar-X7	By Unrealized gain/ loss on XCCY Swap (P&L) account	377,146.78
30-Jun-X7	To Unrealized gain/ loss on XCCY Swap (P&L) account	377,146.78			
			30-Jun-X7	By Unrealized gain/ loss on XCCY Swap (P&L) account	490,869.65
30-Sep-X7	To Unrealized gain/ loss on XCCY Swap (P&L) account	490,869.65			
			30-Sep-X7	By Unrealized gain/ loss on XCCY Swap (P&L) account	1,263,405.56
18-Dec-X7	To Unrealized gain/ loss on XCCY Swap (P&L) account	1,263,405.56			
31-Dec-X7	Total	2,136,973.73	31-Dec-X7	Total	2,136,973.73

Realized currency gain/loss account

Date	Particulars	Debit	Date	Particulars	Credit
			20-Apr-X7	By ABC Counterparty account	231.37
			20-Jul-X7	By ABC Counterparty account	132.43

Date	Particulars	Debit	Date	Particulars	Credit
			22-Oct-X7	By ABC Counterparty account	508.66
			20-Dec-X7	By ABC Counterparty account	2,189.30
20-Dec-X7	To Bank account	41,281.27			
			31-Dec-X7	By Balance	38,219.51
31-Dec-X7	Total	**41,281.27**	31-Dec-X7	Total	**41,281.27**
31-Dec-X7	To Balance	38,219.51			

Realized gain/loss on XCCY Swap

Date	Particulars	Debit	Date	Particulars	Credit
18-Dec-X7	To ABC Counterparty account	1,418,303.31			
18-Dec-X7	To Unrealized gain/loss on XCCY Swap	5,551.74			
			31-Dec-X7	By Balance	1,423,855.05
31-Dec-X7	Total	**1,423,855.05**	31-Dec-X7	Total	**1,423,855.05**
31-Dec-X7	To Balance	1,423,855.05			

Share Capital account

Date	Particulars	Debit	Date	Particulars	Credit
			20-Jan-X7	By Bank account	10,000,000.00
31-Dec-X7	To Balance	10,000,000.00			
31-Dec-X7	Total	**10,000,000.00**	31-Dec-X7	Total	**10,000,000.00**
			31-Dec-X7	By Balance	10,000,000.00

Bank account

Date	Particulars	Debit	Date	Particulars	Credit
20-Jan-X7	To Opening Balance	389,105.06			
20-Jan-X7	To Share Capital account	10,000,000.00			
			18-Jan-X7	By ABC Counterparty account	5,551.74
			20-Apr-X7	By ABC Counterparty account	63,976.24
20-Apr-X7	To ABC Counterparty account	160,800.00			
20-Jul-X7	To ABC Counterparty account	162,548.75			
			20-Jul-X7	By ABC Counterparty account	67,597.60
20-Oct-X7	To ABC Counterparty account	164,373.33			
			22-Oct-X7	By ABC Counterparty account	70,041.95

Bank account *(Con'd)*

Date	Particulars	Debit	Date	Particulars	Credit
			20-Dec-X7	By ABC Counterparty account	1,418,303.31
20-Dec-X7	To ABC Counterparty account	109,308.75			
			20-Dec-X7	By ABC Counterparty account	50,381.81
			20-Dec-X7	By Realized currency gain/loss account	41,281.27
			31-Dec-X7	By Balance	9,270,406.53
31-Dec-X7	Total	**10,986,210.89**	31-Dec-X7	Total	**10,986,210.89**
31-Dec-X7	To Balance	9,270,406.53			

Trial Balance

As on 31-Dec-X7

Particulars	Debit	Credit
Capital account		
Opening Balance		389,105.06
Share Capital		10,000,000.00
Current Liabilities		
Current Asset		
Bank account	9,269,076.97	
Income		
Realized gain/loss on XCCY Swap	1,423,855.05	
Interest—pay leg—XCCY Swap account	255,059.36	
Interest—receive leg—XCCY Swap account		597,105.83
Realized currency gain/loss account	38,219.51	
Total	**10,986,210.89**	**10,986,210.89**

