NATIONAL OPEN UNIVERSITY OF NIGERIA

91, Cadastral Zone, University Village Jabi, Abuja

FACULTY OF MANAGEMENT SCIENCES

COURSE GUIDE

COURSE CODE: BFN403

COURSE TITLE: CAPITAL MARKET AND PORTFOLIO THEORY

COURSE GUIDE

BFN403:   CAPITAL MARKET AND PORTFOLIO THEORY

Course Code   **BFN403**

Course Title   **Capital Market and Portfolio Theory**

Course Developer/Writer   **Dr. Johnson Okoh**
                                   National Open University of Nigeria

Course Editor   **Professor Sani Abdullahi**
                                   Dept of Business Administartion
                                   Ahmadu Bello University, Zaria

Course Coordinator   **Mrs Olakunbi Lawal**

                                   National Open University of Nigeria

HEAD OF DEPT: Dr. (Mrs.) Ofe I. Inuwa
                                   Dept of Financial Studies.

CONTENTS PAGE

BFN403COURSE GUIDE

INTRODUCTION

BFN403: Capital Market and Portfolio Theory is a one semester course work having two credit units. It is available to students on Undergraduate Programme in the School of Management Sciences at the National Open University of Nigeria.

The course is made up of 15 units covering essential topics in Capital Market and Portfolio Theory. Stock Exchange: Growth, Structure and Performance in Nigeria.

This course guide tells you what the course is all about, the relevant textbooks you should consult, and how to work through your course materials to get the best out of it. It also contains some guidelines on your tutor-marked assignments.

COURSE CONTENTS

The aim of this course is to introduce you to the subject of Capital market and portfolio theory. The course contains core portfolio selection and management topics such as investment risk and returns, potential profitability of various investments, forecasting returns on individual portfolios, and models for evaluating portfolio performance.

Capital market and portfolio theory are almost daily affairs in human life. Sometimes we invest in various instruments and maintain investment portfolios without subjecting our activities to serious selection processes. Before we put money into any business undertaking or attempt to buy shares from any company (blue chip or otherwise), it is necessary to, first of all, carry out detailed analysis of the various investment opportunities and understand how safe and profitable the investment portfolio we want to maintain is going to be now and in the future.

COURSE AIMS

The course aims to groom the student in the process of capital market operations and portfolio performance analysis which prepares him for life journey through investment and portfolio management. Sooner or later, the student, after his studies, will be involved in making one investment decision or another to make gains to sustain himself and his family. Also, knowledge of capital market operation and portfolio management and understanding of the intricacies of risks and returns on investment instruments will be useful to the student in other areas of human endeavour

COURSE OBJECTIVES

In order to achieve the full aims of the course, the study is divided into coherent units and each unit states, at the beginning, the objective it is out to achieve. You are therefore advised to read through the specific objectives before reading through the unit. However, the following represent some of the broad objectives of the course. That is to say, after studying the course as a whole, you should be able to:

* Overview of the capital market and Portfolio Management.
* Capital market theory
* Models for evaluating portfolio performance
* Portfolio selection and management
* Analysis of investment returns
* Risk and returns on investment instruments
* Potential profitability of various investments outlets
* Forecasting returns on individual portfolios
* Review the concept of return, its components and its importance
* Stock Exchange Market: Growth, structure and performance in Nigeria

WORKING THROUGH THIS COURSE

It is imperative that you read through the units carefully consulting the suggested texts and other relevant materials to broaden your understanding. Some of the units may contain self-assessment exercises and tutor-marked assignments to help you. Only when you have gone through all the study materials provided by the National Open University of Nigeria (NOUN) can you satisfy yourself that indeed you have completed the course. Note that at certain points in the course you are expected to submit assignments for assessment, especially the Tutor-Marked Assignment (TMAs). At the end of the course, there will be a final examination to test your general understanding of the course.

COURSE MATERIALS

Major components and study unitsin the study materials are:
Course Title: BFN403CAPITAL MARKET AND PORTFOLIO THEORY and the
STUDY UNITS.

CONTENTS

Module 1

Unit 1   Overview of the Capital Market
Unit 2 The Investment Setting
Unit 3   Investment Return
Unit 4   Risks on Investments

Module 2
Unit 1   Investing in Common Stocks
Unit 2   Buying and Selling of Common Stocks
Unit 3   Evaluation of Common Stocks

Module 3

Unit 1   Security Analysis
Unit 2   Investing in Fixed-Income Securities
Unit 3   Bond Investment
Unit 4   Bond Evaluation and Analysis
Unit 5   Preferred Stocks and Convertible Securities

Module 4

Unit 1   Marketability, Default Risk and Call Privileges
Unit 2   International transactions and Currency Values
Unit 3   Capital and Money Market Terms
Unit 4   Current state of empirical evidence of models for evaluating portfolio performance
Unit 5   Capital asset pricing model (CAPM)

ASSIGNMENT FILE

The assignment file will be made available to you (where applicable). There, you will find details of all the work you must submit to your tutor for marking. The marks you obtain from these assignments will count towards the final mark you will obtain to hit the required pass-mark for the course.

ASSESSMENT

Your performance on this course will be determined through two major approaches. The first is through your total score in the Tutor-Marked Assignments, and the second is through the final examination that will be conducted at the end of the course. Thus, your assessment in the course is made up of two components:

Tutor-market Assignment   30%
Final Examination   70%

The self-assessment tests which may be provided under some units do not form part of your final assessment. They are meant to help you understand the course better. However, it is important

that you complete work on them religiously so that they will help in building you strongly and serving you as mock-examination.

TUTOR-MARKED ASSIGNMENT

At the end of each unit, there is a Tutor-Market Assignment (TMA), which you are encouraged to do and submit accordingly. The study centre manager/ tutorial facilitator will guide you on the number of TMAs to be submitted for grading.

Each unit of this course has a TMA attached to it. You can only do this assignment after covering the materials and exercise in each unit. Normally, the TMAs are kept in a separate file. Currently, they are being administered on-line.   When you answer the questions on-line, the system will automatically grade you. Always pay careful attention to the feedback and comments made by your tutor and use them to improve your subsequent assignments.

Do each assignment using materials from your study texts and other sources. Try to demonstrate evidence of proper understanding, and reading widely will help you to do this easily. The assignments are in most cases easy questions. If you have read the study texts provided by NOUN, you will be able to answer them. Cite examples from your own experience (where relevant) while answering the questions. You will impress your tutor and score higher marks if you are able to do this appropriately.

FINAL EXAMINATION AND GRADING

At the end of the course, you are expected to sit for a final examination. The final examination grade is 70% while the remaining 30% is taken from your scores in the TMAs. Naturally, the final examination questions will be taken from the materials you have already read and digested in the various study units. So, you need to do a proper revision and preparation to pass your final examination very well.

HOW TO GET THE BEST OUT OF THIS COURSE

The distance learning system of education is quite different from the traditional or conventional university system. Here, the prepared study texts replace the lecturers, thus providing you with a unique advantage. For instance, you can read and work through the specially designed study materials at your own pace and at a time and place you find suitable to you.

You should understand from the beginning that the contents of the course are to be worked on carefully and thoroughly understood. Step by step approach is recommended. You can read over a unit quickly y to see the general run of the contents and then return to it the second time more carefully. You should be prepared to spend a little more time on the units that prove more difficult. Always have a paper and pencil by you to make notes later on and this is why the use of pencil (not pen or biro) is recommended.

FACILTATORS/TUTORS AND TUTORIALS

Full information about learning support services or tutorial contact hours will be communicated to you in due course. You will also be notified of the dates, time and location of these tutorials, together with the name of your tutors. Your tutor will mark and comment on your assignments. Pay attention to the comments and corrections given by your tutor and implement the directives as you make progress.

USEFUL ADVICE

You should endeavour to attend tutorial classes since this is the only opportunity at your disposal to come face to face with your tutor/lecturer and to0 ask questions on any grey area you may have in your study texts. Before attending tutorial classes, you are advised to thoroughly go through the study texts and then prepare a list of questions you need to ask the tutor. This will afford you opportunity to actively participate in the class discussions.

SUMMARY

Security analysis and portfolio management is at the heart of every investor. Some investors do it locally or traditionally and others do it in a sophisticated way through experienced analysts. As we have earlier noted, the ultimate purpose of security analysis is to guide us to make wise investment that will yield us profits. You put the money you have today in an asset with the hope of earning profit or interest on it tomorrow. If you put money in the wrong stock, you will make loss. Careful security analysis will always reveal profitable stocks in which the would-be investor can invest.

5

BFN403:   CAPITAL MARKET AND PORTFOLIO THEORY

Course Code	**BFN403**
Course Title	**Capital Market and Portfolio Theory**
Course Developer/Writer	**Dr. Johnson Okoh** National Open University of Nigeria
Course Editor	**Professor Sani Abdullahi** Dept of Business Administartion Ahmadu Bello University, Zaria
Course Coordinator	**Mrs Olakunbi Lawal** National Open University of Nigeria
HEAD OF DEPT:	**Dr. (Mrs.) Ofe I. Inuwa** **Dept of Financial Studies, NOUN**

BFN403CAPITAL MARKET AND PORFOLIO THEORY

CONTENTS

Module 1

CONTENTS

Module 1

UNIT 1   OVERVIEW OF THE CAPITAL MARKET

CONTENTS

1.0   Introduction

The money and capital markets and the financial system that surrounds them are continually in transition, continually moving towards something new. The financial system of money and capital markets as they are today differ from that of a decade ago and will still be more different as we move forward into our future.

Powerful forces are reshaping financial institutions and financial services today and reshaping as well the public demand for new financial services. These forces for change include powerful new trends within the financial sector itself, major changes in the structure and functioning of the economy that surrounds the financial system, and new social and demographic trends that are altering the public's need for innovative new financial services.

2.0   Objectives

After reading this unit the student will be able to

- Understand the economic, demographic, social, and technological forces reshaping financial institutions, financial markets, and the financial system today.
- Better understand how the problems that the financial system faces today may well affect its future, leading to a new and different financial marketplace of the future.

3.0   MAIN CONTENT

3.1   Definition of Capital Markets

Capital markets are financial markets for the buying and selling of long-term debt or equity-backedsecurities. These markets channel the wealth of savers to those who can put it to long-term productive use, such as companies or governments making long-term investments Financial regulators, such as the UK's Bank of England(BoE) or the U.S. Securities and ExchangeCommission (SEC), oversee the capital markets in their jurisdictions to protect investors against fraud, among other duties. The Nigerian Securities and Exchange Commission also perform the same function

3.1.1   Modern Capital Market and Electronic Trading System

Modern capital markets are almost invariably hosted on computer-based electronic trading systems; most can be accessed only by entities within the financial sector or the treasury departments of governments and corporations, but some can be accessed directly by the public. There are many thousands of such systems, most serving only small parts of the overall capital markets. Entities hosting the systems include stock exchanges, investment banks, and government departments. Physically the systems are hosted all over the world, though they tend to be concentrated in financial centres like London, New York, Hong Kong, Lagos and Abuja. Capital markets are defined as markets in which money is provided for periods longer than a

year. key division within the capital markets is between the primary markets and secondary markets. In primary markets, new stock or bond issues are sold to investors, often via a mechanism known as underwriting. The main entities seeking to raise long-term funds on the primary capital markets are governments (which may Federal, State or Local government) and business enterprises(companies). Governments tend to issue only bonds, whereas companies often issue either equity or bonds. The main entities purchasing the bonds or stock include pension funds, hedge funds, sovereign wealth funds, and less commonly wealthy individuals and investment banks trading on their own behalf.

In the secondary markets, existing securities are sold and bought among investors or traders, usually on an exchange, over-the-counter, or elsewhere. The existence of secondary markets increases the willingness of investors in primary markets, as they know they are likely to be able to swiftly cash out their investments if the need arises.

A second important division falls between the stock markets (for equity securities, also known as shares, where investors acquire ownership of companies) and the bond markets (where investors become creditors).

The money markets are used for the raising of short term finance, sometimes for loans that are expected to be paid back as early as overnight and, on the whole, not later than one year. On the other hand, the capital markets are used for the raising of long term finance, such as the purchase of shares, or for loans that are not expected to be fully paid back for at least a year.

Funds borrowed from the *money markets* are typically used for general operating expenses, to cover brief periods of illiquidity. For example a company may have inbound payments from customers that have not yet cleared, but may wish to immediately pay out cash for its payroll. When a company borrows from the primary *capital markets*, often the purpose is to invest in additional physical capital goods, which will be used to help increase its income. It can take many months or years before the investment generates sufficient return to pay back its cost, and hence the finance is long term.

Together, money markets and capital markets form the **financial markets** as the term is narrowly understood. The capital market is concerned with long term finance. In the widest sense, it consist of a series of channels through which the savings of the community are made available for industrial and commercial enterprises and public authorities

3.1.2 Difference between regular bank lending and capital markets

Regular bank lending is not usually classed as a capital market transaction, even when loans are extended for a period longer than a year. A key difference is that with a regular bank loan, the lending is not securitized (i.e., it doesn't take the form of resalable security like a share or bond that can be traded on the markets). A second difference is that lending from banks and similar institutions is more heavily regulated than capital market lending. A third difference is that bank depositors and shareholders tend to be more risk averse than capital market investors. The previous three differences all act to limit institutional lending as a source of finance. Two additional differences, this time favoring lending by banks, are that banks are more accessible for small and medium companies, and that they have the ability to create money as they lend. In the 20th century, most company finance apart from share issues was raised by bank loans. But since about 1980 there has been an ongoing trend for disintermediation, where large and credit worthy

companies have found they effectively have to pay out less in interest if they borrow direct from capital markets rather than banks. The tendency for companies to borrow from capital markets instead of banks has been especially strong in the US. According to Lena Komileva writing for *The Financial Times*, Capital Markets overtook bank lending as the leading source of long term finance in 2009 - this reflects the additional risk aversion and regulation of banks following the 2008 financial crisis.

3.1.3 Examples of capital market transactions

When a government wants to raise long term finance it will often sell bonds to the capital markets. In the 20th and early 21st century, many governments would use investment banks to organize the sale of their bonds. The leading bank would underwrite the bonds, and would often head up a syndicate of brokers, some of whom might be based in other investment banks. The syndicate would then sell to various investors. For developing countries, a multilateraldevelopment bank would sometimes provide an additional layer of underwriting, resulting in risk being shared between the investment bank(s), the multilateral organization, and the end investors. However, since 1997 it has been increasingly common for governments of the larger nations to bypass investment banks by making their bonds directly available for purchase over the Internet. Many governments now sell most of their bonds by computerized auction. Typically large volumes are put up for sale in one go; a government may only hold a small number of auctions each year. Some governments will also sell a continuous stream of bonds through other channels. The biggest single seller of debt is the US Government; there are usually several transactions for such sales every second, which corresponds to the continuous updating of the US real time debt clock.

A company raising money on the primary markets

When a company wants to raise money for long term investment, one of its first decisions is whether to do so by issuing bonds or shares. If it chooses shares, it avoids increasing its debt, and in some cases the new shareholders may also provide non monetary help, such as expertise or useful contacts. On the other hand, a new issue of shares can dilute the ownership rights of the existing shareholders, and if they gain a controlling interest, the new shareholders may even replace senior managers. From an investor's point of view, shares offer the potential for higher returns and capital gains if the company does well. Conversely, bonds are safer if the company does poorly, as they are less prone to severe falls in price, and in the event of bankruptcy, bond owners are usually paid before shareholders.

When a company raises finance from the primary market, the process is more likely to involve face-to-face meetings than other capital market transactions. Whether they choose to issue bonds or shares, companies will typically enlist the services of an investment bank to mediate between themselves and the market. A team from the investment bank often meets with the company's senior managers to ensure their plans are sound. The bank then acts as an underwriter, and will arrange for a network of brokers to sell the bonds or shares to investors. This second stage is usually done mostly through computerized systems, though brokers will often phone up their favored clients to advise them of the opportunity. Companies can avoid paying fees to investment banks by using a direct public offering, though this is not a common practice as it incurs other legal costs and can take up considerable management time.

3.2   The Money and Capital Markets

The money and capital markets that we see today will soon be very different as the financial marketplace continues to transform. Vast changes now under way within the financial system will demand that we continue to study the money and capital markets throughout our lives for our own personal benefit and for greater understanding.

3.2.1 Financial Forces Reshaping the Money and Capital Markets

One of the most important changes currently sweeping through the financial system is "financial innovation", that is, the development of new financial services and instruments. Every year, new financial services and instruments expand rapidly in variety and volume. Home equity credit lines, international mutual funds, currency and interest rate swaps, and loan securitization and many other financial services and instruments emerge in the market. Moreover, rapidly growing service innovation has brought with it service proliferation as each financial institution expands the menu of services it is willing to offer customers.

One of the causes of the on-going rush to innovate and develop new services and techniques is the rise of intense competition among financial service providers. Banks, insurance companies, securities dealers, mutual funds, and thrift institutions are locked in an intense struggle for the customers' business in a way that has never been seen in the history of competition around the world. Many of the financial institutions are engaged in mergers and acquisitions aimed at creating financial giants out of numerous smaller financial service providers – giant service companies that can more effectively compete and win greater shares of the financial services marketplace.

3.2.2 The Effect of Deregulation

The rapid rise of intense competitive rivalry has been fueled, in part, by "deregulation." Governments around the world in Africa, the United States of America, Europe and Japan, are freeing the financial sector from many government rules. As government regulations are lightened or eliminated entirely, the private market becomes more and more important in shaping how financial service providers compete and perform in order to serve the general public. Financial services competition is increasingly taking the place of government rules in the hope that the public will benefit in terms of more convenient services at lower cost.

The expanding competitive struggle in a deregulated financial marketplace has given rise not only to new services and new financial instruments but also to new types of financial institutions;large multiproduct, multi-market , technologically sophisticated, sales-oriented organizations that are designed to weather the risks inherent in today's volatile financial market place. More and more financial institutions look alike, offering the same services and organized in much the same way. Traditional distinctions between one type of financial-service institution and another are becoming hopelessly blurred. This process of "homogenization" is creating a real challenge for marketing professionals trying to convince the public that their particular financial institution is really different from its rivals.

More financial institutions are establishing inter-state operations and expanding their marketing programmes to cover whole regions and, in many instances, the whole globe (usually referred to as "globalization"). The results are falling geographic barriers to international competition and strong pressure to consolidate smaller financial-services institutions into larger ones. More financial institutions are becoming stockholder-owned corporations in order to open up new sources of capital to fund their expansion. Under intense competitive pressure and rising costs, the number of independently owned financial institutions is declining, victims of merger or, in some cases, failure.

3.2.3   Broadening of the Financial Markets

Financial markets that have traditionally been local in character are expanding to become regional, national, and even international in scope. This "market broadening" reflects recent advances in communications technology. Such breakthroughs offer the prospect of reducing service delivery costs, improving employee productivity, bringing new financial services on line more rapidly, and expanding the effective marketing area for both old and new services. Today, many commercial and consumer loans are traded in national and international markets, providing new sources of liquidity for financial institutions making these loans and improving the availability of credit to the public.

As new financial-service markets develop, businesses and governments will have less reason to borrow from traditional financial intermediaries and more reason to sell debt and equity securities directly to investors in the open market. Indeed, the role of the traditional financial intermediary in the channeling of savings into investment is shrinking somewhat. Moreover, the development of a market for securitized assets –pools of loans – allows almost any large firm with a strong market reputation to package its loans and issue new securities against them, thereby generating more cash to make new loans and investments. Thus, there is less need for traditional loans from traditional financial institutions, although many banks and insurance companies have learned that they can benefit from this trend by selling advice on how to standby credit guarantees in case something goes wrong.

3.3   Internationalization of Business Activities

Development looms on the horizon for Eastern Europe and the nations that make up the former Soviet Union now that the Cold War is over. Huge amounts of venture capital and funding for education are desperately needed in Russia and the other nations that once belonged to the old War Saw Pact in order to improve their standard of living and to retain their workers in an effort to reduce high rates of employment and modernize production methods.

3.3.1   Internationalization and Advancement in Communications

As internationalization proceeds with continuing advances in communications technology, there will be a whole range of benefits for the financial system and the public. More savings and investment opportunities will be opened. Investing in foreign corporations and institutions may eventually become less risky because more information will be available on their financial condition, and the markets serviced by these institutions will be better known and better understood. The result should be a more efficient allocation of scarce resources and increases in the real output of goods and services. Arbitrage opportunities due to discrepancies in prices between markets should be less frequent and shorter in duration.

However, increasing globalization of the financial and economic system will not be without its cost. Economic conditions within any one nation will become increasingly sensitive to foreign developments and harder for domestic policy makers to control or influence. Confirmation of security trades (clearing) and getting proper payment and timely delivery of securities bought and sold (settlement) will be made challenging in a globalized financial system, at least until advances in communications technology and international cooperation among governments and regulatory agencies catch up with rapidly advancing globalization.

3.3.2 Dealing with Risk in the Financial System: (Ensuring the Strength and Viability of Financial Institutions)

The money and capital markets and the financial institutions that operate within them depend heavily on public confidence. The financial system works to channel scarce loanable funds (credit) to their most productive uses only if individuals and businesses are willing to save and trust those savings to financial institutions, and only if other businesses and individuals are willing to rely on the financial system to provide credit to support their consumption and investment. When any financial institution develops serious problems that reach public notice, public confidence in other financial institutions may be damaged as well. The result can be a smaller flow of savings through all financial institutions and restrictions on the availability of credit. Jobs and economic growth could be adversely affected.

The Consequences of Reduced Public Confidence

Many members of the public regard financial institutions as less secure today than in the past, especially in the wake of failing banks, securities firms, and other financial institutions in a number of countries around the world. These failures appear to have contributed to a decrease in public confidence in the financial system in some markets. Financial service customers today appear to be more sensitive to the risk of losing their funds and are, therefore, less loyal in dealing with any one financial institution. Financial service reliability has become as important as price to many customers today.

Loss of public confidence not only produces adverse consequences for individual institutions but also damages the efficiency of financial market processes. A flight of funds from financial institutions reduces their size, threatening to make them less efficient in using resources. That portion of the public continuing to rely on the financial system is forced to pay higher prices for financial services that may be less in quantity and inferior in quality.

4.0   CONCLUSION

In this unit we learnt that capital markets are financial marketsfor the buying and selling of long-term debt or equity-backed securities. These markets channel the wealth of savers to those who can put it to long-term productive use, such as companies or governments making long-term investments Financial. Modern capital markets are almost invariably hosted on computer-based electronic tradingsystems; most can be accessed only by entities within the financial sector or the treasury departments of governments and corporations, but some can be accessed directly by the public.

5.0   SUMMARY

Capital markets are defined as markets in which money is provided for periods longer than a year. key division within the capital markets is between the primary markets and secondary markets. In primary markets, new stock or bond issues are sold to investors, often via a mechanism known as underwriting. The main entities seeking to raise long-term funds on the primary capital markets are governments (which may Federal, State or Local government) and business enterprises (companies). In the secondary markets, existing securities are sold and bought among investors or traders, usually on anexchange, over-the-counter, or elsewhere.

The money markets are used for the raising of short term finance, sometimes for loans that are expected to be paid back as early as overnight, but not longer than one year. The capital markets,on the other hand, are used for the raising of long term finance, such as the purchase of shares, or for loans that are not expected to be fully paid back for at least a year. The existence of secondary markets increases the willingness of investors in primary markets, as they know they are likely to be able to swiftly cash out their investments if the need arises.

6.0   TUTOR-MARKED ASSIGNMENT

*   Explain the difference between the capital markets and the money markets

*   Explain to an investor who is interested in long-term investment where he should
        Go and why

7.0   REFERENCE/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003).Money and capital market. McGraw Hill/Irwin, A Business Unit of The
McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004) Investment Decisions, Concepts, Analysis and Management
Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

BFN403   CAPITAL MARKET AND PORTFOLIO THEORY   MODULE 1

UNIT 2   THE INVESTMENT SETTING   MODULE 1

CONTENTS

1.0 Introduction
2.0 Objectives
3.0 Main Content
        3.1 What Investment Means
                3.1.1   How Investment Alternatives Compare
                3.1.2   Common Stock and Inflation

0.0   INTRODUCTION

Investment has many facets. It may involve putting money into bonds, Treasury bills, or notes, or common stock, or paintings, or real estate, or mortgages, or oil ventures, or cattle, or the theatre. It may involve speculating in bull markets or selling short in bear markets. It may involve choosing growth stocks, or blue chips or defensive stocks or income stocks.

1.0   OBJECTIVES

At the end of this unit, the student should be able to:
*	Give the true definition of security analysis
*	Understand how inflation affects common stock value
*	Know different types of common stock

3.0   MAIN CONTENT

3.1   What Investment Means

Investment could mean buying 100 shares of Coca Cola at N10 per share, and watching it appreciate over a few years and be able to sell them and make capital gain. It could mean buying Xerox shares at N20 per share and seeing it grow to N35 per share. When stock prices appreciate, the investors make capital gain and when prices fall he investor suffers losses of capital loss.

3.1.1 How Investment Alternatives Compare

Every investment is a balancing of objectives and purposes. A very safe investment may not provide protection against inflation. An inflation resistant investment may not provide liquidity. And there is still an on-going debate over the risk-return trade off

It has been widely assumed that the higher the risk undertaken in an investment, the more ample the return and, conversely, the lower the risk, the more modest the result. But recent research has shown that this is often not the case. Different investment media fit different investment objectives but the fit is seldom perfect. The average investor seeks a safe, inflation resistant investment, which provides a good return, with capital gains opportunities, but which can be liquidated quickly if necessary.

3.1.2   Common Stock and Inflation

To most individuals, investment means buying common stock. There are several reasons why this is so.
First, the bull market in the 1980 provided substantial capital gains for many of those in the market.
In fact, over a longer period, a study conducted by the Centre for Research in Security Prices of the University of Chicago found that anyone who had invested in common stock broadly from 1980 on and had held through 1987 would have realized an average annual rate of return compounded annually.

3.1.3   Common Stock Hedge

How effective has the common stock hedge been over the long run? A study by the Anchor corporationChicago, U.S.A. indicated that living costs rose in 62 percent of the one-year period since 1980 and in 66 percent of the ten-year period. When longer periods were tabulated, it was found that living costs increased in 73 percent of the 15-year period, 80 percent of the 20 –year period, and in 95 percent of the 30-yearperiod. Whether they had invested for one year or longer, investors have had inflation in store for them more than half the time since 1982. Over 20-year span they have experienced inflation three quarters of the time; over 30-year span nearly all the time.

3.2   Types of Common Stock

There is a diversity in common stock which extends not only to industry and to company but to type of stock as well. In the loose and flexible language of the street, it is customary to speak of blue chip stocks, of growth stocks, of cyclical stocks, of income stocks, of defensive stocks, and of speculative stocks. Lines of demarcation between types are not precise and clear, but investors have a general notion of what is meant by each of these imprecise categories.