Income Statement

For the period ending 31-Dec-X7

Expenses		Income	
Direct Expense		**Direct Income**	
Realized gain/loss on XCCY Swap	1,423,855.05	Interest—receive leg—XCCY Swap account	597,105.83
Realized currency gain/loss account	38,219.51		
Interest—pay leg—XCCY Swap account	255,059.36		
		Net profit C/o	1,120,028.09
Total	**1,717,133.92**	Total	**1,717,133.92**

Balance Sheet

As at 31-Dec-X7

Liabilities		**Assets**	
Capital account			
Opening balance	389,105.06		
Share Capital	10,000,000.00		
Current Liabilities		**Current Assets**	
		Bank account	9,269,076.97
		Profit & Loss account	
		Opening Balance	
		Current Period	1,120,028.09
Total	10,389,105.06	Total	10,389,105.06

SUMMARY

- Currency swaps are over-the-counter derivatives, and are similar to interest rate swaps covered already in this volume except that in a cross-currency swap the principal amounts are in different currencies and unlike interest rate swaps, cross-currency swaps can involve the exchange of the principal.
- Even where there is no exchange of principal, the counterparties are subject to the foreign exchange rate fluctuation during the substance of the trade.
- The tenure of a cross-currency swap typically ranges from one to fifteen years.
- Cross-currency swaps are suitable for entities that have a loan commitment denominated in one currency, while the revenues generated by the entity are denominated in a different currency, resulting in a currency mismatch between the currency of the loan and the currency of revenues.
- A Cross-currency interest rate swaps allow an entity to switch its loan from one currency to another.
- A Cross-currency interest rate swaps enable an entity to manage foreign currency exposures. The entity can use money it receives in one currency to pay off its loans in another currency with a cross-currency swap.
- Since a cross-currency swap is basically an interest rate swap, all the risks associated with an interest rate swap in terms of interest rates do exist in this instrument.
- The single important reason for entering into a cross-currency swap is to manage foreign exchange exposure. This also becomes a huge risk if not managed properly.
- As cross currency swaps involve exchange risk on the principal, the credit risk associated with these types of transactions is substantially greater than with interest rate swaps.
- An important purpose of a cross-currency interest rate swap is to effectively reduce the cost of borrowing by the principle of comparative cost advantage viz. to procure debt by borrowing at the best available rate regardless of the currency and then swapping for a debt in the desired currency using a back-to-back-loan.
- The second important purpose of a cross-currency swap is to hedge against exchange rate fluctuations.
- Unlike interest rate swaps there may be an exchange of principal taking place during the purchase and at maturity of the swap. If there is no principal exchange then the entry will only be a contingent and an off balance sheet. For an actual principal exchange, the respective entries for money transfers will be recorded.

- The net present value of the trade at the time of entering into the contract is also known as the upfront fee on the trade. The present value of the pay leg and the receive leg is computed separately and discounted back based on the yield curve of the respective currencies to arrive at the net present value of the contract.
- At the end of every valuation date the fair value of the cross-currency interest rate swap contract is ascertained and the swap contract is marked-to-market to reflect the net present value of the contract.
- The value of the swap is computed based on the expected cash inflows and cash outflows on the remaining period of the life of the contract and discounted based on the yield curve of the respective currency.
- The foreign exchange rate fluctuation between the two currencies is also factored into while arriving at the net present value.
- Being a derivative instrument, an interest rate cross-currency swap per se qualifies to be a hedging instrument. It should be noted that in a cross currency swap the risk reward is symmetric and can be more or less compared to an equity futures position.
- A cross-currency interest rate swap instrument can be used to hedge primarily interest rate risk as well as foreign exchange risk.

QUESTIONS

Theory questions

1. What is a cross-currency swap and how is it different from an interest rate swap?
2. Enumerate the features of an interest rate cross-currency swap.
3. What are the benefits of a cross-currency interest rate swap?
4. What are the major risks associated with a cross-currency interest rate swap?
5. What are the three types of cross-currency interest rate swaps?
6. Can a cross-currency interest rate swap be designated as a hedging instrument?
7. Enumerate the significant events in the trade life cycle of a cross-currency interest rate swap.
8. "The termination fee in any cross-currency interest rate swap includes the fx gain or loss on the position." Elucidate.