3.2.1   Blue Chip Stocks

Blue chip stocks are high-grade investment quality issues of major companies which have long and unbroken records of earnings and dividend payments. Stocks such as American Telephone

and Telegraph, and Liver Brothers in Nigeria are generally considered "blue chips."The term is used to describe the common stock of large, well-established, stable, and mature companies of great financial strength. The term was originally derived from Poker Card Game where blue chips (in contrast with white and red chips) had the greatest money value.

The ability to pay steady dividends over bad years as well as good for a long period is, of course, an indication of financial stability. Some of the "blue chips" of yester-years have fallen from greatness.
What constitutes a blue chip does not change over time but the stocks that qualify as blue chips do change from time to time.

3.2.2   Growth Stocks

Many of the blue chips may also be considered growth stocks. A growth stock is the stock of a company whose sales and earnings are expanding faster than the general economy and faster than the average for the industry.   The company is usually aggressive, research-minded, paying dividends but plowing back enough earnings to facilitate expansion.

Growth stocks are usually quite volatile. They go up faster and farther than other stocks, but at the first hint that the high rate of earnings is either leveling off or not being sustained, prices can come tumbling down. For example, Texas instrument, a high-flying growth company of the late 1970s saw its earning fall from N300 million in 1970 to about N80 million in 1975.

3.2.3   Different Criteria for Measuring Growth Stock

Some prominent American fastest growing companies use somewhat different criteria to measure growth stock. Under this method, a company is listed as growth stock company if its annual profits per shared have grown without interruption over the most recent three years at a minimum compound rate of 10 percent a year and if there is evidence of continued growth at the time of listing. A company is removed from the list (a) when profits in any 12-month period decline more than 10 percent from its most recent fiscal year period or when a reliable forecast reveals that such a decline is in prospect or   (b) if annual growth in earnings over the most recent two years averages less than 5 percent and growth in the latest reporting is less than 10 percent over the like period of the prior year.

3.3   Income Stocks

Some people, particularly the elderly and retired, buy stock for current income. While in recent years stocks have yielded less, on the average, on current dividends, than bonds or the return on savings accounts. There are also some stocks which may be classified as income stocks because they pay a higher than average return. Income stocks are those that yield generous current

returns. They are often sought by trust funds, pension funds, university and college endowment funds, and charitable educational and health foundations.

Selecting income stocks can be a very tricky business. The stock can be paying high return because price has fallen due to the fact that there is considerable uncertainty as to whether the dividend can be maintained in the light of declining earnings or the stock may be that of a lackluster company in an unpopular industry, with little future.

3.3.1. Cyclical Stocks

Cyclical shares, in Wall Street terminology, refer to stocks of companies whose earnings fluctuate with the business cycle and are accentuated by it. When business conditions improve, the company's profitability is restored and enhanced. The common stock price rises. When conditions deteriorate, business for the cyclical company falls off sharply, and profits diminish greatly.

Industries which may be regarded as cyclical include steel, cement, paper, machinery and machine tools, airlines, railroads and railroad equipment, and automobiles.

3.3.2 Defensive Stocks

At the opposite pole from cyclical stocks are the so-called defensive stocks. Defensive stocks are shares of a company which is likely to do better than average, from an earnings and dividends point of view, in a period of deteriorating business cycle . If a recession is anticipated, a growing interest tends to develop in certain recession-resistant companies. While such stocks lack the glamour of the fallen market leaders, they are characterized by a degree of stability desirable when the economy faces a period of uncertainty and decline.

Utility stocks are generally regarded as defensive since their slow (5 to 7 percent) but steady growth rate tends to hold up in recession years as well as in boom years. They are, however, very sensitive to interest rate changes. They fall in price if interest rates rise sharply, and, on the other hand, they increase in price if interest rates decline.

In addition to the electric and gas utilities, the shares of gold mining companies have tended to be effective defensive issues. The price of gold either rises or remains stable during recessions, while the cost of mining may decrease due to lower costs. Also, the market demand for gold seems to hold up or even increase. Other defensive issues are found among companies whose products suffer relatively little in recession periods. These include shares in companies producing tobacco, snuff, soft-drinks, candy bars and other staples. Also, companies that

provide the essentials of life, particularly food and drugs tend to hold up well. Packaged foods and grocery chain companies are good examples.

3.3.3 Speculative Stock

Speculation can be defined as a transaction or business that leaves its profit to chance and luck. That is a conjectural transaction with no certainty of profit. In this sense, it means that all common stock investments are speculative business. When you buy shares you have no promise, no certainty that the funds you will receive ultimately when you sell the stock will be more, less or the same as the dollars or Naira you originally paid.

Yet in the accepted parlance of the street, speculative shares or speculative stocks have a more limited or restrictive meaning. High-flying glamour stocks are speculative. Likewise, hot new issues and penny mining stocks are speculative. Other types can be identified as they come and go from time to time. Some are easy to identify and others are quite difficult to analyze and classify.

4.0   CONCLUSION

We have discussed in this unit that investment may involve putting money into bonds, Treasury bills, or notes, or common stock or real estate. The basic objective in any form of investment is to earn more profit or to increase your wealth. We also noted that all investments are a balancing of objectives and purposes. A very safe investment may not provide protection against inflation. An inflation-resistant investment may not provide liquidity in times of need.
Common stock can be categorized as blue chip stocks, growth stocks, cyclical stocks, income stocks, defensive stocks and speculative stocks.

5.0   SUMMARY

This unit has looked at what investment stands for – putting money into shares, stocks and real estate with a view to earning future profits. The student has been taught that most investments involve risks since one cannot be sure today what the earnings will be tomorrow. Common stock can be broken into many types and each time has its own peculiar characteristics.

6.0   TUTOR-MARKED ASSIGNMENT

*   All investments are a balancing of objectives and purposes. Explain this statement.
*   What are the outstanding qualities of a blue chip firm?

7.0 REFERENCE/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004) Investment Decisions, Concepts, Analysis and Management

BFN403   CAPITAL MARKET AND PORTFOLIO THEOR   MODULE 1

UNIT 3   INVESTMENT RETURN

CONTENTS

1.0   Introduction
2.0   Objectives
3.0   Main Content
        3.1 The Concept of Return
                3.1.1   Components of Return
                3.1.2   Current Income
                3.1.3   Capital Gains (or Losses)
        3.2 Why Return is Important
                3.2.1   Historical Performance
                3.2.2   Expected Return
                3.2.3   Level of Return
        3.3 The Time Value of Money
                3.3.1   Interest: The Basic Return to Savers
                3.3.2   Compound Interest
4.0   Conclusions

1.0   INTRODUCTION

When you go shopping for clothing materials, you will naturally go to the store and inspect and possibly try out the materials. But when you invest in a company, there is nothing to sample or try out physically. It is difficult to find out exactly the risks associated with the stock you have just bought from a company. In this unit we are going to study returns on the investment you make and the risks associated with investments.

2.0   OBJECTIVES

After studying this unit, you should be able to:

*   Understand the concept of Return and Risks on Investments
*   How to calculate Capital Gains and Capital Losses on your Investments

3.0   MAIN CONTENT

3.1   The Concept of Return

When we mention the word "Return", we mean the level of profit from an investment, that is, the reward for investing. Investors are motivated to invest in a given instrument by its expected return. Suppose you have N1,000 in a savings account paying 5 per cent annual interest, and a business associate asks you to lend him that amount of money. If you lend him that money for one year, at the end of which she pays you back, your return will depend on the amount of interest you charged him. If you gave him the money as an interest-free loan, your return will be zero. If you charged him 5 per cent interest, your return will be N50, that is, (0.05 x N1,000)

Note that some investment instruments guarantee a return without failure, others do not.
For example, if you deposit N1,000 in the savings account of a large and strong commercial bank, your return can be viewed as certain since such strong bank is unlikely to go bankrupt over a short period. But if you lend the same amount of money to your business associate, your return might be less certain. Because your business associate might run into financial difficulty and be unable to pay you the interest charge and sometimes even the principal sum.

3.1.1   Components of Return

The return on an investment may come from more than one source. The most common source is periodic payments such as dividends or interest. The other source of return is appreciation in the

value of your investment instrument, that, is the gain from selling an investment instrument for more than its original purchase price. We will call these two sources of return "current Income" and "capital Gain" respectively.

3.1.2 Current Income

Current income may take the form of dividends from stocks, interest received on bonds, rent received from real estate, and so on. To be considered to be an income, it must be received in the form of cash or be readily convertible into cash. For our purpose, current income is usually cash or near-cash that is periodically received as a result of owning an investment.

3.1.3 Capital Gains (or Losses)

The second type of return is concerned with the change in the market value of an investment. Investors pay a certain amount for an investment, from which they expect to receive, not only current income but also the return of the invested funds sometime in the future. The amount by which the proceeds from the sale of an investment exceed its original purchase price is called a "capital gain." In the contrary, if an investment is sold for less than its original purchase price, we have what is called "capital loss."

3.2 Why Return is Important

Return is a key variable in the investment decision: It allows us to prepare the actual or expected gains provided by various investments with the levels of return we need to be fairly compensated for the risks involved. For example, you would be satisfied with an investment that earns 12 per cent if your original expectation is that it should earn at least 10 per cent.
Conversely, you will not be satisfied with an investment that 15 per cent return if your original anticipation is that it should earn at least 20 per cent return. Return can be measured in a historical sense or it can be used to formulate future expectations.

3.2.1 Historical Performance

Although most people recognize that future performance is not guaranteed by past performance, they would agree that past data often provide meaningful basis for formulating future expectations. A common practice in the investment world is to look closely at the historical performance of a given instrument when formulating expectations about its future.
Because interest rates and other measures of financial return are most often cited on an annual basis, evaluation of past investment returns is typically done on the same basis.

3.2.2 Expected Return

In the final analysis, it is the future that matters when we make investment decisions. Expected return is a vital measure of performance. It is what you think the investment will earn in the future (in terms of current income and capital gains) that determines what you should be willing to pay for it.

To project future returns, we need insights into the investment prospects. If the trend in returns as recorded historically over a given range of years (say from 2005 to 2008) continued to rise, an expected future return in the range of 12 per cent to 15 per cent for 2012 to 2016 would be reasonable. On the other hand, if future prospects seem poor, or if the investment is subject to cycles, an expected return of 8 per cent to 10 per cent may be a more reasonable estimate.

3.2.3   Level of Return

The level of return achieved or expected from an investment will depend on a variety of factors. The key factors are internal characteristics and external forces.

Internal Characteristics: Certain characteristics of an investment affect its level of return. Examples include the type of investment instrument, the quality of management, the way the investment if financed and the customer base of the issuer. For example, the common stock of a large and well-managed company would be expected to provide a level of return higher from that of a small and poorly managed firm. Assessing internal factors and their impact on return is one important step in analyzing potential investments.

External Forces: External forces such as Federal Reserve actions, shortages war, price controls, and political events may also affect the level of return. None of these is under the control of the issuer of the investment instrument. Because investment instruments are affected differently by these factors, it is not unusual to find two instruments with similar internal characteristics offering significantly different returns. As a result of the same external force, the expected return from one instrument may increase, whereas that of another decreases. Likewise, the economies of various countries respond to external forces in different ways.

Another external force is the general level of price changes, either upwards caused by "inflation" or downwards caused by "Deflation." Inflation tends to have a positive impact on certain types of investment instruments, such as real estate, and a negative impact on others, such as stocks and fixed income securities. Rising interest rates, which normally accompany increasing rates of inflation, can significantly affect returns

3.3   The Time Value of Money

Imagine that Mr. Andrew who is 25 years of age begins making annual cash deposits of N1,000

Into a savings account that pays 5 per cent annual interest. After 40 years, that is at the age of 65 years, Mr. Andrew would have made deposit totaling N40,000, that is, (40 years x N1,000 per year). Assuming Mr. Andrew made no withdrawals, what do you think Mr. Andrew's account balance would be? Will it be N50,000, N75,000? Or N100,000? The answer is none of the above. Mr. Andrew's N40,000 would have grown to nearly N12,000. Why? Because the time value of money allows the deposits to earn interest that is compounded over the 40 years.

Time Value of Money refers to the fact that as long as an opportunity exists to earn interest, the value of money is affected by the point in time when the money is expected to be received.

Because opportunities to earn interest on funds are readily available, the sooner you receive a return on a given investment, the better.

3.3.1   Interest: The Basic Return to Savers

A savings around at a bank is one of the most basic forms of investment. Then saver receives interest in exchange for placing idle funds in an account. Interest can be viewed as a "rent" paid by a borrower for the use of the lender's money. The saver will experience neither a

capital gain nor a capital loss, because, the value of the investment (the initial deposit) will increase only by the amount of interest earned.

Simple interest: The income paid on such instruments as Certificates of Deposit (CDs), bonds, and other forms of investment that pay interest is most often calculated using the simple interest method: Interest is paid only on the initial deposit for the amount of time it is held.

For example, if you hold a N100 initial deposit in an account paying 6 per cent interest per annum, you will earn N6 interest at the end of the year, that is (1 yr x 0.06 N100).

Using the simple interest method, the stated rate of interest is the true rate of interest (or return), which is, the actual rate of interest earned. In our example, the true rate of interest is 6 per cent. Because the interest rate reflects the rate at which current income is earned regardless of the size of the deposit, it is a useful measure of current income.

3.3.2   Compound Interest

Compound interest is paid not only on the initial deposit but also on any interest accumulated from one period to the next period. This is the method usually used by savings institutions. When interest is compounded annually over a single year, compound interest and simple interest provide similar results. In this case the stated interest rate and the true interest rate are equal. Note that this is only in the first year. In subsequent years, the interest earned in the first year is compounded or added to the principal and both of them earn interest on the stated rate of interest.

4.0   CONCLUSION

In this unit we dealt with returns on investment instruments. We noted that return means the level of profit from an investment, that is, the reward for investing. What motivates an investor to invest in a given instrument is the expected return. We also talked about the current income and capital gains (or losses).

5.0 SUMMARY

This unit clearly demonstrates that it is only one factor that motivates investors to invest in instruments. That single factor is the expected return from the investment. Return on investment comes from sources such as dividend and interest payment. Return can also be earned from capital gain, that is when we sell an investment instrument for more than its original purchase price.

6.0 TUTOR-MARKED ASSIGNMENT

* Discuss what you understand by "current Income"
* Why is return so important in investment practice?

7.0 REFERENCE/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004) Investment Decisions, Concepts, Analysis and Management
Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

BFN403   CAPITAL MARKET AND PORTFOLIO THEORY   MODULE 1

UNIT 4   RISKS ON INVESTMENTS

CONTENTS

1.0   INTRODUCTION

The investment coin has two sides like any other coil. One side represents the earning of returns and the other side embodies the risks and dangers of not realizing our investment expectations. In essence, we cannot consider return without also looking at risk, the chance that the actual return from an investment may differ from what is expected. In this unit, we shall consider the various types of risks in different investment instruments.

2.0   OBJECTIVES

After studying this unit, the student will be familiar with:

*   The relationship between risk and return called the "Risk-Return Trade-off"
*   Various risks associated with different investment instruments

3.0   MAIN CONTENT

3.1   The Concept of Risk

As earlier mentioned, we cannot consider return without also looking at risk, the chance that the actual return from our investment may differ from our expectation. The risk associated with a given investment is directly related to its expected return. In general, the broader the range of possible returns associated with a given investment, the greater its risk, and vice versa.
Expressed in another way, riskier investments tend to provide higher levels of return or the higher the risk the higher the reward. Otherwise, why would an investor risk his capital?

In general, investors attempt to minimize risk for a given level of return or to maximize return for a given level of risk. This relationship between risk and return is usually referred to as the "risk-return trade-off."

3.1.1   Sources of Risk

The risk associated with certain investment instrument may result from a combination of a variety of possible sources. A Prudent investor considers how the major sources of risk might affect potential investment instruments. Of course, currency exchange rate should also be considered when investing internationally.

3.1.2   Business Risk

In general, business risk is concerned with the degree of uncertainty associated with the earnings of an investment and the ability of that investment to pay interest, principal, dividends, and any other returns owed investors. For example, a business firm may experience

poor earnings and, as a result fail to pay investors fully. In this case, business owners may receive no return if earnings are not adequate to meet obligations. Debt holders, on the other hand, are likely to receive some, but not necessarily all, of the amount owed them, because of the preferential treatment legally accorded to debt instrument holders.

Much of the business risk associated with a given investment instrument is related to its kind of business. For example, the business risk of a public utility common stock differs from that of a high-fashion clothing manufacturer. Generally, investments in similar kinds of firms have similar risk although differences in management, costs, and location.

3.1.3 Financial Risk

The degree of uncertainty of payment attributable to the mix of debt and equity used to finance a firm or property is financial risk. The larger the proportion of debt used to finance a firm or property, the greater its financial risk. Debt financing obligates the firm to make interest payments as well as to repay the debts, thus increasing the firm's risk. These fixed-payment obligations must be met before the distribution of any earnings to the owners of such firms or properties. Inability to meet obligations associated with the use of debt could result in business failure and in loss for bond-holders as well as for stock-holders.

3.2 Purchasing Power Risk

The chance that changing price levels within the economy (inflation or deflation) will adversely affect investment returns in purchasing power risk. Specifically, this risk is the chance that generally rising prices (inflation) will reduce purchasing power, that is, the amount of a given commodity that can be purchased with Naira. For example, if last year one Naira could buy ten oranges. This year, if orange sellers start selling ten oranges for N2, it means that N1 can buy only five oranges this year. In period of rising price levels, the purchasing power of the Naira decreases and vice versa.

In general, investments whose values move with general price levels have low purchasing power risk and are most profitable during periods of rising prices. Those that provide fixed returns have high purchasing power risk and are most profitable during periods of declining price levels or low inflation. The returns on real and tangible personal property investments, for example, tend to move with the general price level, whereas returns from deposit accounts and bonds do not.

3.2.1 Interest Rate Risk

Securities are especially affected by interest rate risk. This is particularly true for those securities that offer purchasers a fixed periodic return. Interest rate risk is the chance that changes in interest rates will adversely affect the value of a security. The interest rate changes themselves result from changes in the general relationship between the supply of and the demand for money. As interest rates change, the prices of many securities fluctuate. They decrease with increasing interest rates, and increase with decreasing interest rates. . The price of fixed income securities, such as, bonds and preferred stock drop when interest rates rise.

They thus provide purchasers with the same rate of return that would be available at prevailing rates. The reverse is the case when interest rates fall.

The other aspect of interest rate risk is related to investing in short-term securities such as Treasury bills, certificates of deposit, commercial paper, and bankers' acceptances.
Some investors include these securities in their portfolios rather than investing in long-term securities. Investors face the risk that when short-term securities mature, their proceeds may have to be invested in lower yielding, new short-term securities. By initially making a long-term investment, you can lock-in a return for a period of years rather than face the risk of declining the returns from a short-term security investment strategy are adversely affected. Most investment instruments are subject to interest rate risk. However, fixed-income securities are most directly affected by interest rate movements followed by other long-term securities such as common stock and property.

3.2.2   Liquidity Risk

Liquidity risk is the risk of not being able to liquidate an investment conveniently and at a reasonable price. The liquidity of a given investment instrument is an important consideration for an investor. In general, investment instruments traded in a thin market, where demand and supply are small, tend to be less liquid than those traded in broad markets.

One can generally sell an investment instrument merely by significantly reducing its price. However, to be liquid, an investment instrument must be easily sold at a reasonable price.

3.2.3   Tax Risk

The chance that the Federal Government will make unfavourable changes in tax laws , driving down the after-tax returns and market values of certain investments. The greater the chance that such changes will drive down the after –tax returns and market values of certain investments, the greater the tax risk. Undesirable changes in tax laws include elimination of tax exemptions, limitation of deductions, and increase in tax rates.   Virtually all investments are vulnerable to increases in tax rates, certain investments, such as municipal and other bonds, real estate, and natural resources generally have greater tax risk.

3.3   Market Risk

 Market risk is the risk of a decline in investment returns because of market factors independent of the given security or property investment. Examples of market risk include political, economic, and social events as well as changes in investor tastes and preferences.
Market risk actually embodies a number of different risks; purchasing power risk, interest rate risk, and tax risk.

The impact of market factors on investment returns is not uniform. Both the degree and the direction of change in turn differ among investment instruments. For example, legislation placing restrictive import quotas on foreign automobiles and electronic goods may result in a significant increase in the value of domestic automobiles and electronics. Essentially, market risk is expressed in the price volatility of a of a security. The more volatile the price of a security, the greater its perceived market risk.

3.3.1 Event Risk

Event risk implies the risk that comes from a largely (or totally) unexpected event that has a significant and usually immediate effect on the underlying value of an investment. This risk occurs when something happens to a company or property that has a sudden and substantial impact on its financial condition. Event risk goes beyond business and financial risk. It does not necessarily mean the company or market is doing poorly. Instead, it involves a largely unexpected event that has a significant and usually immediate effect on the underlying value of an investment. Event risk can take many forms and can affect all types of investment instruments.

3.3.2 Components of Risk

The risk of an investment consists of two components. Diversifiable and Non-diversifiable risks. Diversifiable risk, sometimes called unsystematic risk, results from uncontrollable or random events, such as labour strikes, lawsuits, and regulatory actions. Such risk affects various investment vehicles instruments differently. It represents the portion of an investment's risk that can be eliminated through diversification.

Non-diversifiable risk, also called systematic risk, is attributed to forces such as war, inflation, and political events that affect all investments and therefore are not unique to a given instrument. The sum of non-diversifiable risk and diversifiable risk is called total risk.

4.0 CONCLUSION

Under this unit, we discussed risk, that is the chance that the actual return from an investment may differ from what is expected. We made the point that, the risk associated with a given Investment is directly related to its expected return. We have many types of risk and they include; business risk, financial risk, purchasing risk, interest rate risk, etc.

4.0 SUMMARY

The issue of risk is important to every investor because risk affects the returns on investment.

It is sometimes the assumption in investment studies that, the higher the risk in a particular investment instrument, the higher the returns, but that is not always the case. A wise investor thoroughly weighs the risk and returns in each investment move he makes.

6.0 TUTOR-MARKED ASSIGNMENT

*   What do you understand by risk and how does it affect return?
*   Explain what you understand by "Event Risk"?

7.0 REFERENCE/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
        Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
        Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The
        McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004)   Investment Decisions, Concepts, Analysis and Management
        Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

UNIT 1   INVESTING IN COMMON STOCK S

CONTENTS

1.0   Introduction
2.0   Objectives
3.0   Main Content
        3.1 What Stocks Have to Offer
                3.1.1   The Appeal of Common Stocks
                3.1.2   Putting Stock Price Behaviour in Perspective
                3.1.3   From Stock Price to Stock Return
        3.2   The Pros and Cons of Stock Ownership
                3.2.1   Other benefits of Common Stock
                3.2.2   Disadvantages of Holding Common Stock
        3.3 Basic Characteristics of Common Stocks
                3.3.1   Common Stock as a Corporate Security
                3.3.2   Classified Common Stock
4.0   Conclusions
5.0   Summary
6.0   Tutor-Marked Assignment
7.0   Reference/Further Reading

1.0   INTRODUCTION

Investing in common stock is about taking educated risk. It is also about receiving returns, sometimes spectacular ones too. It looks so easy to invest in common stock but it goes with big risk because common stock ownership makes you part owner of the firm and for this reason, you are carrying the most risk. Investors who risk their money in common stock must learn as much as possible about the company in which they are investing and the industry to which it belongs.

2.0   OBJECTIVES

After studying this unit, you will be familiar with

*   Common stocks and dividends payable to common stock holders.
*   Learn something about the characteristics of common stocks

3.0   MAIN CONTENT

3.1   What Stocks have to Offer

The basic investment attribute of common stocks is that they enable investors o participate in the profits of the firm. Every shareholder is a part owner of the firm and, as such, is entitled to a piece of the firm's profit. This claim on income is not without limitations, however, because common stockholders are really the residual owners of the company. That is, they are entitled to dividend income and a share of the company's earnings only after all other corporate obligations have been met. Equally important as residual owners, holders of common stock have no guarantee that they will ever receive any return on their investment.
The challenge, of course, is to find stocks that will provide the kind of return you are looking for. As anyone who has ever purchased stock can attest, it is not really easy to settle at common stock for there are literally thousands of actively traded stocks to choose from.

3.1.1   The Appeal of Common Stocks

Common stocks are a popular form of investing, used by millions of individual investors. Their popularity stems from the fact that they offer investors an opportunity to tailor their investment programmes to meet individual needs and preferences. Given the size and diversity of the stock market, it is safe to say that no matter what the investment objective, there are common stocks to fit the bill. For retired people and others living on their investment holdings, stocks provide a way of earning a steady stream of current income, common stocks can serve as the basis for long-run accumulation of wealth. With this strategy, stocks are used very much like a savings account. Investors buy stock for the long haul as a way to earn not only dividends but also a steady flow of capital gains. These investors recognize that stocks have a tendency to go up in price over time, and they simply position themselves to take advantage of that fact.
Indeed, it is this potential for capital gains that is the real incentive for investment in common stocks. Whereas dividends can provide a steady stream of income, the big returns come from capital gains. And few securities can match common stocks when it comes to capital gains.

3.1.2   Putting Stock Price Behaviour in Perspective

By the special nature of common stock, when the market is strong, investors can generally expect to benefit from steady price appreciation. On the other hand, when the market falters, that is, when the market is weak, stock price will begin to dwindle. The rise and fall characteristic of

the stock market dictated by stock market condition gave rise to the concept of "Bull" and "Bear" situation in the stock market.

Bull Market: The stock market is said to be in bull shape when there is general rise in the price of stocks traded on it. There is active buying and selling, and investors are making money.

Bear Market: The stock market is said to be in bear shape when the general stock price is on the decline. There are not lively transactions and investors are losing money.

3.1.3   From Stock Price to Stock Return

So far, we have centred our discussion on stock prices, but what is even more important to investors is stock returns, which take into account, not only price behaviour, but also dividend income and capital gains.

Generally, when a firm is performing well and earning good profits, the chances are that it will declare high figure of dividend to be paid to common stock-holders. The market price of shares of a high-performing firm will always be on the increase. This means too that stockholders can make capital gains when they sell their stock in the stock exchange market.

3.2   The Pros and Coins of Stock Ownership

One reason why common stocks are so attractive to investors is the substantial return opportunities they offer. Stocks generally provide attractive highly competitive returns over the run. Indeed, common stock returns compare favourably to alternative investment outlets such as long-term corporate bonds and treasury bills.

The special advantage of equity securities (common stocks) is that stock holders are entitled to participate fully in the residual profit of the firm. In good times they earn higher dividends greater than the interest payable to bondholders.

3.2.1   Other Benefits of Common Stock

Common stocks offer some other special benefits. They are easy to buy and sell, and the transaction costs are modest. Moreover, price and market information is widely disseminated in the news and financial media. A final advantage of stock ownership is that the unit cost of share of common is usually within the reach of most individual investors. A final advantage of stock ownership is that the unit cost of share of common stock is usually within the reach of most individual investors. Unlike bonds, which carry minimum denomination of at least N100, N150 or N200 a share and any number of shares, no matter how few, can be bought or sold.

3.2.2   Disadvantages of Holding Common Stock

Looking at the other side of the coin, there are some disadvantages, too, associated with holding common stock. The major disadvantage has to do with risk. Common stocks are subject to a number of different types of risk. These risk include business and financial risk, purchasing power risk, market risk, and possibly event risk. All of these can adversely affect a stock's earnings and dividends, its price appreciation, and, of course, the rate of return earned by an investor.

Even the best of stocks possess elements of risk that are difficult to overcome, because company earning are subject to many factors, including government control and regulation, foreign competition and state of the economy. Because such factors affect sales and profits, they also affect the price behaviour of the stock and even dividends. All of these lead to another disadvantage: The earnings and performance of a stock are subject to wide swings so it is difficult to value common stock adequately.

3.3 Basic Characteristics of Common Stocks

Each share of common stock represents equity (ownership) in a company. Indeed, it is this equity position that explains why common stocks are often referred to equity securities or equity capital. Every share entitled the holder to an equal ownership position and participation in the corporation's earnings and dividends, and equal vote, and equal voice in management. Together, the common stockholders own the company, and the more shares an investor owns, the bigger his or her ownership position. Common stock has no maturity date; I remain s in position and in power indefinitely unless the holder decides to sell it to another investor.

7

3.3.1 Common Stock as a Corporate Security

All business firms (private and public) issue common stock. However, only the common stocks of publicly quoted corporate bodies are traded in the stock market. These are the shares that are readily available to the general public and which are bought and sold in the open market.

Shares of common stock can be issued in several different ways. The most widely used procedure today is the "public offering" of new shares, whereby the corporation, working with an underwriter, offers the investing public a certain number of shares at a certain price. New shares can also be issued using what is known as a "rights offering." In a rights offering, existing shareholders are given the first opportunity to buy the new issues and can purchase new shares in proportion to their current ownership position. For instance, if a stockholder currently owns one per cent of a firm's stock and the firm issues 10,000 additional shares, the rights offering will give that stockholder the opportunity to purchase one percent of 10,000 shares which boils down to 100 shares.

3.3.2 Classified Common Stock

For the most part, all the stockholders in a corporation enjoy the same benefits of ownership. Occasionally, (though not a common feature in the developing countries), a company can issue different classes of common stock, each of which entitles the holder to different privileges and benefits. These issues are known as Classified Common Stock." Hundreds of publicly traded companies, especially in the developed economies, have created such stock classes. Even though issued by the same company, each class of common stock is different in a way.

Classified common stock is customarily used to denote either different voting rights or different dividend obligations. For instance, class A stock could be used to designate non-voting shares, and class B could carry normal voting rights. Ford Motor Company in U.S.A. is known for issuing two classes of common stock (ordinary shares). Class A stock is owned by the investing public, and class B stock is owned by the Ford family . The two classes of stock share equally in the dividends, but class A stock has one vote per share and the voting rights of the class B stock are structured to give the Ford Family a 40 per cent absolute control of the company.

4.0   CONCLUSION

In this unit, we have discussed common stock and what it has to offer investors. We noted that common stock, also referred to as ordinary share or equity share gives the holder ownership right in the firm according to the number of shares each investor holds. An investor in the stock of a firm is interested in the earnings. This earning comes in form of dividend payable to him at the end of every year when the company makes profit. The investor can also benefit from capital through the sale of his shares.

5.0   SUMMARY

Investment in common stock can be said to be the best investment so long as the company is performing profitably. The common stock holder in a well-performing company receives dividend at the end of the year. He can sell his shares to make capital gains, and he has voting right and by voting right, h is indirectly participating in the running of the organization. In good times, the investor makes capital gains out of his shares, and in bad periods he will incur capital losses.

6.O   TUTOR-MARKED ASSIGNMENT

*   Why is the common stock holder referred to as Residual Owner of the company?
*   When can a common stock holder incur capital loss?

7.0   REFERENCE/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The
McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004) Investment Decisions, Concepts, Analysis and Management
Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

BFN403   CAPITAL MARKET AND PORTFOLIO THEORY
MODULE 2

UNIT2   BUYING AND SELLING OF COMMON STOCKS

CONTENTS

1.0   Introduction
2.0   Objectives
3.0   Main Content
    3.1 Buying and Selling of Common Stocks

1.0   INTRODUCTION

In the stock market investors engage in the buying and selling of stocks. The buying and selling of stocks demand that the investor should be familiar with the way stocks are quoted and the costs of executing common stock transactions. This unit will introduce the student to the requirements for successful buying and selling of common stocks.

2.0   OBJECTIVES

After studying this unit, the student should be familiar with :

*   Knowledge and wisdom required for successful buying and selling of common stocks
*   How to determine the "par value" and "book value" of common stocks

3.0   MAIN CONTENT

3.1   Buying and Selling of Common Stocks

Whether buying or selling stocks, investors should be familiar with the way stocks are quoted and with the costs of executing common stock transactions. Certainly, keeping track of current prices is an essential element in the buying and selling decisions of investors. They are the link

in the decision process that lets the investor decide when to buy or sell a stock. They also help investors monitor the market performance of their security holdings. Similarly, transaction costs are important because of the impact they can have on investment returns. Indeed, the costs of executing stock transactions can sometimes consume most (or all) of the profits from an investment. These costs should not be taken lightly.

3.1.1   Reading the Quotes

Investors in the stock market have come to rely on a highly efficient information system that quickly disseminates market prices to the public. The stock quotes that appear daily in the financial press are a vital part of that information system. To see how price quotations work and what they mean, consider the quotes that appear daily in the Financial Times and other Newspapers. These quotes give, not only the most recent price of each stock, but also a great deal of additional information.

3.1.2   Transaction Costs

Common stock can be bought and sold in round or odd lots. A round lot is 100 shares of stock. An odd lot is a transaction involving g less than 100 shares. The sale of 400 shares of stock would be a round lot transaction; the sale of 75 shares would be an odd lot transaction. Trading 250 shares of stock would involve a combination of two round lots and an odd lot.

77

An investor incurs certain transaction costs when buying or selling stock. In addition to some modest transfer fees and taxes paid by the seller, the major cost is the brokerage fee paid by both the buyer and the seller at the time of the transaction. As a rule, brokerage fees amount to one per cent to five per cent of most transactions, though they can go much higher particularly for very small trades. This is so because the purchase or sale of odd lots requires the assistance of a specialist known as an odd-lot dealer. This usually results in an odd-lot differential of 12.5 to 25 kobo per share.

3.2   Common Stock Value

The worth of a share of common stock can be described in a number of ways. Terms such as par value, book value, market value, and investment value are all found in the financial media. Each designates some accounting, investment, or monetary attribute of the stock in question.

3.2.1   Par Value

The term "par value" refers to the stated, or face value of a stock. It is not really a measure of anything, and except for accounting purposes, it is relatively useless. In many ways, par value is

a throwback to the early days of corporate law, when it was used as a basis for assessing the extent of a stockholder's legal liability. Because the term has little or no significance for investors, many stocks today are issued as no-par or low-par stocks, that is, they may have par values of only a penny o two.

3.2.2   Book Value

"Book Value," another accounting measure, represents the amount of stock-holder's equity in the firm. It is commonly used in security analysis and stock valuation. Book value indicates the amount of stockholder funds used to finance the firm. It is calculated by subtracting the firm's liabilities and preferred stock from its assets.

Let us assume that a corporation has N10 million assets, owes N5 million in various forms of short- and long-term debt, and has N1 million worth of preferred stock outstanding. The book value of this firm would be N4 million. This amount can be converted to a per-share basis (book value per share) through dividing it by the number of common shares outstanding. For example, if this firm has 100,000 shares of common stock outstanding, then its book value per share is N40. As a rule, most stocks have market prices that are above their book values.

"Market value" of a stock is one of the easiest stock values to determine. It is simply the prevailing market price of an issue. In essence, market value indicates how the market participants as a whole have assessed the worth of a share of stock. By multiplying the market price of the stock by the number of shares outstanding, we can also find the market value of the firm itself, or what is known as the firm's market capitalization. For example, if a firm has N1 million shares outstanding and its stock trades at N50 per share, the company has a market value (or market cap) of N50 million. Because investors are always interested in an issue's market price, the market value of a share of stock is generally of considerable importance to stockholders as they formulate their investment policies and programmes.

3.2.4   Investment Value

Investment value is probably the most important measure for a stockholder. It indicates the worth investors place on the stock, that is to say, what they think the stock should be trading for. Determining a security's investment worth is a complex process based on expectations of the return and risk behaviour of a stock. Every stock has two potential sources of return. The first one is annual   dividend payments and the second is possible capital gains that could accrue if the stock is sold after the market price of that stock has appreciated.

In establishing investment value, investors try to determine how much money they will make from these two sources and then use that estimate as the basis for formulating the return potential of the stock. At the same time, they try to assess the amount of risk to which they will be exposed by holding the stock. Such return and risk knowledge helps them place an investment

value on the stock. This value represents the maximum price an investor should be willing to pay for the issue.

3.3 The Dividend Decision

By paying out dividends on annual or half-yearly basis, companies share with their stockholders the profits they earn. Actually, the question of how much to pay in dividend is decided by a firm's board of directors. The directors evaluate the firm's operating results and financial condition to determine whether dividends should be paid and, if so, how much. If the directors decide to pay dividends, they also establish several important payment dates.

3.3.1 Corporate Versus Market Factors

When the board of directors assembles for a regular dividend meeting, it weighs a variety of factors in making the dividend decision. First, the board looks at the firm's earnings. Even though a company does not have to show a profit to pay dividends, profits still are considered a vital link in the dividend decision.

With common stocks, the annual earnings of a firm are usually measured and reported in terms of earnings per share (EPS). Basically, EPS translates total corporate profits into profits on a per-share basis and provides a convenient measure of the amount of earnings available to stockholders. Earning per share is found by using the following simple formula:

$$EPS = \frac{\text{Net profit after taxes} - \text{Preferred dividends}}{\text{Number of shares of common stock outstanding}}$$

3.3.2 Components of Risk

Let us assume the directors decide to declare a dividend. They then must indicate the date of payment and other important dates associated with the dividend. Normally, the directors will issue a statement to the press indicating their dividend decision, along with the dividend payment dates. These statements are widely published in the Financial Times and other print media.

Three dates are particularly important to the stockholder: The date of record, ex-dividend date, and payment date. The "date of record" is the date on which the investor must be a registered shareholder of the firm to be entitled to a dividend. These stock holders are usually referred to as "holders of record." When the board specified the date of record, all the investors who are official stock holders of the firm as of the close of business on that date will receive the dividends that have just been declared.

The "Payment date" is also set by the board of directors. Generally, the payment date follows the date of record after one week. The payment date is the actual date on which the firm will mail dividend cheques to holders of record.

Because of the time needed to make book-keeping entries after a stock is traded, the stock will sell on an "ex-dividend" basis for three business days prior to the date of record. That is, the ex-dividend date will dictate whether you were an official shareholder and therefore eligible to receive the declared dividend. If you sell your stock before this date, the new shareholder will receive the recently declared dividend.

4.0   CONCLUSION

In this unit, we studied the process of buying and selling common stocks. We noted that it is advisable for an investor to get familiar with the way stocks are quoted and the costs of executing common stock transactions. We also looked at common stock values and discussed the par value, book value, market value and investment value of common stock.

5.0   SUMMARY

Keeping track of current prices is an essential element in the buying and selling of common stock. Similarly, transaction costs are important because of the impact they can have on investment returns since the ultimate aim of every investor is to earn the highest possible returns. Common stock holders receive dividend on their holdings. They are interested in receiving high figures of dividend hence the way a firm makes investment decision is of interest to them.

6.0   TUTOR-MARKED ASSIGNMEN T

*   Explain the meaning of "par value" and "market value" of common stock
*   How does a publicly quoted firm make dividend decision?

7.0   REFERENCE/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
        Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
        Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004)   Investment Decisions, Concepts, Analysis and Management Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

BFN403   CAPITAL MARKET AND PORTFOLIO THEORY
MODULE 2

UNIT 3   EVALUATION OF COMMON STOCKS

CONTENTS

6.0   Tutor-Marked Assignment
7.0   Reference/Further Reading

1.0   INTRODUCTION

The objective of common stock evaluation is to obtain standards against which prevailing prices of stocks may be judged. It is assumed that investors, as a whole, are essentially rational over

the long run, and that rational individuals attempt to measure the economic, or "going concern" values of the corporations whose stocks they buy and sell. Since there are millions of investors, there will exist vastly different ideas about the value of any given stock at any given time, and purchases and sales of the stock will be made in accordance with this multitude of ideas. Therefore, over an extended period of time, prices will fluctuate in a wide range but they will tend to fluctuate around some consensus of value.

1.0   OBJECTIVES

After studying this unit, the student will be familiar with:

*   How to evaluate common stock
*   The general sources of common stock value
*   Dividend payment and Dividend Growth Prospects

3.0   MAIN CONTENT

3.1   The Sources of Common Stock Value

Readers who ponder over the problem of common stock valuation will realize that a common stock has value for only three possible reasons. First, the ownership of common stock confers a claim to a corporation's net income. This claim bears fruit when the corporation's board of directors declares dividends. Second, if the corporation enjoys growing success, earnings and dividends will rise, and the price of its stock may rise also. The third, and least significant, source of common stock value is that if a corporation is liquidated, the common stock owner has a pro rata claim to any asset value that may remain after all creditors and the preferred stockholders have been paid. This residual claim, therefore, may give the common stock some value. But it is not a very important source of value because an efficiently operating corporation is not usually liquidated. And if it is liquidated because it is not operating efficiently, the asset value is not likely to be high enough to leave much of residual gain for the stockholders.

3.1.1   Dividend and Common Stock Value

When earnings and dividends are put together and considered in the context of common stock value, it gives rise to an interesting question on both a practical and a philosophical plane.

We often hear the argument that dividends are distinctly subordinate to earnings as a determinant of stock values. The evidence offered in support of this argument is the activity of thousands, perhaps millions, of investors whose dominant objective in buying common stock is to sell it to someone else to at a higher price to make capital gain rather than to keep it in order to collect dividends on it.

It is, of course, true that many individual stockholders do not intend to hold their stocks for dividends, ho9ping instead to sell then stocks to others at capital gains. But to conclude from this observation that "dividends do not count" would be quite misleading. In the first place, it is a frequent occurrence for the price of common stock to change substantially when a dividend increase or dividend reduction is announced. One likely explanation for this is that since reported earnings do not necessarily "true" earnings, investors look to dividends for an indication of what management really thinks earnings are (or are going to be in the future).

3.1.2   What the Investor Thinks of Dividend Payment

On a more theoretical plane, the significance of dividends has some time been illustrated by hypothesizing the existence of a corporation which has written into its bylaws a perpetual prohibition of dividend payments or a return of capital to stockholders via sale of assets or by any other means. With these byelaws, no rational investor will be willing to purchase the corporation's stock, no matter how high its earnings or how low the asking price. Of course, people sometimes become irrational or follow the "the greater fool theory" where each buyer assumes that he or she will be able to sell at a higher price to a "greater fool." Bus such bubbles must inevitably burst. Our hypothetical corporation's stock might trade for a while, but people must eventually recognize that they are buying and selling a mere piece of paper, without any value in the absence of an ability to pay dividends. Thus, while much of a stock's value to an investor undoubtedly lies in the prospect of price appreciation prices cannot be divorced from dividend prospects any more than they can be divorced from prospective earning power.

3.2   The Concept of Present Value of Future Dividends

Those who recognize the significance of dividends as a determinant of stock values can understand the reasoning behind a widely accepted tenet of investment theory. The tenet is that a common stock is "worth" the present value of all future dividends.

The concept of present value is really quite simple and can be illustrated with easy understanding. Assume that Mr. A wants to borrow money from Mr. B, repayable at a future date. Mr. B is willing to make the loan, but feels that, considering the risk involved, he is entitled to a 10 percent annual rate of return. This being the case, how much money will Mr. B advance Mr. B on IOU for $10 payable one year hence? The answer is $9.09, because the $10

paid next year provides 91 cents interest, which is 10 percent of a $9.09 loan. Thus $9.09 is the present value of $10 payable one year hence at a "discount" rate of 10 percent.

Likewise, if Mr. A offers $10 IOU payable two years hence, how much will Mr. B be willing to lend? Answer: $8.26. Ten percent of $8.26 is 83 cents (first year's interest); $8.26 plus $0.83 = $9.09. Ten percent of $9.09 is 91 cents (second year's interest; $9.09 plus $0.91 = $10. The present value of $10 payable two years hence is $8.26 at a discount rate of 10 percent.

3.2.1 Present Value of Perpetual Dividend Growth

Let return to the matter of future dividends on common stock, suppose we estimate that dividends on Standard &Poors Stock Price Index will grow at a rate of 7 percent far into the future. Suppose we estimate that "the market" (not any individual investor but all investors as a group) will always demand a 10 percent rate of return in order to undertake the risks of common stock investment. Recognizing that these assumptions are made purely for illustrative purposes, what is the value of the S & P Index today?

There is a simple formula for approximating the present value of perpetual dividend growth, at a constant discount rate. The formula is:

$$\text{Present Value} = \frac{\text{Current dividend rate}}{\text{Discount rate minus growth rate}}$$

Under our illustrative assumption, this becomes:

$$\frac{\text{Current dividend rate}}{0.10 \ \text{minus} \ 0.07}$$

3.2.2 Today's Investors and Dividend Growth

Does it mean then that today's investors actually have to estimate dividend growth and discount rates to perpetuity in order to utilize the theoretical concept of present value of future dividends? This is not really so because the proportion of the total value represented by distant years' dividends diminishes rapidly unless the discount rate is quite close to the growth rate. Under most reasonable discount and growth rate assumptions (for example, where the discount rate is at least several percentage points higher than the growth rate), two thirds or more of the total

"value" is accounted for by the first 30 years of dividends. Note that if one assumes a growth rate equal to, or greater than, the discount rate, a nonsense "value" results.

Of course, 30 days is by no means a short period for estimating either growth rates or discount rates. Indeed, most security analysts consider themselves fortunate if their growth rate estimates for the companies they follow hold good for five years. On the other hand, while long-term estimates are highly uncertain for individual stocks, the potential errors are diminished when considering all stocks in aggregate.

3.3   Growth Prospects for Stocks in Aggregate

As economists, the authors have a proclivity to relate most economic variables to gross national product, which they feel can be subjected to future estimation more accurately than most other variables. The question of aggregate dividend growth, therefore, is broken into three parts. First, what rate of GNP growth can be expected in the years ahead; second, will earnings per share of common stock keep pace with GNP; and third, will dividend growth keep pace with earnings growth? It should be emphasized at the outset that our main purpose is to provide a frame-work for thinking about these problems rather than to argue that our specific perspectives and specific answers are correct.

3.3.1   Growth of Gross National Product (GNP)

The growth of gross national product can be conveniently divided into four variables for analytical purposes: The growth of the employed labour force; the trend of average hours worked per week; the trend of output per hour worked (productivity); and the rate of change in the price level. By combining forecasts of the first three of these variables, a forecast of growth of so-called GNP is derived, that is, growth of physical output of goods and services excluding the effects of price changes.

The three determinants of real GNP have had a stable enough history during the past century to enable us to make some long-term estimates with a far degree of confidence. Without outlining their views in detail, it can be said that the estimates of most economists fall within the following ranges; approximately 1.5% to 2% annum growth in the employed labour force; 0.5% per annum decline in hours worked per week; and 2% to 3% per annum growth of output per hour worked. These elements combine to produce a 3% to 5% range of real GNP growth possibilities, with about 3% to 4% being the most common forecast.

3.3.2   Earnings Per share Relative to GNP

Turning to the question whether earnings per share will keep pace with GNP, a look at the past is in order. That is to say, we should study the history of earnings of the company for the past six years. The trend will generally give us an idea as to whether then earning per share is keeping pace with the GNP.

Dividends Relative to Earnings: Except during periods of recession, when dividend payout ratios may rise sharply because management may wish to maintain payments to stockholders even in the face of declining earnings. Most well-established companies adopt this strategy to ensure that stock prices in the market are not affected by a decrease in the dividend pay out to shareholders.

4.0   CONCLUSION

Under this unit, we made it clear that the objective of evaluating common stock is to obtain standards against which prevailing prices of stocks may be judged. We mentioned that there are three sources of common stock value. These are: Through ownership of stock which confers part-ownership of the company to the investor, dividend payment by the company, and third, possible residual gains from the company's assets in the event of liquidation.

5.0   SUMMARY

Common stock is valued to obtain standard or yardstick for measuring prevailing prices of stocks in the market. It is assumed generally that investors are rational human beings and that rational individuals attempt to measure the economic value of the company whose stocks they buy and sell. Since there are many investors, there will always be different ideas about the value of any given stock at a given time. Dividend payment level to shareholders has tremendous impact on the price of a company's shares.

6.0   TUTOR-MARKED ASSIGNMENT

*   What is the reason for evaluating common stocks
*   Enumerate and explain the three sources of common stock value
*   What do you understand by "present value of future dividends"?

7.0   REFERENCE/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.
Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
        Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
        Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The
McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004)   Investment Decisions, Concepts, Analysis and Management
Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

BFN403CAPITAL MARKET AND PORTFOLIO THEORY   MODULE 3

MODULE 3

Unit 1   Security Analysis
Unit 2   Investing in Fixed-Income Securities
Unit 3   Bond Investment
Unit 4   Bond Valuation and Analysis.
Unit 5   Preferred Stock and Convertible Securities

UNIT 1   SECURITY ANALYSIS

CONTENTS

1.0   Introduction
2.0   Objectives
3.0   Main Content
          3.1 Principles of Security Analysis
                    3.1.1   What Security Analysis Address
                    3.1.2   Focus of Traditional Security Analysis
                    3.1.3   Who Needs Security Analysis in an Efficient Market?
          3.2 Solution to the Paradox
                    3.2.1   Economic Analysis
                    3.2.2   Economic Analysis and the Business Cycle
          3.3 Key Economic Factors
                    3.3.1   Developing an Economic Outlook
                    3.3.2   Industry Analysis
4.0   Conclusions
5.0   Summary
6.0   Tutor-Marked Assignment
7.0   Reference/Further Reading

1.0   INTRODUCTION

Just about everywhere you look, there is a product or service created by a company that issues common stock. Think of Coca Cola Company, Seven Up firm or the Liver Brothers, all of them

haveone product or another to sell. Your satisfaction with a product or your attraction to its design may lure you into investing in its stock. But, wait a minute! Do not invest yet. Carry out security analysis to determine the value of the stock, the risks inherent and the potential returns before you stick out your neck to invest.

2.0   OBJECTIVES

After studying this unit, the student should be familiar with the:

*   Principles followed in Security Analysis
*   Application of Security Analysis in an Efficient Market

3.0   MAIN CONTENT

3.1   Principles of Security Analysis

The obvious motivation for investing in stocks is to watch your money grow. Unfortunately some of the investments we make end up in losses rather than profits. Most of the disasters in our investment can be traced to bad timing, greed, poor planning, or failure to use common sense in making investment decisions. That is why every investor needs to carry out security analysis of stocks before deciding to invest.

Security analysis consists of gathering information, organizing it into a logical framework, and then using the information to determine the inherent or intrinsic value of a common stock.
Given a rate of return that is compatible with the amount of risk involved in a proposed transaction, intrinsic value provides a measure of the underlying worth of a share of stock.
It provides a standard for helping you judge whether a particular stock is undervalued, fairly priced, or overvalued.

In investment, the question of value centres on returns. In particular, a satisfactory investment candidate is one that offers a level of expected return commensurate with the amount of risk involved. As a result, not only must an investment instrument be profitable, it must be sufficiently profitable, that is, you expect it to generate a return high enough to offset the perceived exposure to risk.

3.1.1   What Security Analysis Particularly Address

If you could have your way, you would probably like to invest in something that offers you a complete preservation of your capital, along with sizeable current income and capital gains.

The problem, of course, is in finding such a security. One approach is to buy whatever that strikes your fancy. A more rational approach is to use security analysis to look for promising investment candidates. Security analysis therefore specifically addresses the question of "what to buy" by determining the "worth of a stock." Presumably, an investor will buy a stock only if its prevailing market price does not exceed its worth. The worth of a stock means the intrinsic value put on it as perceived by the investor. However, intrinsic value depends on several factors:

1.   Estimates of the stock's future cash flows , that is, the amount of dividends you
        expect to receive over the holding period and the estimated price of the stock
        at time of sale.

2.   The discount rate used to translate these future cash flows into present value.

3.   The amount of risk embedded in achieving the forecasted level of performance.

3.1.2   Focus of Traditional Security Analysis

Traditional security analysis usually takes a "top-down" approach: It begins with economic analysis and the moves to industry analysis and finally to fundamental analysis.

Economic analysis is concerned with assessing the general state of the economy and its potential effects on security returns.

Industry analysis deals with the industry within which a particular company operates, how the company is measuring up with the major competitors in the industry, and the general outlook for that industry.

Fundamental analysis looks in depth at the financial condition and operating results of a specific company and the underlying behaviour of its common stock. In essence, it looks at the "fundamentals of the company," that is, the company's investment decisions, the liquidity of its assets, its use of debt, its profit margins and earnings growth and ultimately, it looks at the future prospects of the company and its stock. Fundamental analysis is closely linked to the notion of intrinsic value because it provides the basis for projecting a stock's future cash flows.

A key part of this analytical process is company analysis, which takes a close look at the actual financial performance of the company. Such analysis is not meant simply to provide interesting information about how the company has performed in the past, rather, it is done to help investors formulate expectations about the future performance of the company and its stock.

Make no mistake about it, in the field of investment, it is the future that matters. But in order to understand the future prospects of the firm, an investor should have a good handle on the company's current conditions and its ability to produce earnings.

3.1.3 Who Needs Security Analysis in an Efficient Market?

The concept of security analysis is general and fundamental analysis in particular is based on the assumption that investors are capable of formulating reliable estimates of a stock's future behaviour. Fundamental analysis operates on the broad premise that some securities may be mispriced in the market place at any given point in time. Furthermore, fundamental analysis assumed that, by undertaking a careful analysis of the inherent characteristics of each of the firms in question, it is possible to distinguish those securities that are correctly priced from those that are not.

To many, those two assumptions of fundamental analysis seem reasonable. However, there are others who just do not accept the assumptions of fundamental analysis. These are the so called "Efficient Market" advocates. They believe that the market is so efficient in processing new information that securities trade so close to or exactly at their correct values at all times.
Thus, they argue, it is virtually impossible to outperform the market on a consistent basis.
In its strongest form, the efficient market hypothesis asserts that:
(1)   Securities are rarely, if ever, substantially misplaced in the market place.
(2)   No security analysis, however detailed, is capable of identifying misplaced
        with a frequency greater than that which might be expected by random chance
        alone.
 Is the efficient market hypothesis correct? Is there a place for fundamental analysis in modern investment theory? Interestingly, most financial theorists and practitioners would answer yes to both of these questions.