Objective questions

1. Cross-currency swaps are an effective solution to long-term:
   a) Interest rate hedging needs
   b) Currency hedging needs
   c) Market hedging needs
   d) None of the above
2. Tenure of cross-currency swap ranges from one to __ years.
   a) 5
   b) 10
   c) 15
   d) 20
3. Cross currency swaps are suitable for _____ who has loans denominated in one currency, while its revenues are denominated in a different currency.
   a) Government
   b) Private

c) Corporate
d) None of the above

4. Cross-currency interest-rate swaps allow the firm to switch its _____ from one currency to another.
   a) Bond
   b) Equity
   c) Loan
   d) None of the above
5. Different types of risk involved in cross-currency swaps are _____.
   a) Interest rate risk
   b) Credit risk
   c) Currency risk
   d) All of the above
6. A cross-currency swap transaction is recorded as _____.
   a) A profit or loss item
   b) A balance sheet item
   c) An off balance sheet item
   d) None of the above
7. In a cross-currency swap the interest is prefixed for the next quarter based on the _____.
   a) Market rate
   b) Exchange rate
   c) Benchmark rate
   d) None of the above
8. The net present value of the trade at the time of entering into the contract is also known as the _____on the trade.
   a) Premium
   b) Discount
   c) Leverage
   d) None of the above

Journal questions

1. Cross-currency swap—problem USD—EUR

XCCY Swap contract details:	Receive leg	Pay leg
Notional amount	10,000,000	7,550,000
Currency	USD	EUR
Day count	Actual/360	Actual/360
Interest payment terms	Quarterly	Quarterly
Rate of interest	US 3 months LIBOR	EUR 3 months LIBOR
Reset terms	Floating	Floating

		Receive leg—floating (USD)		
Coupon reset dates	**Trade date**	**FX rate**	**Settle date**	**LIBOR**
Inception	15-Jan-X9	1.0000	17-Jan-X9	0.24214
Coupon date-1	15-Apr-X9	1.0000	17-Apr-X9	1.12500
Coupon date-2	15-Jul-X9	1.0000	17-Jul-X9	1.10000
Coupon date-3	15-Oct-X9	1.0000	17-Oct-X9	0.50313
Coupon date-4				

		Pay leg floating (EUR)			
	Trade date	**FX rate**	**Settle date**	**FX rate**	**LIBOR**
Inception	15-Jan-X9	1.32130	17-Jan-X9	1.32310	2.16376
Coupon date-1	15-Apr-X9	1.33090	17-Apr-X9	1.31980	2.31200
Coupon date-2	15-Jul-X9	1.39750	17-Jul-X9	1.41020	1.40500
Coupon date-3	15-Oct-X9	1.48870	17-Oct-X9	1.49130	0.93700
Coupon date-4					

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**	**FX rate**
XCCY Swap contract position taken (inception) Maturity 21-Jan-10	15-Jan-X9	10,000,000.00	7,721.94	17-Jan-X9	1.3184
XCCY Swap contract termination (unwind)	15-Dec-X9	10,000,000.00		17-Dec-X9	

Valuation dates and net present values	**Date**	**NPV net**	**FX rate**
Valuation date 1	31-Mar-X9	(89,851.74)	1.3290
Valuation date 2	30-Jun-X9	(634,945.74)	1.4059
Valuation date 3	30-Sep-X9	(1,054,512.85)	1.4621
Termination date	18-Dec-X9	(979,523.99)	1.4531

Other details	**Date**	**USD**	**EUR**
Capital introduced	5-Jan-X9	10,000,000	500,000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

2. Cross-currency swap—problem USD—GBP

XCCY Swap contract details:	**Receive leg**	**Pay leg**
Notional amount	20,000,000	10,280,000
Currency	USD	GBP
Day count	Actual/360	Actual/360
Interest payment terms	Quarterly	Quarterly
Rate of interest	US 3 months LIBOR	GBP 3 months LIBOR
Reset terms	Floating	Floating