3.2   Solution to the Paradox

The solution to this apparent paradox is really quite simple. Basically, fundamental analysis is of value in the selection of alternative investment instruments for two important reasons.
First, financial markets are as efficient as they are because a large number of people and powerful financial institutions invest a great deal of time and money in analyzing the fundamentals of most widely held investments. In other words, markets tend to be efficient, and securities tend to trade at or near their intrinsic values, simply because a great many people have done the research necessary to determine what their intrinsic values should be.
Second, although the financial markets are generally efficient, they are by no means perfectly efficient. Pricing errors are inevitable, and those individuals who have conducted the most thorough studies of the underlying fundamentals of a given security are the most likely to profit when errors do occur.

3.2.1   Economic Analysis

If we live in a world where economic activity had absolutely no effect on the stock market or no security prices, we could avoid studying the economy altogether. The fact is, of course, that we do not and cannot live in such a world. Stock prices are heavily influenced by the state of the economy and by economic events. As a rule, stock prices tend to move upwards when the economy is strong, and downwards when the economy starts to dwindle.

The reason why the economy is so important to the market is simple: The overall performance of the economy has a significant bearing on the performance and profitability of the companies that issue common stock. As the fortunes of the issuing firms change with the economic conditions, so do the prices of their stocks. Of course, not all stocks are affected in the same way or to the same extent. Some sectors of the economy, like food retailing, may be only mildly affected by the economy, others, like the construction and auto industries, are often hard hit when times get rough.

A general study of the economy should not only give an investor a grasp of the underlying nature of the economic environment but also enable him to assess the current state of the economy and to formulate expectations about its future course. It can go so far as to include a detailed examination of each sector of the economy, or it may be done on a very informal basis. Regardless of how it is performed, however, the purpose (from security analysis perspective) is always the same: To establish a sound foundation for the valuation of common stock.

3.2.2 Economic Analysis and the Business Cycle

Economic analysis sets the tone for security analysis. If the economic future looks bleak, you can probably expect most stock returns to be equally dismal. If the economy is buoyant, stocks prices will be high. The behaviour of the economy is sometimes captured in the business cycle, which reflects changes in total economic activity over time. Two widely followed measures of the business cycle are:

(a)   Gross Domestic Product (GDP), which represents the market value of all goods and services produced in a country over the period of a year.

(b)   Index of Industrial Production which measures the activity/output in the industrial or productive segment of the economy.

Normally, gross domestic product and the index of industrial production move up and down following the dictates of the business cycle.

3.3   Key Economic Factors

Several parts of the economy are especially important because of the impact they have on total economic activity. These would naturally include:

Government fiscal policy:
Taxes
Government spending
Monetary policy:
Money supply
Interest rates
Other factors:
Consumer spending
Business Investments
Foreign trade and foreign exchange rates

Government physical policy tends to be expansive when it encourages spending, that is, when the government reduces taxes and increases the size of the budget. Similarly, monetary policy is said to be expansive when money is readily available and interest rates are relatively low. An expansive economy also depends on a generous level of spending by consumers and business concerns. These same variables moving in a reverse direction can have a recessionary impact on the economy, as for example, when taxes and interest rates increase or when spending by consumers and businesses falls off.

The impact of these major forces filters through the system and affects several key dimensions of the economy. The most important of these are industrial production, corporate profits, retail sales, personal income, the unemployment rate, and inflation. For example, a strong economy exists when industrial production, corporate profits, retail sales, and personal income are moving up and unemployment is moving down. Thus, when conducting an economic analysis, an investor should keep an eye on fiscal and monetary policies, consumer and business spending, and foreign trade for the potential impact they have on the economy. At the same time, he must stay abreast of the level of industrial production, corporate profits, Retail sales, personal income, unemployment, and inflation in order to assess the state of the business cycle.

3.3.1   Developing an Economic Outlook

Conducting an economic analysis involves studying fiscal and monetary policies, inflationary expectations, consumer and business spending, and the state of the business cycle. Often investors do this on a fairly informal basis. As they form their economic judgments, many rely on one or more of the popular published sources as well as on periodic reports from major brokerage houses. These sources provide a convenient summary of economic activity and give investors a general feel for the condition of the economy.

Once you have developed a general economic outlook, you can use the information in one of two ways. One approach is to construct an economic outlook and then consider where it leads in terms of possible areas for further analysis. For example, suppose you uncover information that

strongly suggests the outlook for business spending is very positive. On the basis of such an analysis, you might want to look more closely at capital goods producers, such as machine tool manufacturers, as investment candidates.

A second way to use information about the economy is to consider specific industries or companies and ask, "How will they be affected by expected developments in the economy?"
Take an investor with an interest in gold trinkets stocks. Because of the nature of the business (durable fashion goods), these stocks are susceptible to changing economic conditions.

Especially important here is the level of discretionary consumer spending: Normally spending on such goods tends to accelerate when the economy picks up and slackens when the economy slows down. In this instance, our imaginary investor would first want to assess the current state of the business cycle. Using insight, he would then formulate some expectations about the future of the economy and the potential impact it holds for the stock market in general and a gold trinket stocks in particular.

3.3.2   Industry Analysis

Looking at securities in terms of industry groupings is a popular way of viewing stocks and is widely used by both individual and institutional investors. This is a sensible approach because stock prices are influenced by industry conditions. The level of demand in an industry and other industry forces set the tone for individual companies. Clearly, if the outlook is good for an industry, then the prospects are likely to be strong for the companies that make up that industry.

The first step in industry analysis is to establish the competitive position of a particular industry in relation to others. It is clear that not all industries perform alike.
The next step is to identify companies within the industry that hold particular promise. This sets the stage for a more thorough analysis of individual companies and securities. Analyzing an industry means looking at such things as its makeup and basic characteristics, the key economic and operating variables that drive industry performance, and the outlook for the industry. The investor will also want to keep an eye out for specific companies that appear well suited to take advantage of industry conditions. Companies with strong market conditions should be favoured over those with less secure positions. Such dominance confers the ability to maintain pricing leadership and suggests that the firm will be in a position to enjoy economies of scale and low-cost production. Market dominance also enables a company to support a strong research and development effort, thereby helping it secure its leadership position for the future.

Normally, an investor can gain valuable insight about an industry by seeking answers to the following questions:

(1)   What is the nature of the industry? Is it monopolistic, or are there many
          competitors? Do few set the trend for the rest?

(2)   To what extent is the industry regulated? Is it a public utility?
        If the industry is regulated, then find out how friendly the regulatory authority is.

(3)   What role, if any, does labour play in the industry? How important are labour unions?
        Are there good labour relations within the industry? When is the next round of
        contract talks.

(4)   How important are technological developments? Are any new developments
        taking place, and what impact are potential breakthroughs likely to have?

(5)   Which economic forces are especially important to the industry?
        Is the demand for the industry's goods and services related to key economic variables?
        If so, what is the outlook for those variables?
        How important is foreign competition to the health of the industry?

(6)   What are the important financial and operating considerations? Is there an adequate
        Supply of labour, material, and capital?
        What are the capital spending plans and needs of the industry?

4.0   CONCLUSION

In this unit, we studied security analysis which we pointed out is the process of gathering and
organizing information and then using it to determine the value of a share of common stock.
In essence, security analysis addresses the question of "what to buy" by determining what a stock
ought to be, in terms of its value. Determining the intrinsic value of a stock depends on several
factors among them is the risk inherent in achieving the forecasted performance.

5.0 SUMMARY

We carry out security analysis in order to determine the value of a common stock.
Security analysis provides a standard for helping us determine whether a particular stock is
undervalued, fairly prices or overvalued. In investment practice, the question of value centres on
return. In particular, a satisfactory investment instrument is one that offers a level of expected
return commensurate with the amount of risk involved.

6.0   TUTOR-MARKED ASSIGNMENT

*   What is the main objective of security analysis?
*   What are the two assumptions of fundamental analysis of securities?

7.0   REFERENCES/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
        Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
        Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The
        McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004)   Investment Decisions, Concepts, Analysis and Management
        Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

BFN403   CAPITAL MARKET AND PORTFOLIO THEORY   MODULE 3

UNIT 2   INVESTING IN FIXED-INCOME SECURITIES

CONTENTS

1.0   Introduction
2.0   Objectives
3.0   Main Content
        3.1 Investing in Fixed-Income Securities
                3.1.1   Why Invest in Bonds?
                3.1.2   Bonds as Versatile Investment Outlet

1.0 INTRODUCTION

Under this unit, we shall be studying investment in fixed-income securities. Some securities such as bonds carry fixed-income payable at maturity. Other investments instruments, such as, common stock has no fixed-income. An investor in common stocks receives dividend and dividend payment is dependent on the earnings power of the issuing firm.

2.0 OBJECTIVES

After studying this unit, the student will be familiar with:

*   The process of investing in fixed-income securities
*   The advantages and disadvantages in fixed-income investment

3.0 MAIN CONTENT
3.1 Investment in Fixed-Income Securities

The oil industry is one of the world's most capital intensive businesses today. It requires billions of Naira worth of equipment for exploration and production of natural resources. One of the largest oil companies operating in Nigeria is Mobil, which searches for oil and natural gas throughout the world. Much of Mobil's equipment is financed through the issuance of long-term bonds. Because Mobil is such a strong company, investors in its bonds are confident that the debt will be paid. Mobil, of course, must pay investors interest on these bonds, but because it has a strong credit rating, it does not have to pay as high an interest rate as some other less well-established companies.

3.1.1 Why Invest in Bonds?

In the past, investment in bonds was viewed as rather dull investment that produced current income and little else. It is no longer true today, instead bonds are regarded as highly competitive investment instruments that offer the potential for attractive returns.

Bonds are publicly traded long-term debt securities whereby the issuer agrees to pay a fixed amount of interest over a specified period of time and to repay a fixed amount of principal at maturity. Bonds are issued in convenient denominations and by a variety borrowing companies, government corporations, states and local governments. Bonds are referred to as fixed –income securities because the debt-service obligations of the issuer are fixed. That is, the issuing organization agrees to pay a fixed amount of interest periodically and to repay a fixed amount of principal art maturity.

Like any other type of investment instrument, bonds provide investors with two kinds of income:

(1)   They provide a generous amount of current income.
(2)   They can often be used to generate substantial amounts of capital gains.

The current income is, of course, derived from the interest payments received over the life of the issue. Capital gains, in contrast, are earned whenever market interest rates fall. A basic trading rule in the bond market is that interest rates and bond prices move in opposite directions. When interest rates rise, bond prices fall, and when interest rates drop, bond prices move up. Thus, it is possible to buy bonds at one price and to sell them later at a higher price. Of course, it is also possible to incur a capital loss, should market rates move against you. 3Taken together, the current income and capital gains earned from bonds can lead to attractive investor returns.

3.1.2   Bonds as Versatile Investment Outlet

Bonds are also a versatile investment outlet. They can be used conservatively by those who primarily (or exclusively) seek high current income, or they can be used aggressively by those who go after capital gains. Although, bonds have long been considered attractive investments for those seeking current income, it is only since the advent of volatile interest rates that they have also been recognized as outstanding trading instruments. Investors found that, given the relation of bond prices to interest rates, the number of profitable trading opportunities increased substantially as wider and more frequent swings in interest rates began to occur.

In addition, certain types of bonds can be used for tax shelter. Municipal obligations are perhaps the best known in this regard, but certain federal agency issues also offer some tax advantages. Finally, because of the general high quality of many bond issues, they can also be used for preservation and long-term accumulation of capital. With quality issues, not only do investors

have a high degree of assurance that they will get their money back at maturity, but the stream of interest income is also highly dependable.

3.1.3   Putting Bond Market Performance in Perspective

The bond market is driven by interest rates. In fact, the behaviour of interest rates is the single most important force in the bond market. These rates determine not only the amount of current income investors will make but also the amount of capital gains (or losses) bondholders

95

will incur. It is not surprising, therefore, that bond market participants follow interest rates closely and that bond market performance is generally portrayed in terms of market interest rates.

3.2   Total Returns in the Bond Market

As with stocks, total returns in the bond market are made up of current income and capital gains (or losses). Not surprisingly because rising rates mean falling prices, the drawn-out bear market in bonds mean depressing returns for bondholders. For investors just entering the market, the higher market yields were welcomed, because they meant higher levels interest income. But for those already holding bonds, the implications were much different, as returns fell way below expectations and, in many cases resulted into outright losses.

Some market experts go so far as to question whether bonds should have any place at all in an investment portfolio. They reason that if interest rates have bottomed out, then blonds will not have a lot to offer investors (other than relatively low returns.

3.2.1   Exposure to Risk

Like any other type of investment instrument, fixed-income securities should be viewed in terms of their risk and return. Generally speaking, bonds are exposed to five major types of risks; interest rate risk, purchasing power risk, business/financial risk, liquidity risk, and call risk.

Interest Rate Risk: Interest rate risk is the number one source of risk to fixed-income investors, because it is the major cause of price volatility in the bond market. In the case of bonds, interest rate risk translates into market risk: The behaviour of interest rates, in general affects all bonds and cuts across all sectors of the market including the government treasury bills market.. When market interest rates rise, bond prices fall, and vice versa. And as interest rates become more volatile, so do bond prices.

Purchasing Power Risk: Purchasing power risk accompanies inflation. During periods of mild inflation, bonds do pretty well, because their returns tend to outstrip inflation rates. Purchasing power risk really hits up when inflation takes off. When that happens, bond yields start to lag

behind inflation rates. The reason: You have a fixed coupon rate on your bond, so even though market yields are rising with inflation, your return is locked-in during the inflation period.

3.2.2 Other Risks Associated with investment in Bonds

Business/Financial Risk: This is basically the risk that the issuer will default on inter5est and/or principal payments. Business/financial risk has to do with the quality and financial integrity of the issuer; the stronger the issuer, the less business/financial risk there is to worry about. This risk does not even exist in some securities. For example, the government treasury bills do not have business/financial risk.

Liquidity Risk: Liquidity risk is the risk that a bond will be difficult to unload if you want or have to sell it. In certain sectors of the market, this is a far bigger problem than a lot of investors realize. Even though the bond market may be enormous, the market is chiefly over-the-counter in nature, and much of the activity occurs in the primary/new issue market. Therefore, with the exception of the Treasury market and good deal of the agency market, relatively little trading is done in the secondary markets.

Call Risk: Call risk is sometimes referred to as prepayment risk, and this is the risk that a bond will be "recalled," that is, retired long before its scheduled maturity date. Issuers are often given the opportunity to prepay their bonds, and they do so by calling them in for prepayment.
When issuers call their bonds, the bondholders end up getting cashed out of their deal and have to find another place for their investment funds, and there lies the problem. Because bonds are nearly always called for prepayment after interest rates have taken big fall, comparable investment instruments will just not be available. Thus the investor will ne forced to replace a high-yielding bond with a much lower-yielding issue.

3.3   Essential Features of a Bond

A bond is a negotiable, long-term debt instrument that carries certain obligations (including the payment of interest and the repayment of principal) on the part of the issuer. Because bondholders, unlike holders of common stock, are only lending money to the issuer, they are not entitled to an ownership position or to any of the rights and privileges open to the common stock holders. But bond holders and well as bond issuers do have a number of well defined rights and privileges that together help to define the essential features of a bond.

Bonds Interest and Principal: In the absence of any trading, a bond investor's return is limited to fixed interest and principal payments. That is because bonds involve fixed claim on the issuer's income and a fixed claim on the assets of the issuer. As a general rule, bonds pay interest every six months. There are sometimes exceptions. Some issues carry interest payment intervals as short as two months and others as long as one year. The amount of interest due is a function of a "coupon." A coupon is the feature on a bond which defines the amount of annual

interest income due to an investor. For example, a N1,000 bond with an 8 per cent coupon pays N80 interest to the investor. Also, the principal amount of a bond, known as an issue's par value, specifies the amount of capital that must be repaid to the investor at maturity.

3.3.1   Maturity Date

Unlike common stock, all debt securities have limited lives and will expire on a given date in the future which is called the issue's "maturity date." Although, a bond carries a series of specific interest payment dates, the principal is repaid only once; on or before maturity. Because the maturity date is fixed (and never changes), it not only defines the life of a new issue but also denotes the amount of time remaining for older, outstanding bonds.

Two types of bonds can be distinguished on the basis of maturity; term and serial issues.
A "term bomb" has a single, fairly lengthy maturity date and is the most common type of issue. A "serial bond" has a series of different maturity dates, perhaps as many as 15 to 20 within a single issue. For example, a 20-year term bond issued in 1995 has a single maturity date of 2015, but that same issue as a serial bond might have 20 annual maturity dates that extend from 1996 through 2015. At each of these annual maturity dates, a certain portion of the issue would come due and be paid off.

Maturity is also used to distinguish a note from a bond. That is, a debt security that is originally issued with maturity of 2 to 10 years is known as a note, whereas a bond technically has an initial term of maturity of more than 10 years. In practice, notes are often issued with maturities of 5 to 7 years, whereas bonds normally carry maturities of 20 to 30 years or more.

3.3.2   Call Features – Let the Buyer Beware

Consider the following situation: You have just made an investment in a high-yielding, 25-year bond. Now all you have to do is sit back and let the cash flow-in. Well, perhaps that may happen for a few years. However, if market interest rates drop, it is also likely that you will

receive a notice from the issuer that the bond is being called. This means that the issue is being retired before its maturity date. There is really nothing you can do but to turn in the bond and to invest your money elsewhere. The practice is all perfectly legal because every bond is issued with a call feature which stipulates whether and under what conditions a bond can be called-in for retirement prior to maturity. Basically, there are three types of call features:

(1)   A bond can be "freely callable" which means that the issuer can prematurely
         retire the bond at any time.
(2)   A bond can be "non-callable" which means that the issuer is prohibited from
         retiring the bond prior to maturity.
(3)   The issue could carry a "deferred call" which means that the issue cannot be called
         until after a certain length of time has passed from the date of issue. In essence,

the issue is non-callable during the deferment period and then becomes freely callable thereafter.

Call features are placed on bonds for the benefit of the issuers. They are used most often to replace one issue with another that carries a lower coupon payment, and the issuer benefits by realizing a reduction in annual interest cost. Thus, when market interest rates undergo a sharp decline, bond issuers retire their high-yielding bonds and replace them with lower-yielding obligations.
The net result is that the investor is left with a much lower rate of return than anticipated.

In an attempt to compensate investors who have lost some earnings as a result of bond call, a "call premium" is tacked onto a bond and paid to investors along with the issue's par value at the time the bond is called. Thus, the sum of the par value plus call premium represents the issue's "call price" which becomes the amount the issuer must pay to retire the bond prematurely.

4.0   CONCLUSION

Under this unit, we noted that most big firms finance their operations through the issuance of long-term debt instrument. The issuance of corporate bonds is one of the most popular debt instruments. Investors in bonds are confident that they will get their money back when investing in well-established company like Mobil oil and others. Investors in bonds are paid fixed interest usually annually and the return of their capital at maturity.

5.0   SUMMARY

No business organization can have enough capital for all its operational needs. What companies do is to borrow money from lenders. What well-established companies do is to issue long-term bond to investors and make money available for their operations. Bonds are publicly traded long-term debt securities. They are issued in convenient denominations to investors. Bonds are exposed to many kinds of risks including interest rate risk, purchasing power risk, business risk, liquidity risk and call risk.

6.0   TUTOR-MARKED ASSIGNMENT

*   What benefit does an investor in long-term corporation bond derive?
*   Discuss two types of risk to which a bond instrument is exposed

7.0   REFERENCES/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The
McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004) Investment Decisions, Concepts, Analysis and Management
Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

BFN403   CAPITAL MARKET AND PORTFOLIO THEORY   MODULE 3

UNIT 3   BOND INVESTMENT

CONTENTS

1.0   Introduction
2.0   Objectives
3.0   Main Content
       3.1 Investment in Bond
               3.1.1   Primary Investment Interest in Bonds
               3.1.2   Bond Price and Interest Rates
       3.2 Types of Bonds
               3.2.1   Junior Issues
               3.2.2   Pledge of Specific Securities
               3.2.3   Debentures
       3.3 Bond Analysis and Ratings
               3.3.1   Risk and Return on Bonds
4.0 Conclusions
5.0 Summary
6.0 Tutor-Marked Assignment
7.0 Reference/Further Reading

1.0   INTRODUCTION

The two most popular financial instruments in which investors can invest are the common stocks and bonds. While the common stock makes the investor part owner of the company, the bond holder is largely a provider of funds on which interest is to be paid. This unit will discuss the various types of bond an investor can invest on.

2.0   After studying this unit, the student will be familiar with the following:

*   Different types of bond
*   Bond pricing and interest rates
*   Bond Analysis and Ratings
3.0   MAIN CONTENT

3.1   Investment in Bonds

When a bull market begins to near its peak, when blue chips begin to sag, when speculative high fliers and low-priced cats and dogs begin to get the play, when stock yields fall to 3 percent or less and the yield spread between stocks and high-grade bonds widens to 4 percent in favour of bonds, when business is booming and interest rates are tight, the shrewd institutional investment manager who has choice and flexibility will quietly withhold funds from new common stock commitments and place the funds in high-grade bonds.

When prosperity tops out into recession, when business and common stock prices begin to slide, high-grade bonds come into favour. As interest rates decline, high-grade bond prices rise. High-grade bond prices tend to vary inversely with interest rates and with common stock prices. As recession turns into recovery, reverse trends set in.   Interest rates and common stock prices which have fallen start to rise and high-grade bond prices tend to weaken. Generally speaking, high-grade bonds are those bonds rated AAA or AA by the Rating Services.

3.1.1   Primary Investment Interest in Bonds

The primary investment interest in bonds comes from institutions such as banks and insurance companies which must pay obligations in fixed number of dollar or Naira. If you have a $50,000 Life Insurance Policy, for example, at some point in the future, whether 5 years or 30 years later, the company will have to pay the $50,000. If it invests in securities (bonds) which will return it a fixed number of dollars, it is in a position to meet its obligation. It does not matter in this case whether the dollars it gets back buy half as little as when they were invested. It has a fixed dollar obligation, not a purchasing power obligation.

The individual investor may shy away from high-grade bonds because of the purchasing power risk, but most institutional investors have less need to worry about this problem. Individual investors, especially wealthier ones, find special interest in several types of bonds particularly tax-exempts and convertibles. As a hedge against recession and deflation, however, switching from common stock to high-grade bonds as a boom tops out may be an excellent, profitable move for any investor.

3.1.2   Bond Price and Interest Rates

The principal price risk in high-grade bonds is related to the trend of interest rates. If a commercial bank holds high-grade bonds, and interest rates, which had been low, start to rise, and the bank must sell its bonds, because funds are needed for some other purposes, such as expanding business loans, then a capital loss results. Why? If the bonds carry a coupon rate of interest of, say 6 percent, and similar quality bonds now are being issued with coupons of 7.5 percent or higher, no one will be willing to purchase the 6 percent bond at par value.

The unwillingness of buyers to pay the previously prevailing prices, coupled with the actual selling pressure of investors who are seeking to raise funds for other investments, forces the price of the old 6 percent issue down, and it will fall to the point where its price in the market yields the new purchaser approximately the same rate of return as the average new, higher level of rates in the market. Thus, as the boom moves ahead, the demand for funds expands, and interest rates rise, high-grade bond prices will fall as stock prices rise.

At the peak of the expansion, when the central banking authorities are pursuing a tight money policy, which has driven interest rates up, bond prices down, the institutional investment manager may start switching from common stocks to high-grade bonds. As expansion turns to recession, tight money will be relaxed, interest rates will be allowed to fall, and they will go down because the demand for funds has slacken, and high-grade bond prices will rise. In fact, the deeper the recession, the higher will go the prices of high-grade bonds as institutional investment demand switches to them and thus bids up their prices. However, if inflation accelerates during a recession, interest rates will rise since lenders will demand a premium to cover the inflation.

3.2   Types of Bonds

Bonds may be either secured or unsecured and may range from first-mortgage bonds on the one hand to subordinated debentures on the other. The security behind a bond, while important, is not crucial. The earning power, financial condition, and quality of management are vital. Because of this, one company's unsecured bonds may be rated higher than another company's secured obligations. For example, the debentures of AT&T Company are rated higher than the first-mortgage bonds of Indianapolis Power and Light Company in the United States.

Mortgage bonds are secured by a conditional lien on part or all of a company's property.
Id the company defaults (fails to pay interest or repay principal), the bond holder, through the trustee appointed to represent them and look after their rights, may foreclose the mortgage and take over the pledged property.

Some corporate mortgages have what is called "after acquired" property clause, which provides that all property thereafter acquired will become subject to the mortgage and automatically be pledged to secure the bond issue. While this is not widely found, it is very favourable to the .investor, and where it exists, if the company wishes to float another bond issue secured by mortgage on its property, this second mortgage will be a junior lien, subordinate to the first mortgage or senior lien on the property.

3.2.1   Junior Issues

Usually, when companies float junior issues, secured by junior liens, they do not clearly label them as such. They call them "general" or "consolidated." A prospective investor determines the security status of bonds by reading the bond indenture. The indenture is the formal, and usually lengthy, legal contract between the borrowing company and the creditor bond holders. The indenture spells out all the detailed terms and conditions of the loan. It also indicates whether more bonds may be issued with the same security or under the same mortgage. If so, the mortgage is said to be "open-ended." Additional issues of bonds under an "open-end" mortgage will naturally dilute the security available for earlier issues. If the mortgage is "close-ended," no additional bonds may be issued under the same mortgage, and the issue therefore has better protection and value.

3.2.2   Pledge of Specific Securities

A bond secured by a pledge of specific securities is known as a "collateral trust bond." These are issued mainly by holding companies, close-ended investment companies, and finance companies. They have not been popular in recent years. The "equipment trust bond" or "equipment trust certificate." is usually used to finance the purchase of rail-road stocks. Under this arrangement, title to equipment (freight cars. Locomotives, passenger cars and so on) being bought by a railroad rests in a trustee who holds it for the benefit of certificate holders.
The railroad makes a down payment say 20%, and the trustee issues equipment trust certificate to cover the balance of the purchase price of the equipment. The trustee then leases the equipment to the railroad under an agreement whereby the railroad obtains title to the equipment only when all obligations have been met.

3.2.3   Debentures

Debentures are unsecured bonds protected only by the general credit-worthiness of the borrowing corporation. They may contain a "covenant of equal coverage" which means that if any mortgage bond is issued in the future, which ordinarily would take precedence over the debentures, the issuer agrees to secure the debentures equally. This type of security is protected only by the general promise to pay. In the event of default, the debenture holder is merely a general creditor. The value of a debenture must be judged wholly in terms of the earning power and overall financial status and outlook of the issuing company, which, sometimes, is the best way for evaluating any bond.

Convertible Bonds: Convertible bonds are bonds which may be exchanged, at the option of then holder, for a specified number or amount of other securities, usually common stock. Usually the bond is convertible into a fixed number of shares of common stock.

Income Bond: An income bond is a debt instrument whose distinguishing characteristic is that interest need be paid only if earned. Originally, many income bonds arose out of railroad reorganizations and reflected the effort to reduce the burden of fixed charges to manageable proportions.

Tax-Exempt Bonds: Tax-exempt bonds are of special interest to wealthy investors and to certain institutional investors. The income from State and Municipal bonds is not subject to the United States Federal income tax. This may mean that a non-taxable yield of 3.5% on a state or municipal bond may be equivalent to twice or three times as much as on a taxable security, depending on the investor's income tax bracket.

3.3   Bond Analysis and Ratings

For the individual investor and smaller institutional investor, an initial step in bond analysis is to go to one of the financial services firm such as Standard and Poors or Moody Company and see what rating they have assigned to the bond you want to invest in. While these rating companies are not infallible, their expert staff are accustomed to judging the relative merits of fixed income securities, and the rating will give you a clear idea of the approximate quality of the bond. It is a useful orientation for looking further into the merits, or lack of merits of the proposed purchase. It may be that when the rating assigned is seen, there may be no further interest in the bond.

In one sense, bond evaluation is not very different from stock evaluation. The real basis for evaluation lies in the financial status and earning power of the corporation borrowing or governmental unit. The far-sightedness and efficiency of management, the outlook for the industry, the position of the particular firm in the industry, the company's earning power and then soundness of its internal finances as reflected in its balance sheet and income account, all must be carefully considered.

The security behind a bond is, in itself, no guarantee of soundness, since the value of the pledged property is usually dependent on earning power. If the company fails, its fixed assets may prove to be worth very little.

3.3.1 Risk and Return on Bonds

Investors are subject to major types of investment risks. These include the following:
1.   Business risk (i.e., a decline in earning power), which reduces a company's ability to pay interests or dividends.
2.   Market risk (i.e., a change in "market psychology"), which causes a security's price to decline irrespective of any truly fundamental change in earning power.
3.   Purchasing power risk (i.e., a rise in prices), which reduces the buying power of income and principal.
4.   Interest rate risk (i.e., a rise in interest rates), which depresses the prices of fixed income type securities.
5.   Political risk (for example, price control, wage control, tax increases, changes in tariff and subsidy policies).

4.0   CONCLUSION

Under this unit, we discussed investment in bonds. There are many types of bond which include secured and unsecured bonds, debentures, convertible bonds income bonds and tax-exempt bonds. We noted that the principal price risk in high-grade bonds is related to the trend of interest rates.

5.0   SUMMARY

We discussed under this unit that investment in bonds differ from investment in common stocks. Bonds produce a fixed interest yield while common stock gives the investor dividend which is dependent on the earnings power of the company. Bonds can be secured or unsecured. Unsecured bonds are usually referred to as debentures.

6.0   TUTOR-MARKED ASSIGNMENT
- The primary Investment interest in bonds comes from institutions such as banks and insurance companies. Discuss.
- Name and explain two types of bond you know.

7.0   REFERENCE/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
      Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The
McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004)   Investment Decisions, Concepts, Analysis and Management
Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

UNIT 4   BOND VALUATION AND ANALYSIS

CONTENTS

1.0   INTRODUCTION

It is a common practice for companies to finance their operations by the issuance of bonds to investors. A number of factors determine a bond's price including credit quality and the general level of interest rates. Investors must evaluate these factors when deciding whether the market value of a bond will provide the kind of return they need. We shall examine, in detail, the factors that determine a bond's price under this unit.

2.0   OBJECTIVES

After studying this unit, the student will be familiar with:

*   Basic principles guiding the valuation of bonds

*   The forces that push up the price of bonds

3.0   MAIN CONTENT

3.1   Bond Valuation and Analysis

Every rational investor tries to earn a return that full compensates them for risk. In the case of bondholders, that required return has three components; the real rate of return, an expected inflation premium, and a risk premium.

The real rate of return and the inflation premium are external economic factors, and together, they equal the risk-free rate. Now, to find the required return, we need to consider the unique features and properties of the bond issue itself. We can do this by adding the bond's risk premium to the risk-free rate. A bond's risk premium will take into account key issue and issuer characteristics, including such variables as the type of bond, maturity, call features, and bond rating. The three components, that is, the real rate of return, the expected inflation premium and the risk premium, work together to determine interest rate levels at a given point in time.

Because interest rates have such a significant bearing on bond prices and yields, they are closely monitored by both conservative and aggressive investors. Interest rates are important to conservative investors because one of their major objectives is to lock in high yields. Aggressive traders also have a stake in interest rates because their investment programmes are often built on the capital gains opportunities that accompany major swings in rates.

3.1.1   Keeping Tabs on Market Interest Rates

Just as there is no single bond market but a series of different market sectors, so too there is no single interest rare that applies to all segments of the market. Rather, each segment has its own, unique level of interest rates. Granted, the various rates tend to drift in the same direction over time and to follow the same general pattern of behaviour, but it is also common for yield spreads (that is interest rate differentials) to exist in the various market sectors. We can summarize the more important market yields and yield spreads as follows:

(1)   Local government bonds usually carry the lowest market rates because of the
         tax-exempt feature of these obligations. As a rule, their market yields are about
         two-thirds those of corporate organizations. In the taxable sector, treasuries have
         the lowest yields because they have the least risk, followed by agencies and then
         corporate bodies, which provide the highest returns.

(2)   Issues that normally carry official ratings generally display similar behaviour.
         That is to say, the lower the rating, the higher the yield.

(3)   Bonds that are freely callable generally provide the highest returns, at least at date of issue. These are followed by deferred call obligations and then by non-callable bonds, which yield the least.

(4)   As a rule, bonds with long maturities tend to yield more than short issues. However, this rule does not hold all the time; sometimes short-term yields exceed the yield on long-term bonds.

3.1.2   Higher Yielding Segments of the Bond Market

As an investor, you should pay close attention to interest rates and yield spreads, and try to stay abreast, not only of the current state of the market, but also of the future direction in market rates. For example, if you are a conservative (income-oriented) investor and think that rates have just about peaked, that should be a clue to you to try to lock in the prevailing high yields with some form of call protection. In contrast, if you are an aggressive bond trader who thinks rates have peaked (and are about to drop), that should be a signal to buy bonds that offer maximum price appreciation potential (example, low-coupon bonds that still have a long time before they mature). Clearly, in either case, the future direction of interest rates is important.

But how does a bond investor formulate such expectations? Unless you have considerable training in economics, you will probably have to rely on various published sources. Fortunately, a wealth of such information is available. Your broker is an excellent source for such reports, as are investor services. Finally there are widely circulated business and financial publications that regularly address the current state and future direction of market interest rates. Make no mistakes about it.   Prediction of future direction of interest rates is not an easy task. The best you can offer is experienced educated guesswork, and guesswork, like you know it, lacks exactitude.

3.2   What Causes Rates to Move

Although, the subject of interest rates is a complex economic issue, we do know that certain forces are especially important in influencing the general behavioour of market rates. Serious bond investors should make it a point to become familiar with the major determinants of interest rates and try to monitor those variables, at least informally.

And in that regard, perhaps no variable is more important than inflation. Changes in the inflation rate (or even expectations about the future course of inflation) have direct and pronounced effect on market interest rates and have been a leading cause of wide swings in interest rates. Clearly, if expectations are for inflation to slow down, then market interest rates should fall as well.

In addition to inflation, there are at least five other important economic variables that can significantly affect the level of interest rates. These are:

1.   Changes in the Money Supply.   An increase in the money supply pushes rates down (as it makes more funds available for loans), and vice versa.   This is true only up to a point, however. If the growth in the money supply becomes excessive, it can lead to inflation, which, of course, means higher interest rates.

2.   The Size of the Federal Budget Deficit.   When the Federal Government must borrow large amounts to cover the budget deficit, the increased demand for funds exerts an upward pressure on interest rates. That is why bond market participants view the prospect of a balanced federal deficit so favourably. That is, as the federal budget deficit declines/disappears, so will a lot of the pressure on bond interest rates (which usually brings with it the potential for falling market rates).

3.   The Level of Economic Activity.   Businesses need more capital when the economy expands. This need increases the demand for funds, and rates tend to rise. During a recession, economic activity contracts, and rates typically fall.

4.   Policies of the Federal Reserve.   Actions of the Federal Reserve to control inflation also have a major effect on market interest rates. For example, when the Federal Government wants to slow real or perceived inflation down, it usually does so by driving up interest rates.

Unfortunately, such action can also have the nasty side effect of slowing down business activities as well.

5.   The Level of Interest Rates in Major Foreign Markets.   Today, investors look beyond national borders for investment opportunities. If rates in major foreign markets rise, that puts pressure on rates in the country to rise as well. If they fail to rise, local investors may be tempted to withdraw their Naira to buy high-yielding foreign securities in order to make more profits.

3.2.1   The Term Structure of Interest Rates and Yield Curves

Although, many factors affect the behaviour of market interest rates, one of the most popular and widely studied is bond maturity. The relationship between interest rates (yield) and time to maturity for any time of similar-risk securities is called the "term structure of interest rates." This relationship can be depicted graphically by a yield curve which relates a bond's term maturity to its yield to maturity at a given point in time. A particular yield curve exists for only a short period of time; as market conditions change, so do the yield curve's shape and location.

3.2.2   Plotting Your Own curves

Yield curves are constructed by plotting the yields for a group of bonds that are similar in all respects except maturity. Treasury securities (bills, notes, and bonds) are typically used to construct yield curves.

There are several reasons for this: Their yields are easily found in financial publications, they have no risk of default, and they are homogeneous with regard to quality and other issue characteristics. Investors can also construct yield curves for other classes of debt securities, such as A-rated Local Government bonds, A-rated corporate bonds, or even certificates of deposit.

3.3   Explanations of the Term Structure of Interest Rates

As we noted earlier, the shape of the yield curve changes over time. Three commonly cited theories explain the reasons for the general shape of the yield curve. These three theories are: The expectations hypothesis, the liquidity preference theory, and the market segmentation theory.

3.3.1   Expectation Hypothesis
The expectation hypothesis suggests that the yield curve reflects investor expectations about the future behaviour of (short-term) interest rates. The relationship between rates today and rates expected in the future is due primarily to investor expectations regarding inflation. If investors anticipate higher rates of inflation in the future, they will require higher long-term interest rates today, and vice versa.

Generally, under the expectations hypothesis, an increasing inflation expectation results in an upward-sloping yield curve, a decreasing inflation expectation results in a downward-sloping yield curved, and a stable inflation expectation results in a relatively flat yield curve.

3.3.2   Liquidity Preference Theory

More often than not, yield curves have at least a mild upward slope. One explanation for the frequency of upward sloping yield curves is the liquidity preference theory. This theory states that, intuitively, long-term bond rates should be higher than short-term rates because of the added risks involved with the longer maturities. In other words, because of the risk differential (real or perceived) between long-term and short-term
debt securities, rational investors prefer the less risky, short-term obligations unless they can be motivated, via higher interest rates, to invest in the longer bonds.

Actually, there are a number of reasons why rational investors should prefer short-term securities. To begin with, they are more liquid (more easily convertible to cash) and less sensitive to changing market rates, which means there is less risk of loss of principal. For a given change in market rates, the prices of long-term bonds will show considerably more movement than the prices of short-term bonds. Simply put, uncertainty increases over time, and

investors therefore require a premium to invest in long maturities. In addition, just as investors tend to require a premium for tying up funds for longer periods, borrowers will also pay a premium in order to obtain long-term funds. Borrowers thus assure themselves that funds will be available and they can avoid having to roll over short-term debt at unknown and possibly unfavourable rates. All of these preferences and market forces explain why higher rates of interest should be associated with longer maturities and why it is perfectly rational to expect upward-sloping yield curves.

3.3.3 Market Segmentation Theory

Another often-cited theory is the "market segmentation theory." This theory suggests that the market for debt is segmented on the basis of maturity preferences of different types of financial institutions and investors. According to this theory, the yield curve changes as the supply and demand for funds within each maturity segment determines its prevailing interest rate. The equilibrium between the financial institutions that supply the funds for short-term maturities, for example, the banks and the borrowers of those short-term funds, for example, businesses with seasonal loan requirement, established interest rates in the short-term markets. Similarly, he equilibrium between suppliers and demanders in such long-term markets as life insurance and real estate determines the prevailing long-term interest rates.

The shape of the yield curve can be either upward-sloping or downward-sloping, as determined by the general relationship between rates in each market segment. When supply outstrips demand for short-term loans, short-term rates are relatively low. If, at the same time, the demand for long-term loans is higher than the available supply of funds, then long-term rates are high, and the yield curve slopes upward. Simply stated, low rates in the short-term segment and high rates in the long-term segment cause an upward-sloping yield curve, and vice versa.

4.0   CONCLUSION

We know that rational investors try to earn a return on their investment that compensates for then risk. In the case of bondholders, that return has three components which are; the real rate of return, the expected inflation premium and the risk premium. However to obtain the best of returns, an investor should be familiar with the technicalities of bond valuation. It is the knowledge of bond valuation that will arm the bond investor with trends and expected rates which are essential factors that affect his ultimate returns.

5.0   SUMMARY

To the bond investor, it is essential to watch the behaviour of market interest rates because interest rates have such a significant bearing on bond prices and yields. Interest rates are closely monitored by both conservative investors and aggressive investors. Interest rates are important to conservative investors because their major objective is to lock-in high yields. Aggressive

investors are also concerned with in interest rates behaviour because their investment programmes are often built around the desire to exploit capital gain opportunities.

6.0   TUTOR-MARKED ASSIGNMENT

*   Discuss the three components in the returns on bondholding.
*   Discuss the three commonly cited theories that explain the reasons for the general shape of the yield curve.

7.0   REFERENCES/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
        Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
        Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004)   Investment Decisions, Concepts, Analysis and Management
        Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

BFN403   CAPITAL MARKET AND PORTFOLIO THEORY   MODULE 3

UNIT 5   PREFERRED STOCK AND CONVERTIBLE SECURITIES

CONTENTS

1.0   Introduction
2.0   Objectives
3.0   Main Content
        3.1 Preferred Stocks
                3.1.1   Preferred Stocks as Investment Instruments
                3.1.2   Advantages and Disadvantages of holding Preferred Stocks
        3.2 Sources of Value for the Preferred Stock
                3.2.1   Risk Exposure
                3.2.2   Market Transactions
        3.3 Issue Characteristics

1.0   INTRODUCTION

In turbulent investment periods especially when it is difficult to get enough investors to invest in corporate common stocks, business organizations issue securities with special features to attract attention. Preferred stocks and convertible securities are popular investment instruments issued to investors.

2.0   OBJECTIVES

After studying this unit, the student will be familiar with:

*   The nature of preferred stocks and the advantages and disadvantages in them.
*   The rights of preferred stockholders

3.0   MAIN CONTENT

3.1   Preferred Stocks

What would you think of a stock that promised to pay you a fixed annual dividend for life, nothing more nothing less? If you are an income-oriented investor, this offer would certainly sound pretty. However, it is not possible to find such an investment in real life. Here we will study the features of two fixed income securities called then "preferred stocks" and "convertible debentures."

Preferred stock is a stock that has a prior claim (ahead of common stockholders) on the income and assets of the issuing firm. Preferred stocks carry fixed dividends that are usually paid quarterly and are expressed either in Naira terms or as a percentage of the stock's par (or stated) value. They are used by companies that need money but do not want to raise debt instruments to get it. In effect, preferred stocks are widely viewed by issuers as an alternative to debt instrument. Companies like to issue preferred stocks because they do not count as common stock and therefore do not affect Earnings Per Share (EPS). However, being a form of equity, they do not count as debt either and therefore do not add to the company's debt load.

There are today so many Over the Counter (OTC) and listed preferred stocks issued by public utilities, industrial and financial establishments.

3.1.1   Preferred Stocks as Investment Instruments

Preferred stocks are available in a wide range of quality ratings, from investment-grade issues to highly speculative stocks. Some high-yielding preferred stock can pay investors as high as N20 per share, annual dividend. Less high-yielding preferred stock pay not less than N14 per share annually.

As earlier stated, one interesting thing about preferred stock is that it carries fixed dividend payment. Of course, if a company does not earn any profit in a particular year, it may be unable to pay the dividend of the preferred stockholder. However, in future years, the arrears of all the preferred stockholders must be cleared before the common stockholder can receive any dividend.

3.1.2   Advantages and Disadvantages of Holding Preferred Stocks

Advantages:
Investors are attracted to preferred stocks because of the current income they provide. Moreover, such dividend income is highly predictable, even though it can, under certain circumstances, be temporarily discontinued. Note that there is the tendency for preferred stocks to generate yields that are slightly less than those of high-trade bonds. This is due to the fact that 70 per cent of the preferred dividends received by a corporation are exempt from federal income taxes. Since corporations are big investors in preferred stocks, the net effect of this favourable tax treatment is reduced preferred dividend yields.

Another reason for investing in preferred stocks is the level of safety they offer investors. That is, despite a few well-publicized incidents, high-grade preferred stocks have an excellent record of meeting dividend payments in a prompt and timely manner.

A final advantage of preferred stocks is the low unit cost (N25 to N50 per share) of many of the issues, which gives even small investors the opportunity to actively participate in preferred stocks.

Disadvantages:
A major disadvantage of preferred stocks is their susceptibility to inflation and high interest rates. Like many other fixed-income securities, preferred stocks simply have not proved to be satisfactory long-term hedges against inflation. Another disadvantage is that preferred dividends may be suspended, if the earnings of the corporate issuer drop off. Thus, unlike coupon payments on a bond, dividends on preferred stocks have no legal backing, and failure to pay them does not lead to default.

Still another drawback is that most preferred stocks lack substantial capital gains potential. Although, it is possible to enjoy fairly attractive capital gains from preferred stocks when interest rates decline dramatically, these amounts generally do not match the price performance of common stocks. But perhaps the biggest disadvantage of preferred stocks is the yield give-up they incur relative to bonds. In essence, there is virtually nothing a preferred stock has to offer that cannot be obtained from a comparably rated corporate bond.

3.2 Source of Value for Preferred Stocks

With the exception of convertible preferred stocks, the value of high-grade preferred stocks is a function of the dividend yields they provide. Most specifically, the value (or market price) of a preferred stock is closely related to prevailing market rates: Thus, as the general level of interest rates moves up, so do the yields on preferred stocks, and their prices decline accordingly. When interest rates drift downward, the yield on preferred stocks also declines, but their prices will rise. Just like bond prices, therefore, the price behaviour of a high-grade preferred stock is inversely related to market interest rates. Moreover, its price is directly linked to the issuer's level of income. That is, other things being equal, the higher the dividend payment, the higher the market price of an issue. Thus the price of a preferred stock can be defined as follows:

$$\text{Price of a Preferred Stock} = \frac{\text{Annual Dividend Income}}{\text{Prevailing Market Yield}}$$

3.2.1 Risk Exposure

Preferred stock investors are exposed to both business and interest rate risks. Business risk is important with preferred stocks because these securities are a form of equity ownership and, as such, lack many of the legal protections of bonds. Annual operating costs and corporate financial strength, therefore, are of concern to preferred stockholders. Preferred stock ratings can be used to assess the amount of business risk embedded in an issue; higher-quality/higher-rated issues are believed to possess less business risk. Because of the fixed-income nature of these securities and the way they are valued in the market, interest rate risk is also important to preferred stockholders. That is, when market interest rates move up, the value of these securities (like that of bonds) falls. Indeed, such risk exposure can be very damaging if interest rates move against you in a big way.

3.2.2 Market Transactions

Preferred stocks are subject to the same transaction costs, that is, brokerage fees and transfer taxes, as shares of common stock. In addition, preferred stock investors use the same types of orders (market, limit, and stop-loss) and operate under the same margin requirements.

Quotes for preferred stock are interpreted exactly like those for common stock, except that the price/earnings ratios are not listed. Preferred stocks are also listed right after listing the common stocks of a company.

3.3   Issue Characteristics

Preferred stocks possess features that not only distinguish them from other types of securities but also help differentiate one preferred stock from another. For example, preferred stocks may be issued as convertible or non-convertible, although the majority fall into the non-convertible category.

Convertible feature allows the holder to convert the preferred stock into a specified number of shares of the issuing company's common stock. In addition to convertibility, investors should be aware of several other important features of preferred stocks; they include the rights of preferred stockholders and the special provisions (such as those pertaining to passed dividends or call features) that are built into preferred stock issues.

3.3.1   Rights of Preferred Stockholders

The contractual agreement of a preferred stock specifies the rights and privileges of preferred stockholders. The contractual agreement of a preferred stock usually contain information on; level of annual dividends, the claim on income, voting rights, and the claim on assets. The issuing company agrees that it will pay preferred stockholders a (minimum) fixed level of quarterly dividends and that such payments will take priority over common stock dividends. The only condition is that the firm generates income sufficient to meet the preferred dividend requirements. However, the firm is not legally bound to pay dividends. O course, it cannot pass dividends on preferred stock and then pay dividends on common stock, because that would violate the preferred stocks' prior claim on income.

Although, most preferred stocks are issued with dividend rates that remain fixed for the life of the issue, in the early 1980s, some preferred stocks began to appear with floating dividend rates. Known as "adjustable rate" (or floating rate) preferred stocks. These issues adjust dividends periodically in line with yields on specific Treasury issues, although minimum and maximum dividend rates are usually established as a safeguard for investors.

Even though the preferred stock investors hold an ownership position in the firm, they do not have voting rights. However, if conditions deteriorate to the point where the firm needs to defer or pass one or more consecutive quarterly dividends, preferred stockholders are usually given the right to elect a certain number of corporate directors so that their views can be represented. And

if liquidation becomes necessary, the holders of preferred stocks are given a prior claim on assets. These preferred claims, limited to the par or stated value of the stock, must be satisfied before the claims of the common stockholders. Of course, this obligation does not always mean that then full par or stated value of the preferred stock will be recovered, because the claims of senior securities, like bonds, must be met first. That is, all bonds, including convertible bonds, have a higher claim on assets (and income) than preferred stock, whereas preferred stocks have a higher claim than common stock. Thus preferred stockholders have a claim that is somewhere between that of bondholders and common stockholders.

Finally, when a company has more than one issue of preferred stock outstanding, it sometimes issues preference (or prior preferred) stock. Essentially, this stock has seniority over other preferred stock in its right to receive dividends and in its claim on assets in the event of liquidation. Therefore, preference stocks should be viewed as senior preferred stocks.

3.3.2   Preferred Stock Provisions

There are three preferred stock provisions that investors should be well aware of before making an investment in a preferred security. Especially important is the obligation of the issuer in case any dividends are missed. In addition, the investor should determine whether the stock has a call feature and/or a sinking fund provision; Let us start by looking at how passed dividends are handled, which depends on whether the preferred stock is issued on a cumulative or a non-cumulative basis.

Fortunately for investors, most preferred stocks are issued on a cumulative basis. This means that any preferred dividends that have been passed must be made up in full before dividends can be paid to the common stockholders. As long as dividends on preferred stocks remain in arrears, a corporation cannot make any dividend payment to common stockholders.

If preferred stock carries a non-cumulative provision, the issuing company would not be under any obligation to make up any of the past (unpaid) dividends. Of course, the firm could not make dividend payments to common stockholders either, but all it would have to do is to meet the next quarterly dividend payment due to preferred stockholders before it can pay any dividends to the common stockholders.

Other things being equal, a cumulative preferred stock should be more highly valued than an issue without such cumulative provision, that is, the cumulative feature should increase the price (and, in so doing, lower the yield) of these issues.

Since the early 1970s, it has become increasingly popular to issue preferred stocks with call features. Today, a large number of preferred stocks carry this provision, which gives the firm the right to call the preferred stock for retirement. Callable preferred stocks are usually issued on a deferred-call basis, which means that they cannot be retired for a certain number of years after

the date of issue. After the deferral period, which often extends for 5 to 7 years, the preferred stocks become freely callable. Of course, such issues are then susceptible to call if the market rate for preferred stocks declines dramatically, which explains why the yields on freely callable preferred stocks should be higher than those on non-callable issues. As with bonds, the call price of a preferred stock is made up of the par value of the issue and a call premium that may amount to as much as one year's dividends.

Another preferred stock feature that has become popular in the past 10 years is the sinking fund provision which denotes how all or a part of an issue will be paid off, amortized, over time. Such sinking fund preferred stocks actually have implied maturity dates. They are used by firms to reduce the cost of financing, because sinking fund issues generally have lower yields than non-singing fund preferred stocks.

4.0   CONCLUSION

Under this unit, we dealt with preferred stocks. We noted that preferred stocks carry fixed dividends and that these dividends are paid quarterly. Preferred stocks are issued by corporate organizations that need money but do not want to raise debt to get the funds. Investors are attracted to preferred stocks because of the current income they provide. One major disadvantage of preferred stocks is their susceptibility to inflation and high interest rates.

5.0   SUMMARY

Preferred stocks carry fixed dividend and they are usually available in a wide range of quality ratings from investment-grade issue s to highly speculative stocks. With the exception of convertible preferred stocks, the value of high-grade preferred stocks is a function of the dividend yields they provide. Preferred stock investors are exposed to both business and interest rate risks. Business risk is important with preferred stocks because these securities are a form of equity ownership and, as such, they lack many of the legal protections of bonds.

6.0   TUTOR-MARKED ASSIGNMENT
*   What is the difference between dividend payment on preferred stocks and
        dividend entitlement to common stockholders.

*   Explain what you understand by "cumulative provision" and "non-cumulative provision"
        in the payment of dividends to preferred stockholders.

7.0   REFERENCES/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The
McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004) Investment Decisions, Concepts, Analysis and Management
Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

BFN403   CAPITAL MARKET AND PORTFOLIO THEORY   MODULE 4

Unit 1   MARKETABILITY, DEFAULT RISK AND CALL PRIVILEGES

CONTENTS

1.0   INTRODUCTION

The money and capital markets and the financial system that surrounds them are continually in transition due to changes in the market place and the effect of technological innovations. Today's financial system differs radically from that of a decade ago and will still be different as we move forward into the future.

Today, powerful forces are reshaping financial institutions, financial services and public demand for new financial services. These forces include new trends within the financial sector itself, changes in the structure and functioning of the economy that surrounds the financial system and new social and demographic trends that are altering the public's need for innovative new financial services.

2.0   OBJECTIVE

After studying this unit, the student will be able to:
- Understand different features of various loans and securities
- Explain the meaning and implications of liquidity and illiquidity one of the most active and deep markets in the world. Large lots
- Understand the meaning and functions of both the Capital and the Money Markets

3.0   MAIN CONTENT

3.1   Marketability

One of the most important considerations for any investor is whether a market exists for those assets he or she would like to acquire. The investor will also want to know whether such assets can be sold quickly or take a long time before a buyer can be found. This is the question of Marketability, and financial instruments treaded around the world vary widely in terms of the ease and speed with which they can be converted into cash.

For example, Treasury bills, notes, and bonds have one of the most active and deep markets in the world. Large lots of marketable treasury securities in multiples of a million dollars are bought and sold daily, with the trades taking place in a matter of minutes. Small lots under one million of these securities are more difficult to sell. However, there is usually no difficulty in marketing even a handful of treasury securities provided the sellers can wait a few hours.