		Receive leg—floating (USD)		
Coupon reset dates	**Trade date**	**FX rate**	**Settle date**	**LIBOR**
Inception	23-Jan-X8	1.0000	25-Jan-X8	3.84750
Coupon date-1	23-Apr-X8	1.0000	25-Apr-X8	3.84750
Coupon date-2	23-Jul-X8	1.0000	25-Jul-X8	2.92000
Coupon date-3	23-Oct-X8	1.0000	25-Oct-X8	2.79938

		Pay leg floating (GBP)			
	Trade date	**FX rate**	**Settle date**	**FX rate**	**LIBOR**
Inception	23-Jan-X8	1.94780	25-Jan-X8	1.96010	5.56557
Coupon date-1	23-Apr-X8	1.98590	25-Apr-X8	1.97620	5.48375
Coupon date-2	23-Jul-X8	2.00040	25-Jul-X8	1.99130	5.88563
Coupon date-3	23-Oct-X8	1.6420	25-Oct-X8	1.57810	5.79750

Other details	**Trade date**	**Notional amount**	**Premium**	**Settle date**	**FX rate**
XCCY Swap contract position taken (inception) Maturity 21-Jan-10	23-Jan-X8	20,000,000.00	3,567.11	25-Jan-X8	1.9434
XCCY Swap contract termination (unwind)	16-Dec-X8	20,000,000.00		18-Dec-X8	

Valuation dates and net present values	**Date**	**NPV net**
Valuation date 1	31-Mar-X8	(576,902.37)
Valuation date 2	30-Jun-X8	(647,541.48)
Valuation date 3	30-Sep-X8	912,719.54
Maturity date	19-Dec-X8	4,012,419.89

Other details	**Date**	**USD**	**GBP**
Capital introduced	5-Jan-X8	10,000,000	500,000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

3. Cross-currency swap—problem USD—CAD

XCCY Swap contract details:	**Receive leg**	**Pay leg**
Notional amount	7,000,000	7,136,000
Currency	USD	CAD
Day count	Actual/360	Actual/360
Interest payment terms	Quarterly	Quarterly
Rate of interest	US 3 months LIBOR	GBP 3 months LIBOR
Reset terms	Floating	Floating

		Receive leg—floating (USD)		
Coupon reset dates	**Trade date**	**FX rate**	**Settle date**	**LIBOR**
Inception	15-Jan-X8	1.0000	17-Jan-X8	4.25750

Coupon reset dates	Trade date	FX rate	Settle date	LIBOR
Coupon date-1	15-Apr-X8	1.0000	17-Apr-X8	4.25750
Coupon date-2	15-Jul-X8	1.0000	17-Jul-X8	2.71313
Coupon date-3	15-Oct-X8	1.0000	17-Oct-X8	2.79063
Coupon date-4				

			Pay leg floating		
	Trade date	FX rate	Settle date	FX rate	LIBOR
Inception	15-Jan-X8	0.98230	17-Jan-X8	0.97950	4.33660
Coupon date-1	15-Apr-X8	0.97700	17-Apr-X8	0.98910	4.25286
Coupon date-2	15-Jul-X8	0.99180	17-Jul-X8	0.99840	3.60286
Coupon date-3	15-Oct-X8	0.87350	17-Oct-X8	0.84050	3.29214
Coupon date-4			17-Dec-X8		

Other details	Trade date	Notional amount	Premium	Settle date	FX rate
XCCY Swap contract position taken (inception) Maturity 21-Jan-10	23-Jan-X8	7,000,000.00	3,358.55	25-Jan-X8	0.9813
XCCY Swap contract termination (unwind)	16-Dec-X8	7,000,000.00		18-Dec-X8	

Valuation dates and net present values	Date	NPV net	
Valuation date 1	31-Mar-X8	27,337.64	0.9781
Valuation date 2	30-Jun-X8	(70,311.22)	0.9891
Valuation date 3	30-Sep-X8	87,098.10	0.9673
Termination date	19-Dec-X8	1,048,632.78	0.8393

Other details	Date	USD	CAD
Capital introduced	5-Jan-X8	10,000,000	500,000

Prepare

Journal entries, general ledgers, trial balance, income statement, and balance sheet.

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