Similarly, common stock actively traded on the New York, London, Frankfurt, Tokyo or Nigerian Stock exchange typically can be moved in minutes, depending on the number of shares being sold. In active markets like these, negotiations are usually conducted by telephone or e-mail and confirmed by wire. Frequently, payment for any securities purchases is made the same day by wire or within one or two days by check.

For thousands of lesser-known financial assets not actively traded each day, however, marketability can be a problem. Stocks and bonds issued by smaller companies usually have a narrow market, often confined to the local community or region. Trades occur infrequently, and it is difficult to establish a consistent market price. A seller may have to wait months to secure a desired price or, if the security must be sold immediately, its price may have to be discounted substantially.

3.1.1 Marketability and Reputation of the issuing Company

Marketability is positively related to the size (total sales or total assets) and reputation of the institution issuing the securities and to the number of similar securities outstanding. Not surprisingly, stocks and bonds issued in large blocks by the largest corporations and governmental units tend to find acceptance more readily in the global financial markets. With larger number of similar assets available, buy-sell transactions are more frequent, and a consistent market price can be established.

Marketability is a decided advantage to the asset purchaser (lender of funds). In contrast, the issuer of assets is not particularly concerned about any difficulties the purchaser may encounter in the resale (secondary) market unless lack of marketability significantly influences asset sales in the primary market. And where marketability is a problem, it does influence the yield the issuer must pay in the primary market. And where marketability is a problem, it does influence the yield the issuer must pay in the primary market. In fact, there is a negative relationship between marketability and yield. More marketable assets generally carry lower expected returns than less marketable asserts, other things being equal. Purchasers of assets that can be sold in the secondary market only with difficulty must be compensated for this inconvenience by a higher promised rate of return.

3.1.2 Liquidity

Marketability is closely related to another feature of financial assets that influences their interest rate or yield; their degree of liquidity. A liquid financial asset is readily marketable. In addition, its price tends to be stable over time and it is reversible, meaning that the holder of the asset can usually recover her funds upon resale with little risk of loss. Because the liquidity feature of financial assets tends to lower their risk, liquid assets carry lower interest rates than illiquid assets. Investors strongly interested in maximum profit try to minimize their holdings of liquid assets. Example of highly liquid assets, bearing relatively low rates of return (yields), include

most bank deposits, shares in money market mutual funds, and marketable Central Bank of Nigeria (CBN) treasury bills.

3.2   Default Risk and Interest Rates

Another important factor causing one interest rate to differ from another in the global market place is the degree of default risk carried by individual assets. Investors in the financial assets face many different kinds of risk, but one of the most important is default risk – the risk that a borrower will not make all promised payments at the time agreed upon. All debts except some government securities are   subject to varying degrees of default risk. If you purchase a 10-year corporate bond with N1,000 par value and a coupon rate of 9% , the issuing company promises in the indenture (bond contract) to pay you N90 a year (or more commonly, N45 every six months) for 10 years plus N1,000 at the end of the 10-year period. Failure to meet any of these promised payments on time puts the borrower in default, and he lender may have to go to court to recover the monies owed.

3.2.1   The Premium for Default Risk

The promised yield on a risky asset is positively related to the risk of borrower default as perceived by investors. Specifically, the promised yield on a risky asset is composed of at least two elements:

Promised yield on a risky asset = Risk-free interest rate + Default risk premium

Where:

3.2.1   Default risk premium = Promised risk on a risky asset – Risk-free interest rate.

The promised yield on a risky debt security is the yield to maturity that will be earned by the investor if the borrower makes all promised payments when they are due. The higher the degree of default risk associatedwith a risky debt security, the higher the default risk premium on that security and the greater the required rate of return (yield) that must be attached to that asset as demanded by investors in the global financial market place. Any adverse development, such as, a turned-down in the economy or serious financial crisis, that makes a borrower appear riskier, will lead the market to a assign a higher default risk premium to his debt security. And if the risk-free rate remains unchanged, the financial asset's promised risky yield must rise and its price must decline.

3.2.2   The Expected Rate of Return (or Yield on a Risky Asset)

Increasingly, in recent years, some of the largest business firms on the planet have been forced into default and subsequently declared bankrupt. Among the leading U.S. bankruptcy firms in recent history are:

(a) Enron Corporation (2001) with $49.5 billion in assets
(b) Texaco, Inc. (1987) with $35.9 billion in assets
(c) Financial Corporation of America (1988) with $33.9 billion in assets
(d) Pacific Gas and Electric Company (2001) with $21.5 billion in assets
(e) MCorp (1989) with $20.2 billion in assets

Volatile changes in business and consumer spending, interest rates, and commodity prices frequently have led to serious miscalculations by both large and small businesses and governments with sometimes fatal results. For this reason, many investors around the globe today have learnt to look at the expected rate of return (or yield) on a risky asset as well as its promised yield.

3.3   New Ways of Dealing with Default (Credit) Risk

Rising concern over defaults and business bankruptcies in the 1980s and 1990s led to new techniques for protecting lenders against default risk. This so called credit derivatives are financial contracts that provide at last some positive rate of return to the beneficiaries of each contract.

Among the most popular of these default risk – protection instruments are credit swap[s in which two or more investors in risky loans and securities agree to exchange at least a portion of their expected payments due from the borrowers. For example, a swap dealer may draw up an agreement involving two lenders, located in different regions, who pledge to deliver all or part of the stream of loan payment s expected from their customers. Because the contracting lenders serve different market areas, each lender, in effect, is no longer completely dependent on his or her local loan market for revenue. Each has geographically diversified its sources of revenue to a greater extent than before.

Another example of a credit derivative is the total return swap. Under this arrangement a swap dealer may provide assurance that parties to this swap receive a minimum rate of return on the credit they have extended to borrowers. For example, the dealer may guarantee a lender a rate of return on its loans at least 2 percentage points higher than the prevailing market yield on long-term Treasury bonds. There is still risk here due to fluctuating interest rates, buy the lender's credit risk has been at last partially reduced (unless, of course, the guarantor fails).

Credit derivatives help to reduce default risk by shifting that risk to someone else willing to accept it for a fee. They have opened up the money and capital markets to a wider range of risky borrowers. However, this is a comparatively young financial marketplace that remains largely

untested. Standardization of credit4 derivative contracts is under way, but many legal issues are open to controversy. Some credit-risk contracts have provisions that are vague about what represents a true default on a loan contract and, therefore, may result in confusion about what must be paid and when. Then too, the market is still relatively small and no one is sure that it can withstand a major downturn in the economy.

3.3.1 Default Risk – Interest Rate Relationship

In summary, careful study of the relationship between default risk and interest rates points to a fundamental principle in the field of finance: "Default risk and expected return are positively related." The investor seeking higher expected returns must also be willing to accept higher risk of ruin. Default risk is correlated with both internal (borrower-specific) factors associated with a products and services).

3.3.2 Call Privileges and Call Risk

Some corporate bonds, mortgages, municipal revenue bonds, and Federal Government bonds carry Call Privilege. This provision of a bond contract (indenture) grants the borrower the option to retire all or a portion of a bond issue by buying back the securities in advance of maturity. Bondholders usually are informed of a call through a notice in a newspaper of general circulation, while holders of record of registered bonds are notified directly. Normally, when the call privilege is exercised, the security issuer will pay the investor the call price, which equals the securities' face value plus a call penalty.The size of the call penalty is set forth in the indenture (contract) and generally varies inversely with the number of years remaining to maturity and the lengthy of the call deferment period. In the case of a bond, one year's worth of coupon income is often the minimum call penalty required.

4.0 CONCLUSION

The capital market and the money market make up the financial market or the financial system. These markets are continually undergoing gradual evolution due to changes in the market place and the effect of technological innovations. The shape of the financial system as it is today differs very much from what it used to be say two decades ago. As we move into the next decade, more and more changes are expected.

5.0 SUMMARY

Today, we are living in a financial world where powerful forces in the environment are reshaping financial institutions and financial services. These environmental forces include new technology and trends within the financial sector itself, changes in the structure and functioning of the economy that surrounds the financial system and new social and demographic trends that are altering the public's need for innovative new financial services.

6.0   TUTOR-MARKET ASSIGNMENT

- Enumerate some of the forces in the environment reshaping the financial system.
- Explain your understanding of risk inherent in the interest rate returns

7.0   REFERENCES/FURTHER READINGS

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
        Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
        Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The
        McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004)   Investment Decisions, Concepts, Analysis and Management
        Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

BFN404   CAPITAL MARKET AND PORTFOLIO THEORY   MODULE 4

Unit 2 INTERNATIONAL TRANSACTIONS AND CURRENCY VALUES

CONTENTS

1.0   INTRODUCTION

In many ways, it looks as if the world in which we live is rapidly shrinking. Jet planes, such as, the British Concorde, or the Nigerian Airways plane can race across the Atlantic Ocean between New York and London in less than four hours, about the same time it takes a jetliner to travel across the United States. The internet, fax machines, telephones, and fiber optic cable can move financial information from one spot on the globe to another in minutes or seconds. Orbiting satellites can bring news of major international significance to home television sets the moment an event takes place and makes possible direct communication between those involved in the international transactions.

2.0   OBJECTIVE

After studying this unit, the student will:

- Understand the functions and roles performed by the international markets within the global financial system.
- Understand and be able to explain how international payments for goods and services are made and how international borrowing and lending can be tracked through a nation's balance-of-payment accounts.

3.0   MAIN CONTENT

3.1   The Balance of Payments

One of the most widely used sources of information concerning flows of funds, goods, and services between nations is each country's Balance-of-Payments (BOP) Accounts. This annual statistical report summarizes all of the economic and financial transactions between residents of one nation and the rest of the world during a specific period of time.   The BOP accounts reflect changes in the assets and liabilities of units, such as businesses, individuals, and governments, involved in international transactions. The major transactions captured in the BOP accounts include exports and imports of goods and services; income from investments made abroad; government loans and military expenditures overseas; and private capital flows between nations.

In a statistical sense, a nation's BOP accounts are always "in balance," because double-entry book-keeping is used. For example, every payment made for goods and services imported from abroad simultaneously creates a claim on the home country's resources or extinguishes an existing liability.   Similarly, every time a domestic business firm receives payment from overseas, it either acquires a claim against resources in a foreign country, or a claim that firm held against a foreign individual or institution is erased.   In practice, however, imbalances frequently show up in the BOP accounts due to unreported transactions or inconsistencies in reporting. These errors and omissions are handled through a statistical discrepancy account.

3.1.1. The U.S. Balance of International Payments

The U.S. BOP accounts are published quarterly by the Department of Commerce. The quarterly figures are then annualized to permit comparisons across years. The transactions recorded in the balance of payments fall into three broad groups:

1. Transactions on Current Account: These transactions include imports and exports of goods and services and unilateral transfers (gifts).
2. Transactions on capital account: Under this heading, the transactions include both long-term and short-term investment at home and abroad and usually involve the transfer of financial assets (bonds, deposits, etc.).

3. Official reserve transactions: Official reserve transactions are used by monetary authorities (the Treasury, Central Bank, etc.) to settle BOP deficits, usually through transferring the ownership of official reserve assets to countries with BOP surpluses.

3.1.2   Inflow and Outflow Transactions

Transactions that bring about an inflow of foreign currency into the home country are recorded as credits. Transactions resulting in an outflow of foreign currency from the home country are listed as debits.   Thus credit items in the BOP represent an increase in a nation's buying power abroad. Debit items represent decreases in a nation's buying power abroad. If a country sells goods and services or borrows abroad, these transactions are credit items because they increase external buying power. On the other hand, a purchase of goods and services abroad or a pay down of a nation's international liabilities is a debit item because that country is surrendering part of its external buying power.

3.2   The Current Account

One of the most publicized components of the U.S. BOP is the Current Account, which contains three elements:

1. The merchandize trade balance, comparing the volume of goods exported to those imported.
2. The service balance, comparing exports and imports of services.
3. Unilateral transfers, reflecting the amount of gifts made to foreigners by domestic citizens and government grants abroad.

The merchandize trade Balance

Prior to the 1970s, the United States reported a positive merchandize trade balance, with exports exceeding imports in most years due to substantial demand for U.S. agricultural products and machinery and equipment overseas. However, domestic inflation and a strong U.S. economy relative to the rest of the world, spurring U.S. citizens to buy more goods from abroad, have turned U.S. trade surpluses into substantial deficits in recent years.

3.2.1   The Service Balance

 Because Americans typically have purchased more goods from abroad in recent years than they have sold to other countries, how has this deficit (debit balance) in the merchandize trade

account been paid for?   Part of the needed funds have come from the service balance – net sales of services to foreigners.   Services counted in the BOP accounts include insurance policies covering foreign shipments of goods, transportation services, hotel accommodations for foreigners visiting the United States, and entertainment and medical care for foreign residents. Service income for the United Stated has increased significantly in recent years.

Unilateral Transfers

The third category of transaction recorded in the current account, labeled unilateral transfers, consists of gifts or grants from U.S. residents to foreigners.   Gifts and grants are referred to as unilateral transfers because they represent a one-way flow of resources to the recipient; nothing is expected in return.   Of course, foreigners send gifts to U.S. recipients as well, but U.S. gift-giving abroad far exceeds the return flow.   For example, gifts and grants to foreigners from Americans were an estimated $51 billion larger than foreign gifts flowing into the United States in 2000(on an annualized basis).   Each gift and sent overseas represents the use of the nation's external buying power and therefore is recorded as a debit item.

3.2.2   The Balance on Current Account

When we put the above components – balance on merchandize trade, balance on services, and net unilateral transfers – together, we derive the balance on current account. The U.S. balance on current account in 2000 was an annualized debit balance estimated at more than $450 billion, though, the U.S. deficit fell in 2001. The United States experienced this debit balance primarily because the rising value of the U.S. dollar in international markets for at least [art of the period discouraged sales of U.S. goods abroad, while Americans bought more overseas goods due to the fact that many were lower cost than comparable domestically produced goods.

Persistent U.S. current account deficits tend to put upward pressure on domestic interest rates and place downward pressure on the value of the U.S. dollar in international markets. Correction of the U.S. current account deficit using the government's economic policy tools could require a slowing of domestic demand for goods and services, with resulting increases in unemployment and lower level living standards.

3.3   The Capital Account

Flows of funds destined for investment abroad are recorded in the Capital Account. Investments abroad may be long term, as in the case of a U.S. automobile company building an assembly plant in Germany, or short term, such as the purchase of six-month British Treasury Bills by U.S. citizens.   Of course, capital investment flows both ways across national boundaries.   For example, in 2000, U.S. citizens and private organizations invested more than $300 billion

overseas, while foreign individuals and private institutions invested more than $750 billion in U.S. assets. The result was a net private capital inflow into the United States estimated at more than $450 billion. U.S. Banks, hotels, energy companies, and numerous other firms have all been acquisition targets for foreign investors. In effect, foreign capital inflows have financed a substantial portion of the U.S. merchandize trade deficit as well as supporting the creation of new U.S. businesses and jobs.

Components of the Capital Account

The capital account in the balance of payments includes three different types of international investment:

  i.   Short-term Capital Flows
  ii. Direct Investments
  iii. Portfolio Investments

Direct investments and portfolio investments represent a long-term commitment of funds, involving the purchase of stocks, bonds, and other financial assets having a maturity of more than one year. Short-term capital flows, on the other hand, reflect purchases of financial assets with maturities of less than one year. These short-term financial assets are mainly government notes, deposits, and foreign currencies.

What is the essential difference between direct investment and portfolio investment? The key factor is control. Portfolio investment merely involves purchasing securities to hold in order to receive interest, dividends, or capital gains. Direct investment, on the other hand, refers to the purchase of land or the acquisition of ownership shares in an attempt to control a foreign business firm.

Claims against Foreigners

In addition to direct investment and purchases of foreign securities, the capital account also records claims against foreigners reported by domestic banks and non-banking concerns. The bulk of the claims comprise loans extended by domestic banks to firms and governments abroad. In 2000, U.S. bank claims on foreigners totaled nearly $50 billion. Privatization activities overseas have set in motion more bank lending overseas. At the same time, the over-all strength of the U.S. economy has generated ample funds to support overseas lending.

3.3.1   Official Reserve Transactions

When a nation has a deficit in its international payments accounts, it must settle up with other nations by surrendering assets or claims to foreign accounts. Official reserve transactions, involving transfer of the ownership of gold, convertible foreign currencies, deposits in the

International Monetary Fund, and special drawing rights (SDRs), are usually the vehicle for settling net differences in international claims between nations.

Official reserve accounts are immediately available assets for making international payments. When these assets increase, this represents a source of external buying power by the nation experiencing he increase. On the other hand, a decrease in official reserve accounts represents a use of external buying power by the nation experiencing the decrease. If a nation has a surplus (credit balance) in its current and capital accounts, the balance in its official reserve accounts generally rises, indicating an excess of sales abroad over foreign purchases.

Conversely, a country experiencing a deficit (debit balance) in its current and capital accounts usually finds that the balance in its official reserve accounts is falling. Such a decline can be temporarily offset, however, by official borrowing by the central bank or other government agencies. In the year 2000, foreign governments and central banks increased their holdings of gold, currencies, and other official assets in the United States by an estimated $46 billion, net. The U.S. government lost official reserve assets in the net amount of an estimated $1.6 billion in 2000. Most U.S. BOP deficits in recent years have financed themselves primarily, not through changes in official reserve assets, but through capital inflows from abroad, particularly purchases of U.S. stocks and bonds by foreign investors, and this preference of foreign governments and foreign private investors for U.S. securities increased sharply over the past decade as the U.S. economy, despite a significant slowdown, looked strong compared to many weaker economies abroad.

3.3.2 Disequilibrium in the Balance of Payments

For several years now, the United States has displayed a disequilibrium position in its balance of payments. This means that the nation has relied on foreign credit, foreign capital inflows into the U.S. and its stock of gold, foreign currencies, and other reserve assets to settle U.S. BOP deficits. However, the amount of these financial devices is limited – no nation can go on indefinitely accumulating BOP deficits, borrowing abroad, and using up its reserves. Moreover, relying on foreign capital inflows is dangerous, because the perceptions of foreign investors regarding the desirability of placing funds in the United States may change abruptly.

To this point, foreign central banks and foreign investors have regarded U.S. securities and dollar-denominated deposits as good investments and have been willing to extend an increasing volume of international credit to the United States. At some point, however, foreign governments and private investors may become satiated with dollar claims; at this point, the value of the U.S. dollar will tend to decline in international markets. U.S. purchases of goods and services abroad would also decline because of the dollar's reduced buying power. The nation's standard of living would tend to fall until equilibrium in its balance-of-payments' position is restored.

One factor that gives hope for the future lies in the capital account, in which growing investment by foreigners in the United States has helped to offset outflows of capital funds from U.S. investors. In most of the years over the past several decades, capital inflows into the United States have grown faster than U.S. investments abroad, making the United States the world's largest debtor nation. A major factor boosting foreign investment in the United States is the desire to avoid U.S. import restrictions by developing production facilities inside the United States (as many foreign automobile and electronics manufacturers have recently done). Even more significant is the political stability of the United States, offering an attractive haven for international investors concerned about instability abroad. If this capital inflow continues in the future, it will do much to alleviate the future international payments problems of the United States.

4.0   CONCLUSION

One of the most widely used sources of information concerning flows of funds, goods, and Balance-of-Payments (BOP) Accounts is one of the most widely used sources of information concerning flows of funds. This annual report summarizes all of the economic and financial transactions between residents of one nation and the rest of the world during a specific period of time. The BOP accounts reflect changes in the assets and liabilities of units, such as businesses, individuals, and governments, involved in international transactions. BOP contains information about imports and exports of goods and services as well as income from investments made abroad.

5.0   SUMMARY

A nation's BOP accounts are always "in balance," because double-entry book-keeping is used. Every payment made for goods and services imported from abroad simultaneously creates a claim on the home country's resources or extinguishes an existing liability.
Similarly, every time a domestic business firm receives payment from overseas, it either acquires a claim against resources in a foreign country, or a claim that firm held against a foreign individual or institution is erased. In practice, however, imbalances frequently show up in the BOP accounts due to unreported transactions or inconsistencies in reporting.

6.0   TUTOR-MARKED ASSIGNMENT

- Explain your understanding of Balance of Payment between nations of the world.
- Explain Inflow and Outflow Transactions between nations

7.0   REFERENCES/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
    Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
    Printed by RR Donnelley & Sons Company , U.S.A.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The
    McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004)   Investment Decisions, Concepts, Analysis and Management
    Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

BFN403   CAPITAL MARKET AND PORTFOLIO THEORY   **MODULE 4**

Unit 4 CAPITAL AND MONEY MARKET TERMS

CONTENTS
1.0 Introduction
2.0 Objective
3.0 Main Content

    3.1 Definition and Types of Securities

    4.1 Different types of Bonds and Other Transaction Terms

4.2 Brokers, and Dealers in the Capital and Money Markets

4.3 Capital Investments and Related Transactions

3.5 Shares, Share Issuance and Shareholders
4.0   Conclusion
5.0   Summary
6.0   Tutor-Marked Assignment
7.0   Reference/Further Reading

1.0   INTRODUCTION

In order to understand the transactions and dealings in the capital and money markets, it is essential to be familiar with the common terms used in stock market, security analysis and portfolio management. This unit is devoted to those terms necessary to aid the students' understanding. The list is by no means completely exhaustive, but major part of what is required for balanced understanding has been adequately included.

2.0   OBJECTIVE

After studying this unit, the student should be able to:
- Explain the important terms in stock exchange market and portfolio management
- Understand the general terms used in security analysis and portfolio management

3.0   MAIN CONTENT

3.1   Definition and Types of Securities

The word "Securities" is defined in the Exchange Control Act, 1962 as shares, stocks, bonds notes, debentures, debenture stock, units under a unit trust scheme and shares in an oil royalty. It also includes documents such as reconcilable letter of allotment, letter of rights, warrants conferring an option to acquire a security, deposit certificate in respect of securities and such other documents conferring or evidencing rights.

The term is also defined sand explained in the Securities and Exchange Commission Decree, 1988 as any note, stock, treasury stock or certificate, Government bond, debenture, participation in any profit-sharing agreement or in any oil or gas or other mineral royalty. This also include any lease, any subscription, transferable shares, investment contract, certificate of deposit for security, or rights of interest under any unit trust scheme, or in general, any instrument commonly known as "Security" but shall not include currency or any note, draft, bill of exchange or bankers acceptance which has a maturity at the time of issuance of not exceeding

nine months exclusive of days of grace, or any renewal thereof, the maturity of which is likewise limited.

The term "Security Market" is synonymously and interchangeably used with the Capital Market.

3.2   Different Types of Bonds and Other MarketTransaction Terms

Different terminologies used in the capital and money market, as discussed here to familiarize the student with such professional language

3.2.1   Above Par (Value)
        This is the price of a stock or bond higher than its face value.

3.2.2   Account Day
        The day identified by stock and commodity exchange for the settlement of the Accounts between members. The term is synonymous with settlement day.

3.2.3   Accrued Dividend
        The customary regular dividend considered to be earned, but not declared or payable on legally issued stock or other instruments of part ownership.

3.2.4   Blue ChipStock
        This is the common stock of a well-standing and strongly established company. It commands high price in the stock exchange market. The market price of blue chip companies is always on the rise.

3.2.5   Boom
        This is a period when business expands and the value of commodities and securities increases.

3.2.6   Bonus Issue
        It means the issue of shares by a company to its shareholders in proportion to their existing holdings. It is made by capitalizing existing reserves, which already belong to the shareholders and is merely the formal recognition of the increase in the capital invested by those shareholders through the plough-back of previous profits.

3.2.7   Bonus Stock
        These are the securities given most often to top management and other employees as a bonus.

3.2.8   Borrowed Stock

Stock that brokers borrow for the purpose of providing delivery on short sales made for their clients.

3.2.9 Bond

An interest-bearing certificate of debt, usually issued in series by which the issuer (a government or a corporate body) obligates itself to pay the principal amount and interest at a specified time, usually five years or more after date of issue.

Bonds may be distinguished from promissory notes or other evidences of debt because of their formal execution under seal and certificate by a bank or trust company that they are authorized by the Board of Directors of a corporation. Corporate bonds are usually secured by a lien against certain specified property.

Bonds may be issued in "Bearer" or form or "Registered" form.

3.2.10 Assumed Bond

Bonds which were originally the obligation of one corporation but which, for some reason, such as a subsidiary relationship, have been assumed as obligations as well, by another corporation. Most assumed bonds are fond in the area of railway divisional bonds in which the parent company has assumed the interests and principal obligation of the original debtor.

3.2.11 Bearer Bond

Bonds whose proceeds (principal and interest) are payable to the bearer, that is, to whoever has physical possession, since there is no identification. Such bonds always have attached coupons, which are cut and presented to collect the interest.

3.2.12 Callable Bond

Bonds which the issuing corporation or body may redeem before their maturity. Generally, some premium is paid by the issuing corporation to the holder of the bond should it be called. Interest stops when a bond is called.

3.2.13 Collateral Trust Bond

This represents the issuance of bonds for which collateral has been pledged to guarantee repayment of the principal. This type of bond usually arises out of inter-company transactions where the parent company will issue bonds with securities of a subsidiary as the underlying collateral.

3.2.14 Consolidated Bond

A debt instrument issued to take the place of two or more previously issued bonds. This may be done to simplify a debt structure or to take advantage of a lower prevailing interest rate.

3.2.15 Continued Bond

A debt instrument that does not have to be redeemed at maturity but can continue to earn interest (extended bonds).

3.2.16 Convertible Bond

These are bonds having special provision for being converted into stock at a certain time and at a specified price.

3.2.17 Coupon Bond

Bond coupon is a bond that has coupon attached to it which bears details of the interest payments. As the interest falls due, the coupons are clipped and presented for payment.

3.2.18 Debenture Bond

A bond debenture is a bond which represents a company's funded debt backed only by its credit and not secured by a pledge or mortgage of property.

3.2.19 Deferred Bond

Bond deferred is a debt instrument in which a due payment has been postponed until some future time.

3.2.20 Foreign Bond

Foreign bonds may take even more forms than domestic bonds. Some domestic issues of a nation become foreign bonds by being moved from their country of origin. Foreign bonds which are deliberately sold abroad are external bonds. Those that are payable in dollars are called foreign dollar bonds.

Some foreign bonds are payable in more than one currency at the option of the holder and some are tied to price indexes as to value of principal. Foreign bonds that have defaulted may b e assented or stamped. Those still in default are sold flat. They may be obligations of nations, states, municipalities or of foreign corporation.

3.2.21 Government Bond

Obligations of the Government regarded as the highest grade issues in existence. Obligations of governments other than those of the home government are generally designated as foreign government bonds.

3.2.22 Guaranteed Bond

This is the kind of bond on which the principal or income or both are guaranteed by another corporation or parent company in case of default by the issuing corporation.

3.2.23 Income on Bond

This represents a bond obligation upon which interest is payable to the extent earned in each year except that interest not earned and unpaid may be either fully or partially cumulative according to the terms of the contract. The income bond may be or may not be secured by the pledge of either realor personal property.

3.2.24 Bond Indemnity

This is a written instrument under seal by which the signer, usually together with his surety or bondsman, guarantees to protect another against loss. An indemnity bond in which the obligation assumed by the surety is not a fixed amount is known as an open penalty form of indemnity bond.

3.2.25 Inter-changeable Bond

This is a bond in, either coupon or registered form which may be converted to the other form or back to its original form at the option of the holder. There may be some service charge for such conversion.

3.2.26 Junior Bond

These are bonds which are not senior, that is, are secondary or subordinate to another issue which in the event of liquidation would have a prior claim to the junior bonds.-

3.2.27 Mortgage Bond

This is a bond secured by a mortgage on a property. The value of the property may or may not equal the value of the mortgage bond issued against it.

3.2.28 Open-end Bond

This is a mortgage bond of an issue which does not have a limitation on the number or amounts of bonds which may be issued under the mortgage though some relationship may be required to the number and amount of bonds to the value of the value of the property mortgaged.

3.2.29 Senior Bond

A senior bond is a bond which has first or prior claim to the assets of the debtor in the event of liquidation.

3.2.30 Sinking Fund Bond

This is a bond which has one of its features with thee requirement that the debtor provides and maintains a sinking fund to provide for the ultimate repayment and retirement of the bond.

3.2.31 Surety Bond

This is a bond or guarantee usually given by a bonding company to answer for the debt, default, or miscarriage of another. The surety (company) binds itself to ;pay if the obligor shall default in his obligation.

3.2.32 Bid Bond

This is a guarantee that a contractor will enter into a contract on which he has bid if it is awarded to him and furnish a contract bond as required by the terms of the contract.

3.2.33 Blanket Bond

This is a broad fidelity bond covering all employees of a firm and in the case of financial institutions including insurance against enumerated hazards.

3.2.34 Collateral Trust Bond

This is an issue of bonds for which collateral has been pledged to guarantee repayment ofthe principal. This type of bond usually arises out of inter-company transactions where the parent company will issue bonds with securities of a subsidiary as the underlying collateral.

3.2.35 Contract Bond

This is a guarantee of the faithful performance of a construction contract and the payment of all labour and material bills incident thereto. In those situations where two bonds are required, one to cover performance and the other to cover payment of labour and material, the former is known as performance bond and the latter as a payment bond.

3.2.36 Extended Bond

Extended bond or continued bond is a bond which has matured without the debtor paying the principal but which the debtor agrees to extend or continue to pay at some future date.

3.2.37 Fidelity Bond

This is a bond covering the risk of loss due to embezzlement or culpable negligence and the unfaithful discharge of an employee's duties.

3.2.38 Joint and Several Bond

This is a debt instrument in which the holder may look for payment from more than one party up to the full face value of the security. Those securities are mostly associated with railroad financing for such facilities as terminals used by more than one railroad. The users of the terminal agree to be responsible for the payment in the event of others'

default. The holder may collect the face amount once, but he may collect from all or only one of the obligors.

3.2.39 Legal Bond

This is a bond that the state or federal law prescribes as suitable and legal investment for fiduciary institutions. In a number of cases, "legal list" states by name and issue those investments that a fiduciary or trustee may purchase and hold for the beneficiary.

3.2.40 Revenue Bond

This is a bond, the principal of and the interest on which are to be paid solely from earnings, usually those of a municipally owned utility or other public service or enterprise revenues and possibly the properties of which are pledged for this purpose.

3.2.41 Serial Bond

This is an issue of bonds which a certain proportion of the bonds are retired at regular intervals. Serial bonds are issued where the security depreciates through use of obsolescence, and they usually provide that the bonds outstanding shall not exceed the value of the security.

3.3 Brokers and Dealers in the Capital and Money Markets

3.3.1 Brokers

Brokers are agents for the investing members of the public who want to buy or sell stocks and shares. The business of the brokers is to carry out their clients' instructions to thee best possible advantage. Brokers are paid by the clients advice required in connection with their investment affairs. They execute their clients orders by dealing with the jobbers.

Jobbers themselves have no dealings with the public. They are only allowed to deal with brokers or with each other. They are like wholesalers in other markets. Jobbers are always ready to buy or sell reasonable quantities of the stocks and shares in which they deal.

3.3.2 Brokerage

The fee or commission paid by a client to a broker for the execution of his order.

3.3.3 Broker's Loan

Loans made to stock brokers and secured by stock exchange collateral. Statistics on this type of loan are tabulated in the U.S. by the Federal Reserve Banks and others as a guide

to the Investing Public. In Nigeria, statistics of loan to stock brokers are obtainable from the Central Bank of Nigeria and Securities and Exchange Commission.

3.3.4   Bull

A term used on the stock exchange to describe a person who buys securities (or commodities) in the anticipation of a rise in the market price. If he buys without the money to pay, then he is buying "for the account" hoping to be able to sell again before the next settlement. If he is unable to do so, he will wish to carry over the transaction

until the next settlement. A "tired" or "stale" bull is one who has made a purchase and is willing to sell at no profit, or even at a loss.

Bull market is one in which the price of shares is constantly rising.

That is, it is a period of generally increasing market price.

3.3.5   Bear

A person who sells something e.g. securities, he does not possess, I.e. someone who makes a "short sale" in the anticipation of buying, before delivery is due, at a lower price. In the stock exchange, it means someone (also called a "Short") who, in anticipating lower prices, sells "for the account" in the hope of being able to buy at a lower price than he has sold at, before the next "settling day".

Bear Market is a market in which the price of shares is constantly falling.

That is, it is a period of generally increasing market price.

3.3.6   Buy-in Market

In the newly introduced central securities clearing system in Nigeria, this is the forum where short-sold securities are offered by stock-holders and sold at a premium. It is moderated by the call-over Chairman. The premium price does not affect the price and volume of the security on the Trading Day during which the default occurs and thereafter.

However, the defaulting stock broking firm has the opportunity to supply the short-fall before the regular call-over session of the working day following the Transaction Day

3.4   Capital Investments and Related Transactions

3.4.1   Capital Investments

This is a collective term representing the amounts invested in capital, fixed assets or in long-term securities as contrasted with those funds invested in current assets or short-term securities.

3.4.2   Capitalization

This is the total amount of the various securities issued by a corporation. Capitalization may include bonds, debentures, preferred and common stock. Bonds and debentures are

usually carried on the books of the issuing company in terms of their par or face value. Preferred and common shares may be carried in terms of par or stated value. Stated value may be an arbitrary figure decided upon by the directors or may represent the amount received by the company from the sales of the services at the time of issuance.

3.4.3   Capital Structure
The distribution of a corporation's capital among its several component parts such as stock, bonds, debentures and reserves.

3.4.4   Capital Share
This is the total amount paid up on all classes of shares of a company.

3.4.5   Capital (Nominal/Authorized)
This is the amount stated in the Memorandum of Association as the amount authorized to be issued and on which stamp duty has been paid.
Capital Structure is also the long-term financing of the firm represented by long-ter, debt, preference shares and net worth (net worth consists of capital, capital surplus and retained earnings). Capital structure is distinguished from financial structure which includes short-term debt plus all reserve accounts.

3.4.6   Capital (Issued and Subscribed)
This is the capital represented by the number of shares that have been issued

3.4.7   Capital (Paid-Up)
This is the amount of called-up capital that has actually been paid up by the shareholders

3.4.8   Capital (Uncalled)
This is the amount of the capital remaining uncalled on the shares actually issued. This is the portion of the share capital for which the shareholders have not actually paid for.

3.4.9   Capital Reserve
This the amount of the authorized capital which has not been called up and which the company, by special resolution, has determined shall not be capable of being called up except in the event of, and for the purpose of winding up.

3.4.10 Capital Gearing
This is the ratio of fixed interest capital to equity capital. For example, if the equity capital exceeds the fixed interest capital, we say that the capital is low geared and if otherwise, the capital is high geared.

3.4.11 Capitalization of Reserves

Capitalization of reserves is otherwise known as script issue, bonus issue or free share issue, a transfer out of reserves to share capital with the new shares thus created being issued in proportion to existing shareholders.

3.4.12 Capital gains

Profits on the sale of capital assets.

3.4.13 Capital losses

Loss on the sale of capital assets.

3.5 Shares, Share Issuance and Shareholders

3.5.1 Shares
    (i)   A unit of equity ownership in a corporation
    (ii)   A unit of ownership in a mutual fund
    (iii)   Interest often represented by a certificate in a general or limited partnership

3.5.1 Share Certificate

This is a document bearing the common seal of the company and which when issued to a member indicates the extent of his interest in the company's capital. It is a conclusive evidence of share ownership.

3.5.2 Shareholder (Ordinary Shareholder)

A shareholder is entitled to the following:
(1) To attend the Annual General Meeting either in person or by proxy and vote thereat
(2) To receive dividend declared annually
(3) To receive bonus issue/script issue
(4) Entitled to rights issue
(5) Entitled to transfer his/her shares

3.5.3 Preference Shareholder

This is a unit of ownership in a company, but preference shares have a prior claim on any profits available for dividend against the ordinary shareholders

3.5.4 Share Par Value

This is the normal and original value of a share at its first issue.

3.5.5   Share Premium
This is the excess of the price at which share are issued over the nominal value of these shares.

3.5.6   Shares Transfer
A shareholder has a prima-facie right to transfer his shares to another person in a manner provided by the Article, and such a transfer cannot be registered unless a proper instrument of transfer is delivered to the company. There is however restriction on the right of transfer by private companies

3.5.7   Shares Redeemable (Preference share)
These are a class of shares which a company may issue if authorized by its Articles. The company may provide for its repayments by creating a Reserve Fund.

3.5.8   Shares Transmission
This signifies a change in the ownership of securities other than by ordinary transfer, that is, either by operation of the law as in bankruptcy or lunacy.

3.5.9   Share Value
This is the face value, as opposed to the market value of a share in company's risk capital.

3.5.10 Share Warrant
This is a document under the seal of a company which entitles the holder of it to the shares specified therein. It is a negotiable instrument transferable by mere delivery and cannot be issued by a private company.

3.5.11 Shares (Cumulative Preference)
These are those on which the fixed dividend accumulates uhnti8l it is all paid. The arrears of any one year is usually carried forward as a charge upon the subsequent year's profit.

3.5.12 Shares (Deferred Ordinary)
These are the shares which rank for dividend after the preferred ordinary shares, and which are usually entitled to the profits then remaining.

3.5.13 Share Exchange
Two companies simply exchange shares with each other and there are no changes in the formal structure of each.

4.0   CONCLUSION

This unit featured various terms used in the capital and money market transactions.   It is imperative to know the important terms to guide the student in understanding the entire text and to be used in private investment life.   However, the list is by no means completely exhaustive, but major parts of what is required for balanced understanding have been adequately included.

5.0   SUMMARY

Getting oneself familiar with peculiar terms in an area of study is an essential aid to learning and understanding. This has been the focus of this last unit to get the students acquainted with the capital and money market terminology to help their understanding. As mentioned above, other terms and concepts exist in the capital and money market transactions but the terms discussed here form the basic understanding in the two markets.

6.0   TUTOR-MARKED ASSIGNMENT

- Explain what you understand by "Capitalization" in a financial institution.
- Explain the concept of shareholding and annual dividend payment

7.0   REFERENCE/FURTHER READING

Bodie, Z. et al. (2001) Essentials of Investment (Fourth Edition)
        Published by McGraw-Hill Company Inc., 1221 Avenue, New York, U.S.A.

Cohen, J. (1977) Investment Analysis & Portfolio Management (Third Edition)
        Richard D. Irwin Inc. New York, U.S.A.

Gitman, L.J and Joehnk, M.D. (1998). Fundamentals of Investment (Seventh Edition)
        Printed by RR Donnelley & Sons Company , U.S.A.

Olukole, R.A. (2002). The Capital Market in Nigeria.(1st Edition). R.O. Olukole Publishing, Oshodi, Lagos, Nigeria.

Rose, P.S. (2003). Money and capital market. McGraw Hill/Irwin, A Business Unit of The McGraw –Hill Companies, Inc., New York, U.S.A.

Rufus, I.A. (2004) Investment Decisions, Concepts, Analysis and Management
        Glorious Hope Printers, Glorious Hope House, 53 Jagunmolu Street, Bariga, Lagos.

UNIT 4 CURRENT STATE OF EMPIRICAL EVIDENCE OF MODELS FOR EVALUATING PORTFOLIO PERFORMANCE

CONTENTS

1.0   INTRODUCTION

Prices in financial markets aggregate dispersed information from millions of investors. A vast literature considers portfolio choice problems under symmetric information, but ignores this fundamental function of financial markets. It is no coincidence that the overwhelming majority of empirically successful equilibrium asset pricing models that embed portfolio problems assume that information is symmetric, or equivalently, that a representative agent exists. Equilibrium asset pricing models with dispersed information are complicated, informationally demanding and suffer from testability issues that limit their usefulness. However, a realistic though challenging portfolio problem must recognize that investors allocate capital across multiple assets without much knowledge of other, investors, their tastes or the precision of their information. Money managers and retail investors alike must therefore ask themselves two questions: First, what do current prices tell them about the private information of others? Second, is the information in prices valuable given their private information?

To answer the second question, we quantify the improvement in portfolio performance of a privately informed investor who updates his beliefs using market prices with those of an equally informed "dogmatic" investor who only uses his private information. We do this by providing the investor with a noisy signal of next period's actual returns, which we, the econometricians, can correctly observe. Our simple approach allows us to overcome the fundamental problem of testing a model in which agents have private information unobservable to the econometrician.

To answer the first question, Black and Litterman (1992) extract market-implied expected returns using a symmetric information equilibrium model, the CAPM, as an elegant approximation. They combine this information from prices with the private information of the investor in a Bayesian fashion. The approach is popular among active money managers who believe they hold information superior to that of other market participants, but wish to update their beliefs using market prices. However, the benefits of using a misspecified asset pricing

model to learn from market prices about other investors' views on expected returns remains an empirical question.

2.0   OBJECTIVES
At the end of this unit, you should be able to:

- Understand the empirical debates on the models for evaluating portfolio performance
- Understand the Procedures in estimating and evaluating asset pricing models.
- Understand the Pitfalls in the Current Practice and Suggestions for Improving Empirical Work

3.0   MAIN CONTENT
3.1 Empirical debates on the models for evaluating portfolio performance
The performance evaluation of investment portfolios has been widely debated in the financial literature, and is still an evolving subject. Only through measures of performance may investors and portfolio managers know if the type of information used resulted in abnormal returns. Furthermore, the issue of assessing whether fund managers add value is a challenging one, since it is closely related to questions (not easily answered) about market efficiency and information dissemination in capital markets.

The traditional approaches to measure performance are unconditional in the sense that it is assumed that no information about the state of the economy is used to form returns expectations. So, expected returns and risk are assumed to be constant over time. It is well recognized that traditional measures are biased when portfolio managers use dynamic strategies resulting in time-varying risk (Jensen [1972], Dybvig and Ross [1985], Admati and Ross [1985] and Grinblatt and Titman [1989]). Several studies have shown that predetermined information variables are useful in predicting stock and bond returns (among others, Keim and Stambaugh [1986], Fama and French [1989]. This evidence resulted in important developments on asset pricing models but, with few exceptions, little has been explored at the level of portfolio performance evaluation.

Many asset pricing theories predict that the price of an asset should be lower (its expected return higher) if the asset provides a poor hedge against changes in future market conditions (Rubinstein, 1976, Breeden, 1979). The classic capital asset pricing model (CAPM) of Sharpe (1984) and Lintner (1965) considers the case in which investment opportunities are constant and investors hold efficient portfolios so as to maximize tier expected return for a given level of variance. The CAPM predicts that an asset's risk premium will be proportional to its beta – the measure of return sensitivity to the aggregate market portfolio return. The considerable empirical evidence against the CAPM points to the fact that variables other than the rate of return on a market portfolio proxy command significant risk premia. The theory of the intertemporal CAPM (ICAPM) (Merton, 1973, Long, 1974) suggests that these additional variables should proxy for

the position of the investment opportunity set. Although the ICAPM does not identify the various state variables, leading Fama (1991) to label the ICAPM as a "fishing license". Breeden (1979) shows the Merton's ICAPM is actually equivalent to a single-beta consumption model (CCAPM) since the chosen level of consumption endogenously reflects the various hedging-demand effects of the ICAPM.

Over the years, researchers have made many attempts to refine the theoretical predictions and improve the empirical performance of the CAPM and CCAPM. Popular extensions include internal and external habit models (Abel, 1990; Constantinides, 1990; Ferson and Constantinides, 1991; Campbell and Cochrane, 1999), models with non-standard preferences and rich consumption dynamics (Epstein and Zin, 1989, 1991; Well, 1989; Bansal and Yaron, 2004), models that allow for slow adjustment of consumption to the information driving asset returns (Parker and Julliard, 2005), conditional models (Jagannathan and Wang, 1996; Lettau and Ludvigson, 2001), disaster risk models (Berkman, Jacobsen, and Lee, 2011), and the well-known "three-factor model" of Fama and French (1993). Although empirical observation primarily motivated the Fama-French model, its size and book-to-market factors are sometimes viewed as proxies for more fundamental economic variables.

The asset pricing theories listed above, to be of practical interest, need to be confronted with the data. Two main econometric methodologies have emerged to estimate and test asset pricing models: (1) the generalized method of moments (GMM) methodology for models written in stochastic discount factor (SDF) form and (2) the two-pass cross-sectional regression (CSR) methodology for models written in beta form.

The SDF approach to asset pricing indicates that the price of a security is obtained by "discounting" its future payoff by a valid SDF so that the expected present value of the payoff is equal to the current price. In practice, finding a valid SDF, i.e., an SDF that prices each asset correctly, is impossible and researchers.have to rely on some candidate SDFs to infer the price of an asset. Although testing whether a particular asset pricing model is literally true is interesting, a more useful task for empirical researchers is to determine how wrong a model is and to compare the performance of competing asset pricing models. The latter task requires a scalar measure of model misspecification. While many reasonable measures can be used, the one introduced by Hansen and Jagannathan (1997) has gained tremendous popularity in the empirical asset pricing literature. Many researchers have used their proposed measure, called the Hansen-Jagannathan distance (NJ-distance), both as a model diagnostic and as a tool for model selection. Examples include Jagannathan and Wang (1996), Li, Xu, and Zhang (2010), and Gospodinov, Kan, and Robotti (2011a). Asset pricing models in SDF form are generally estimated and tested using GMM methods. Importantly, the SDF approach and the HJ-distance Metric are applicable whether or not the pricing model is linear in a set of systematic risk factors.

When a model specifies that asset expected returns are linear in the betas (beta-pricing model), the CSR method proposed by Black, Jensen, and Scholes (1972) and Fama and MacBeth (1973)

has been the preferred method in empirical finance given its simplicity and intuitive appeal. Although there are many variations of the CSR methodology, the basic approach always involves two steps or passes. In the first pass, the betas of the test assets are estimated using the usual ordinary least squares (OLS) time series regression of returns on some common factors. In the second pass, the returns on the test assets are regressed on the betas estimated from the first pass. Running this second-pass CSR on a period-by-period basis enables obtaining the time series of the intercept and the slope coefficients. The average values of the intercept and the slope coefficients are then used as estimates of the zero-beta rate (expected return for risky assets with no systematic risk) and factor risk premia, with standard errors computed from these time series as well. given its simple intuitive appeal, the most popular measure of model misspecification in the CSR framework has been the R^2 for the cross-sectional relation (Kandel and Stambaugh, 1995; Kan, Robotti, and Shanken, 2010). This R^2 indicates the extent to which the model's betas account for the cross-sectional variation in average returns, typically for a set of asset portfolios.

After reviewing the SDF and beta approaches to asset pricing, this chapter describes several pitfalls in the current econometric analyses and provides suggestions for improving empirical tests. Particular emphasis is given to the role played by model misspecification and to the need for more reliable inference procedures in estimating and evaluating asset pricing models.

3.2 Procedures in estimating and evaluating asset pricing models.

Stockastic Discount Factor Representations

The SDF approach to asset pricing provides a unifying framework for pricing stocks, bonds, and derivative products and is based on the following fundamental pricing equation (Cochrane, 2005).

$P_t = E_t[m_{t+1}X_{t+1}]$ (3.2.1)

Where P_t is an N-Vector of asset prices at time t; $x_{t+1} = P_{t+1} + d_{t+1}$ is an N-vector of asset payoffs with d_{t+1} denoting any asset's dividend, interest or other payment received at time t +1; m_{t+1} is an SDF, which depends on data and parameters; and E_t is a conditional expectation given all publicly available information at time t.

Dividing both sides of the fundamental pricing equation by p_t (assuming non-zero prices) and rearranging yields

$E_t[m_{t+1}(1+R_{t+1}) - 1_N] = O_N$ (3.2.2)

where $R_{t+1} = \frac{x_{t+1}}{p_t} - 1 = \frac{p_{t+1} + d_{t+1}}{p_t} - 1$ is an *N*-vector of asset returns and 1_N and 0_N are *N*-vectors of ones and zeros, respectively.

Portfolios based on excess returns, $R_{t+1}^{e} = R_{t+1} - R_t^f 1_N$, where R_t^f denotes the risk-free rate at time t, are called zero-cost portfolios. Since the risk-free rate is known ahead of time, it follows that $E_t[m_{t+1}(1+ R_t^f)] = E_t[m_{t+1}](1+R_t^f) = 1$ and $E_t[m_{t+1}] = \frac{1}{1+R_t^f}$. In this case, with zero prices and payoffsthe fundamental pricing equation is given by

$$E_t[m_{t+1}R_t^e + 1] = 0_N. \tag{3.2.3}$$

As an example of the SDF approach, consider the problem of a representative agent maximizing her lifetime expected utility

$$\sum_{t=1}^{\infty}\beta^t E_0[u(c_t)] \tag{3.2.4}$$

subject to a budget constraint

$$a_{t+1} = (a_t + y_t - c_t)(1 + R_{t+1}). \tag{3.2.5}$$

where β, c_t, a_t and y_t denote the time preference parameter, consumption, asset's amount and income at time t, respectively. The first-order condition for the optimal consumption and portfolio choice is given by

$$E_t\left[\beta \frac{u'(c_{t+1})}{u'(c_t)}(1 + R_{t+1}) - 1_N\right] = 0_N. \tag{3.2.6}$$

where $u'(c)$ denotes the first derivative of the utility function $u(c)$ with respect to c. This first-order condition takes the form of the fundamental pricing equation with SDF given by the intertemporal marginal rate of substitution

$$m_{t+1} = \beta \frac{u'(c_{t+1})}{u'(c_t)} \tag{3.2.7}$$

While the SDF in Equation 3.7 is positive by construction, an SDF can possibly price assets correctly and, at the same time, take on negative values, especially when the SDF is linear in a set of risk factors. Although a negative SDF does not necessarily imply the existence of arbitrage opportunities, dealing with positive SDF's is generally desirable, especially when interest lies in pricing derivatives (positive payoffs should have positive prices). Therefore, a common practice in the derivative pricing literature is to consider Equation 3.1 with $m_{t+1}> 0$, which implies the absence of arbitrage. In some situations, however, imposing this positivity constraint can be problematic. For example, if one is interested in comparing the performance of competing asset pricing models on a given set of test assets using the distance metric proposed by Hansen and Jagannathan (1997), constraining the admissible SDF to be positive is not very meaningful. Gospodinoc, Kan, and Robotti (2010a) provides a rigorous analysis of the merits and drawbacks of the no-arbitrage HJ-distance metric.

Beta Representation

By the law of iterated expectations, the conditional form of the fundamental pricing equation for gross-returns can be reduced to its unconditional counterpart:

$$E[m_{t+1}(1 + R_{t+1})] = 1_N. \tag{3.2.8}$$

From the covariance decomposition (suppressing the time index for simplicity), the pricing equation for asset I can be rewritten as

$$1 = E[m(1 + R^i)] = E[m]E[1 + R^i] + Cov[m,(1 + R^i)]. \tag{3.2.9}$$

Then, dividing both sides by $E[m] > 0$ and rearranging,

$$E[R^i] = \frac{1}{E(m)} + \frac{Cov[m,R^i]}{Var[m]}\left[-\frac{Var[m]}{E[m]}\right] = \gamma_0 + \beta i,m^\lambda m. \tag{3.2.10}$$

using that $\frac{1}{E(m)} = 1 + R^f = 1 + \gamma_0$ from above. Note that $\beta i,m = \frac{Cov[m,R^i]}{Var[m]}$

is the regression coefficient of the return R^i on m and $^\lambda m = -\frac{Var[m]}{E[m]} < 0$ denotes the price of risk.

Recall that the SDF in is a function of the data and parameters. Suppose now that in can be approximated by a linear function of K (risk) factors f that serves as proxies for marginal utility growth:

$$m = \bar{f}\,'e, \tag{3.2.11}$$

where $\bar{f}= (1,f')'$. Then, substituting for m into the fundamental pricing equation and rearranging (see Cochrane, 2005, pp.107-108),

$$E[R^i] = \gamma_0 + \gamma'_1\beta i, \tag{3.2.12}$$

where the βi's are the multiple regression coefficients of R^i on f and a constant, γ_0 is the zero-beta rate and y_1 is the vector of risk premia on the K factors. The *beta* representation of a factor pricing model can be rewritten in compact form as

$$E[R] = B\gamma, \tag{3.2.13}$$

where $B = [1_N,\beta]$, $\beta = Cov[R, f]Var[f]^{-1}$ is an (N x K) matrix of factor loadings and $\gamma = (\gamma_0, \gamma'_1)'$. Constant portfolio characteristics can easily be accommodated in Equation 3.13 (Kan

et al., 2010). Jagannathan, Skoulakis, and Wang (2010) show how to write the beta-pricing relation when characteristics are time-varying.

3.3 Pitfalls in the Current Practice and Suggestions for Improving Empirical Work

One empirical finding that consistently emerges from the statistical tests and comparisons of competing asset pricing models is that the data are too noisy for a meaningful and conclusive differentiation among alternative SDF specifications. Given the large noise component in returns on risky assets, explaining the cross-sectional variability of asset returns by using slowly changing financial and macroeconomic variables appears to be a daunting task. Even if the asset pricing theory provides guidance for the model specification, the properties of the data and some limitations of the standard statistical methodology can create further challenges in applied work. This section discusses several pitfalls that accompany the estimation of risk premia and evaluation of competing asset pricing models using actual data. Particular attention is paid to the possibility of model misspecification presence of useless factors, highly persistent conditioning variables, large number of test assets, potential lack of invariance to data scaling, and interpretation of the risk premia.

Misspecified Models

A widely-held belief is that asset pricing models are likely to be misspecified and should be viewed only as approximations of the true data generating process. Nevertheless, empirically evaluating the degree of misspecification and the relative pricing performance of candidate models using actual data is useful.

Two main problems with the econometric analyses are present when performed in the existing asset pricing studies. First, even when a model is strongly rejected by the data (using one of the model specification tests previously described, for example), researchers still construct standard errors of parameter estimates using the theory developed for correctly specified models. This process could give rise to highly misleading inference especially when the degree of misspecification is large. Kan and Robotti (2009) and Gospodinov et al. (2011a) focus on the HJ-distance metric and derive misspecification-robust standard errors of the SDF parameter estimates for linear and nonlinear models. In contrast, Kan et al. (2010) focus on the beta representation of an asset pricing model and propose misspecification-robust standard errors of the second-pass risk premia estimates. For example, for linear SDF specifications, the misspecification adjustment term, associated with the misspecification uncertainty surrounding the model, can be decomposed into three components: (1) a pure misspecification component that captures the degree of misspecification, (2) a spanning component that measures the degree to which the factors are mimicked by returns, and (3) a component that measures the usefulness of the factors in explaining the variation in returns. The adjustment term is zero if the model is correctly specified (component (1) is zero) and/or the factors are fully mimicked by returns (component (2) is zero). If the factors are poorly mimicked by the returns, the adjustment term could be very large. This issue will be revisited in the discussion of the useless factors case.

Second, many researchers are still ranking competing models by simply eyeballing the differences in sample HJ-distances or sample R^2's without any use of a formal statistical criterion that accounts for the sampling and model misspecification uncertainty. Kan and Robotti (2009), Kan et al. (2010), and Gospodinov et al. (2011a) develop a complete statistical procedure for comparing alternative asset pricing models. These model selection tests take into account the restrictions imposed by the structure of the competing models (nested, non-nested or overlapping) as well as the estimation and model misspecification uncertainty. Gospodinov et al. (2011a) also propose chi-squared versions of these tests that are easy to implement and enjoy excellent finite-sample properties.

One recommendation for empirical work that emerges from these remarks is that the statistical inference in asset pricing models should be conducted allowing for the possibility of potential misspecification. This will ensure robust and valid inference in the presence of model misspecification as well as when the models are correctly specified.

Useless Factors

Consistent estimation and valid inference in asset pricing models crucially depends on the identification condition that the covariance matrix of asset returns and risk factors is of full rank. Kan and Zhang (1999a, 1999b) study the consequences of the violation of this identification condition. In particular, they show that when the model is misspecified and one of the included factors is useless (i.e., independent of asset returns), the asymptotic properties of parameter and specification tests in GMM and two-pass cross-sectional regressions are severely affected.

The first serious implication of the presence of a useless factor is that the asymptotic distribution of the Wald test (squared t-test) of statistical significance of the useless factor's parameter (HJ-distance case) is chi-squared distributed with $N - K - 1$ degrees of freedom instead of one degree of freedom as in the standard case when all factors are useful. The immediate consequence of this result is that the Wald test that uses critical values from a chi-squared distribution with one degree of freedom will reject the null hypothesis too frequently when the null hypothesis is true. The false rejections are shown to become more severe as the number of test assets N becomes large and as the length of the sample increases. As a result, researchers may erroneously conclude that the useless factor is priced when, in reality, it is pure noise uncorrelated with the stock market.

Another important implication is that the true risk premium associated with the useless factor is not identifiable and the estimate of this risk premium diverges at rate $\sqrt{T}$. The standard errors of the risk-premium estimates associated with the useful factors included in the model are also affected by the presence of a useless factor and the standard inference is distorted. Similar results also arise for optimal GMM estimation (Kan and Zhang, 1999a) and two-pass cross-sectional regressions (Kan and Zhang, 1999b).

The useless factor problem is particularly serious because the traditional model specification tests previously described cannot reliably detect misspecification in the presence of a useless factor. This manifests itself in the failure of the specification tests to reject the null hypothesis of correct specification when the model is indeed misspecified and contains a useless factor.

More generally, similar types of problems are symptomatic of a violation of the crucial identification condition that the covariance matrix of asset returns and risk factors must be of full rank. Therefore, a rank restriction test (see, for example, Gospodinov, Kan, and Robotti, 2010b) should serve as a useful pre-test for possible identification problems in the model (see also Burnside, 2010). However, this test cannot identify which factor contributes to the identification failure. Kleibergen (2009) proposes test statistics that exhibit robustness to the -degree of correlation between returns and factors in a two-pass cross-sectional regression framework. In the SDF framework, Gospodinov, Kan, and Robotti (2011b) develop a simple (asymptotically, d-distributed) misspecification-robust test that signals the direction of the identification failure. Only after the useless factor is detected and removed from the analysis, the validity of the (misspecification-robust) inference and the consistency of the parameter estimates can be restored.

4.0   CONCLUSION
The Sharpe (1964), Lintner (1965) and Black (1972) Capital Asset Pricing Model (CAPM) is considered one of the foundational contributions to the practice of finance. The Model postulates that the equilibrium rates of return on all risky assets are linear function of their covariance with the market portfolio. Recent work by Fama and French (1996, 2006) introduce a Three Factor Model that questions the "real world application" of the CAPM Theorem and its ability to explain stock returns as well as value premium effects in the United States market.

One of the fundamental tenants in financial theory is the CAPM as developed by Sharpe (1964), Lintner (1965) and Black (1972). The CAPM's impact over the decades on the financial community has led several authors inclusive of Fama and French (2004) to suggest that the development of the CAPM marks "the birth of Asset Pricing models".

The CAPM is an ex-ante, static (one period) model. The model's main prediction is that a market portfolio of invested wealth is mean-variance efficient resulting in a linear cross-sectional relationship between mean excess returns and exposures to the market factor (Fama and French, 1992).

5.0   SUMMARY
An important but still partially unanswered question in the investment field is why different assets earn substantially different returns on average. Financial economists have typically addressed this question in the context of theoretically or empirically motivated asset pricing models. Since many of the proposed "risk" theories are plausible, a common practice in the

literature is to take the models to the data and perform "horse races" among competing asset pricing specifications. A "good" asset pricing model should produce small pricing (expected return) errors on a set of test assets and should deliver reasonable estimates of the underlying market and economic risk premia. This unit provides an up-to-date review of the statistical methods that are typically used to estimate, evaluate, and compare competing asset pricing models. The analysis also highlights several pitfalls in the current econometric practice and offers suggestions for improving empirical tests.

6.0 TUTOR MARKED ASSIGNMENTS

- For linear SDF specifications, the uncertainty surrounding the misspecification model can be decomposed into three components. Discuss.
- Two main econometric methodologies have emerged to estimate and test asset pricing models. Discuss succinctly.

7.0 REFERENCES/FURTHER READINGS

Igbinosa, S.O. (2012). *Investment analysis and management* , Lagos: Elite Trust Ltd
Nikolay, G. &Cesare, R. (Undated), *Asset Pricising Theories, models, and Tests*, Concordia University and
CIREQ
Okafor, F.O. (1983). *Investment decisions : Evaluation of projects and securities,* London : Cassell
Osuoha, J. (2010). *Portfolio management*, Lagos: Emmaeth Printing and publishing
Osuoha, J. (2010). *Equity valuation and analysis*, Lagos: Emmaeth Printing and publishing

UNIT 5   CAPITAL ASSET PRICING MODEL (CAPM)

CONTENTS

1.0   INTRODUCTION

The CAPM was developed by Sharpe (1964). Lintner (1965) and Mossin (1966). The model shows the relationship between the expected return of a security and its unavoidable risk. It also promotes a framework for the valuation of securities and can be used to find the cost of a company's equity.

2.0 OBJECTIVES
At the end of this unit, you should be able to:

- Understand the concept of Risk and Capital Asset Pricing Model (CAPM)
- The Assumptions of CAPM
- The Implications ofCAPM
- The Capital Market Line (CML)
- The Return under CAPM
- The Workings and Illustrations
- The Limitations of CAPM
- The Arbitrage Pricing Theory (APT)

3.0 MAIN CONTENT
3.1 Risk and Capital Asset Pricing Model (CAPM)

By risk we mean that the actual returns on the investment might turn out better or worse than hoped. Risks that can on the whole be diversified away are referred to as Unsystematic sold-risk. Investments have an element of risk, which is inherited, or characteristic to the nature of investment itself. This inherent risk characteristic cannot be diversified away, and it is referred to as Systematic risk (or market risk). By accepting systematic risk, investor will expect to earn a return, which is higher than the return on a risk free investment. Investors should not require a premium for unsystematic risk because this can be diversified away by holding a well spread portfolio.

3.2 Assumptions of CAPM

1. Investors are risk averse individuals who would maximize the expected utility of their end of period wealth. This implies that the model is a one-period model.
2. Investors are price takers and have homogenous expectations about securities or return that have a joint normal distribution
3. There exist a risk-free security such that investors may borrow or lend unlimited amount at the risk-free rate.
5. All securities are marketable and perfectly divisible
6. Security markets are frictionless. This implies that information are costless and simultaneously available to all investors.

7.　　There are no market imperfections such as taxes, regulations or transaction costs. There is negligible restriction on investment and no investor is large enough to affect the market price of the stock.

8.　　The stock market is efficient; ie, security values reflect all known information which is available to all investors at low cost.

3.3 Implications ofCAPM

The CAPM has the following practical implications:

1.　　Investors should invest in a portfolio of securities in a way that diversify or eliminate most of the unique unsystematic risk from their portfolios.

2.　　The CAPM can be used in computing the discount rate for equity valuation in the dividend valuation model.

3.　　Shares in individual companies will have systematic risk characteristic, which are different to the market average. Some shares will be less risky and some are more risky than the stock market average.

4.　　If investor holds a balanced portfolio of all the stocks and shares on the stock market, be will be incurring systematic risk, which is exactly equal to the average systematic risk in the stock market as a whole.

5.　　If an investor wants to avoid risk all together, he must invest in a portfolio consisting entirely of risk-free securities.

3.4 The Capital Market Line (CML)

This is also referred to as the security marker line (SML). Giventhe assumptions of CAPM the price of each financial assetwould be expected to fall on the SML. The SML is given as:

$$E(Ri) = Rf + (E(RM) - Rf) Bj$$
$$\text{Where } Bj = \frac{Cov(Rj.Rm)}{d^2m}$$

Where:
E (Rj) = expected return on security
Rf = Risk free rate
E(Rm) = Expected rate of return on market portfolio

Cov(Rj,Rm) = Covariance of security; with the returns on the market portfolio
D^2m = variance of return on the market portfolio
B = beta factor of security

equal to the risk free rate plus a risk premium, the later being defined as the price of risk multiplied by the quantity of risk.
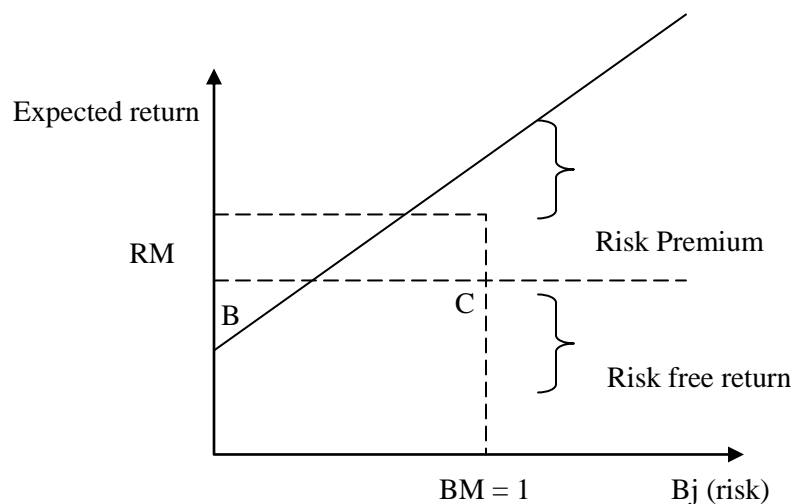Graphically, the SML can be shown as:

Expected

The security market line

An investor is expected to purchase security along the SML to maintain a balance between its expected return and the risk exposure of his/her portfolio.

3.5 Return under CAPM

Under CAPM the required rate of return is made up of two parts namely:
i.   The risk free rate
ii.   Risk premium

The Risk Free Rate
The Risk Free rate is the basic rate, which all projects must earn to compensate for the value of interest on borrowed fund.

Risk Premium

Risk premium is the additional return above the risk free rate to compensate investors for systematic risk. It is estimated by multiplying the security's beta factor by the difference

between the market return and risk free rate of return.

Therefore, the expected minimum required return is given as:
Expected Return = Risk free rate + Risk premium
That; E (r) = Rf 9E (rm) – Rf) B,
That is, E (r) = RF (E(RIM) – RF) Bj
This can simply be written as:

Where:
    Rs = Expected return on the individual security
    Rf = Risk free rate
    Rm = Market rate of return (ie market portfolio return)
    B = Beta factor of the individual security

The Beta Factor

The measure of the relationship between market returns and an individual security's return can be developed into a beta factor for the individual Security.

Beta factor is defined in the CIMA's official terminology as the measures of shares volatility in terms of market risk",

The Beta factor measures the degree of responsiveness /sensitivity of the returns of individual security to changes in the returns of the market securities. For example if the average market return rises by say 2%, the return from a share with a beta factor of 0.8 should rise by 1.6% in response to the same conditions which have caused the market return to change.

The Beta coefficient represents the systematic risk of the security i.e. that part of the total risk of the security, which cannot be eliminated through efficient diversification CAPM states that it is the systematic risk that would attract extra returns (risk premium) under equilibrium. This is to say that the only risk for which an investor is compensated is the systematic risk (non-diversifiable risk). Every investor is assumed to have efficiently diversified his or her portfolio.

The Beta Factor Measurement

Given a security j in a market of portfolio M, Beta is the Covariance between return on security, and the market portfolio M divided by the variance of the return on the market portfolio.

$$B = \frac{Cov\ (Rj,Rm)}{d^2m}$$

All gilt-edge securities (government securities) have a beta of zero because the sensitivity of its return to market movement is zero.

The market portfolio has a beta of 1 (Bm = 1). This is because its covariance with itself should under normal circumstance be equal to 1. i.e. it should be the same as the variance of the market portfolio.

The Beta factor determines the size of the risk premium. The higher the beta, the higher will be the premium (Compensation for the risk assumed by the investors).

(i) **If Beta = 1:** It means that the return on the company's security will be the same or will move in the same direction as the returns of the market securities.

(ii) **If Beta > 1**: This implies that the systematic risk is high or the returns on the company's security will fluctuate substantially in relation to the market returns.

(iii) **If Beta < 1:** This means the company's security has a low systematic risk i.e. they are considered less risky because they would experience lower fluctuations with the market returns.

(iv) **If Beta > 1:** This implies that the systematic risk is high i.e the returns on the company's

(v) **If Beta = 0:** This means the company's security has no relationship with the market. Consequently, changes in the market will not affect the returns of the company's security. Example is Government securities generally referred to as risk-free assets.

3.6 Workings and Illustrations

How to calculate Beta Factor

Beta factor coefficient can be calculated using any of the following approaches:

i. Excess Return Approach
ii. Linear Regression Approach
iii. Probability Approach.
iv. Covariance Approach
v. Standard Deviation Approach

1. Excess Return Approach

Under this method, Beta factor is given as:
B   =   <u>Excess return on investment</u>

Excess return on market

$$B = \frac{Rs - Rf}{Rm - Rf}$$

Where   Rs = Expected return on security
         Rf = risk-free rate
         Rm = market return

Illustration 1
Given a security with an expected return of 9% and a market return of 12%. Also given that government security rate is 7%. Calculate the Beta factor.

Solution

$$B = \frac{Rs - Rf}{Rm - Rf}$$

Given Rs = 9%
       Rm = 12%
       Rf = 7%

$$B = \frac{9 - 7}{12 - 7} = 2/5$$

B = 0.40

ii.   **Line Regression Approach**
     This approach measures Beta as the gradient of the line of best fit when the return on a security and the market return are plotted in a graph. Therefore Beta is given as:

$$B = \frac{n\Sigma xy - \Sigma x \Sigma y}{N\Sigma X^2 - (\Sigma X)^2}$$

where
     B = The Beta Coefficient
     X = Return from the market

     N = number of pairs of data from x and y

Example 2
Wisdom Plc wishes to determine its historic beta coefficient in order to decide the cost of capital. Its financial manager has decided to use linear regression using a sample of 6

months data about the return on Wisdom PLC ordinary shares and the market as a whole.

The sample data for the first 6 months are given below:

Monthly Return On:

Month	Market Index (%)	Wisdom's shares (%)
1	+7	+4
2	+5	+3
3	-2	-5
4	0	-3
5	+1	+2
6	+2	+4

A dividend of 15k per share was paid by Wisdom plc in six months. The month-end price is shown ex-dix,

Required

a. use the data above to calculate a beta value for Wisdom Plc
b. If the risk free rate of return is 8% per annum, calculate the required return on the shares of Wisdom Plc.

Solution

Wisdom Plc

x	y	x^2	xy
7	4	49	28
5	3	25	15
-2	-5	4	10
0	-3	0	0
1	2	1	2
2	4	4	8
13	5	83	63

b. $= \dfrac{nSxy - SxSy}{NSX^2 - (SX)^2}$

$= \dfrac{6(63) - (13)(5)}{6(83) - (13)^2}$

$= \dfrac{378 - 65)}{498 - 169} = \dfrac{313}{329} = 0.951$

Beta = 0.951

B. Required Return is: Rs = Rf + (Rm – Rf) b
Rf for 6 months = 4% (Annual rate 8%
Rm for 6 months = 7% (Annual rate 14%)

Rs = 4 + (7-4) 0.951
Rs = 4 + 2.853
Rs = 6.853%

ii. **Probability approach**
This is given as

$$b = \frac{(Rs - R's)(Rm - R'm)}{S(Rm - R'm)^2 p}$$

where

p	=	Probability attached to each possibility
R	=	Expected return on security
Rs	=	Forecast return on security
Rm	=	Expected return on market
Rm	=	Forecast return on market

The probability approach is an extension of the co-variance approach.

iv. **Covariance Approach**
Under this approach, Beta is given as:

$$b = \frac{\text{Co-variance x \& y}}{\text{Variance of x}}$$

$$\frac{\text{Coy.xy}}{\text{Varx}}$$

Where: Covxy = covariance of individual security return and market return as a whole.
Var. x = Variance of returns for the market as a whole

Illustration 3
Assume that:
a. the risk free rate of return is 6%
b. the market rate of return is 11%
c. the standard deviation of return on the market as a whole is 40%
d. the co-variance of return for the market with returns for the shares of Endurance Ltd over the same period has been 19.2%.

Calculate:
i. The Beta
ii. The security expected return for Endurance Ltd

Solution

i) $$B = \frac{\text{Cov xy}}{\text{Var.x}}$$

Since the variance is the square of a standard deviation then

ii) Rs = Rf + (Rm – Rf) B
  6% + (11 – 6%) 1.20
  = 6% + (5) 1.20
  = <u>12%</u>

v) Standard Deviation Approach
  This approach determines Beta by using the formular

  B = <u>Standard deviation of security</u> x r
    Standard deviation of market
      <u>dsxr</u>
      dm

where r = co-efficient of correlation between the security and the market.

Illustration 4

Given the following information:

The average stock market return on equity	= 15%
The risk-free rate of return (pre-tax)	= 8%
Company x: dividend yield	= 4%
Company x: share price rise	= 12%
Standard deviation of total stock market On equity	= 9%
Standard deviation of total return on Equity of company X	10.8%
Correlation coefficient between company X return on equity and average stock market return on equity	0.75

Required
i. What is the beta factor for company X share
ii. What does this information imply for the actual returns and actual value of company x shares?

Solution

(i) $B = \dfrac{d\,s\,r}{d\,m} = \dfrac{10.8\% \times 0.75}{9\%} = 0.9$

(ii) The cost of company X equity should therefore be:
  Rs = Rf + (Rm - Rf) B
  = 8% + (15 – 8) 0.9
  = 14. 3%

The Implications:
The actual returns on company X equity are 4% +12% = 16%. This implies either that the actual returns include extra returns due to factors which can be categorized as unsystematic risk factors or if

lower than it should be.

Beta of a portfolio
The Beta factor of an investor's portfolio is the weighted average beta factor of each security in the portfolio. The portfolio Beta is the weight of individual security multiplied by its respective Beta.

$$ieBp = S^n Wipi$$
$$(i = 1$$

Illustration 5
Justine is considering allocating his portfolio funds to the following securities

Security	Weight	Beta
A	15%	0.85
B	10%	1.30
C	20%	1.181
D	25%	1.25
E	30%	0.70

If the risk free rate is 12% and the return on the market portfolio is 18%, calculate:
i.   Portfolio Beta
ii.   Expected Return on Jude's portfolio

Solution
i.   Portfolio Beta $(Bp) = S^n Wipi$
                                 $i=1$
$Bp = 0.15 (0.85) + 0.10(1.30) + 0.20 (1.181) + 0.25 (1.25) + 0.30 (0.7)$
   $= 1.016$

ii.   Expected portfolio return:
      $Rp = Rf (Rm - Rf)Bp$
      $= 0.12 + 1.016 (0.18 - 0.12)$
      $= 0.18096$
      $= 18.1\%$

Beta of a Geared company
The gearing of a company will affect the risk of its equity. It then follows that if a

company is geared; its financial risk will be higher than the risk of an all equity company. Therefore, the B value of A geared company's equity will be higher than the B value of a similar ungeared company's equity.

There is a direct connection between M & M's views about gearing and weighted average cost of capital and the CAPM M &M argued that as gearing rises, the cost of equity rises to compensate shareholders for the extra financial risk of investing in a geared company. This financial risk is an aspect of systematic risk and ought to be reflected in a company's Beta factor.

The connection between M&M theory and CAPM means that it is possible to establish a mathematical relationship between the B value of an ungeared company and the B value of a similar

We should expect the B value of a geared company to be higher; because of the extra financial risk, and the formulae to learn are:

$$Bu = \frac{Bg}{1 + D(1-t)}\ldots\ldots\ldots\ldots\ldots(1)$$
veg

Where:
Bu = the beta factor of an ungeared company i.e. the ungeared beta
Bg = the beta factor of a similar, but geared company i.e. the geared beta D = the market value of the debt capital in the geared company.
Veg = the market value of the equity capital in the geared company
t = the rate of company's income tax

Re-arranging this, we have

$$Bg = Bu \left(1 + \frac{D(1-+)}{Veg}\right)\ldots\ldots\ldots\ldots\ldots(2)$$

Which is also $= Bu + Bu \dfrac{(D(1-t)}{Veg}$

Notice especially in formular 2 that the geared beta is equal to the ungeared beta plus a premium for financial risk which equals.

$$Bu \frac{\{D(1-1)\}}{Veg}$$

This is the geared Company's gearing ratio, multiplied by a tax adjustment factor (1-t) and also multiplied by the beta of an ungeared company

Illustration 6

Suppose that two companies are identical in every respect except for their capital structure. Their market values are in equilibrium, as follows:

	Geared Ltd. N'000	Ungeared Ltd. N'000
Annual profit b/fInt& Tax	1,000	1,000
Interest (4,000 x 8%)	320	-
	680	1,000
Tax at 35%	238	350
Profit after Tax = dividends	442	650
	N'000	N'000
Market value of equity	3,900	6,500
Market value of debt	4,000	-

The total value of geared Ltd is higher than the total value of ungeared , which is consistent with MM's proposition that:

Vg =Vu + Dt.

The beta value of ungeared Ltd has been calculated as 1.0.
The debt capital of Geared Ltd can be regarded as risk-free

Required:

Calculate
a.   the cost of equity in Geared Ltd
b.   the market Return Rm
c.   the beta value of Geared Ltd

Solution
a.   The cost of equity in Geared Ltd is

$$\frac{d}{mv} = \frac{442}{3,900} = 11.33\%$$

This can be checked using the MM formula

$$Kg = Ku = + \frac{(1-t)(k_{ey}\,kd)d}{Veg}$$

Since $kg = \frac{650}{6,500}$ = 10%, and $kd = \frac{320}{4000} = 8\%$

kg = 10% + { (1-0.35) (10-8) 4000) %
                                        3,900
                        = 11.33%

b. The beta value of ungeared Ltd is 1.0 which means that the expected returns from ungeared Ltd are exactly the same as the market returns and so Rm = 10%

This allows us to reverify cost of equity in Geared Ltd as:

Kg = Rf + Bu (Bu (Rm – Rf) {1 + (1-+) D

$$= 8\% + 10\ (10\text{-}8)\% \frac{(1+0.65 \times 400)}{3,900}\ veg$$

$$= 11.33\%$$

c. Bg = Bu {f 1+ (1-t) D}
     veg

$$\frac{1.0\ \{1+0.65 \times 4000\}}{3,900}$$

$$=1.67$$

Illustration 7
Musagift Ltd has an opportunity to invest in a project lasting one year.

The net cash flows and the beta factor for each of the projects are as follows:

Musagift	N'000	B
Ltd	500	1.20
Sure Success Ltd	200	1.25
	100	0.80
	200	1.35

The market returns is 12% and the risk free rate of interest is 7%.

Required:
a. Calculate the total present value of the project that can be undertaken by
1. Musagift Ltd
2. Sure success Ltd

b. Calculate the overall beta factor for sure success Ltd; Project, assuming that all three are undertaken.

c. Using the information, discuss which company is likely to be valued more highly by investors and suggest how portfolio diversification by a company can reduce the risk experienced by an investor.

Solution
a. **Project discount rates**

Musagift Ltd 7% + 1.2 (12-7)% = 13%

Sure success Ltd

i. 7% + 1.25 (12 − 7)% = 13.25%
ii. 7% + 0.8 (12 − 7)% = 11%
iii. 7% + 1.35 (12 − 7)% = 13.75%

Project net present values, assuming the cash flows all occur at the end of year 1, are

N'000

Musagift $\dfrac{500}{1.13}$ = 442.48

Sure success Ltd. i. $\dfrac{200}{1.1325}$ 176.60

ii. $\dfrac{100}{1.11}$ = 90.09

iii. $\dfrac{200}{1.1375}$ = 442.51

Allowing for rounding errors, the PV of the three projects of sure success Ltd added up to the same amount as the PV of the project of Musagift

b. Sure Success' overall beta factor is a weighted average of the beta factor of the three projects

Project	Value	B	Weighting
(i)	200	1.25	250
(ii)	100	0.80	80
(iii)	200	1.35	270
	500		600

Overall beta factor $= \dfrac{600}{500} = 1.2$

This is the same as MusagiftLtd's project Beta factor.

c. This information shows that for the projects under review both companies have the same PV and the same systematic risk (ie the same beta factors). It therefore follows that on the basis of these projects alone, investors should value both companies equally.

It might be tempting to assume that since sure success Ltd is divesting into three separate projects, whereas Musagift is putting all its eggs in one basket and investing in one project, that investors should show a preference for the low risk sure success Ltd because Musa gift's unsystematic risk will be higher. But with

CAPM theory, it is assumed that investor can eliminate unsystematic risk by diversifying their own investment portfolio, and do not have to rely on companies to do the diversifying on their behalf.

Portfolio diversification reduces risk beta use the returns from projects will not be perfectly positively correlated, and diversification reduces risk more when project returns show little or no positive correlation (or preferably a negatively correlation when only this is achievable). However, diversification by a company reduces the risk of bankruptcy for the company itself As stated earlier, investors can diversify themselves without having to rely on a company to do it for them, and provided that bankruptcy brings, no added costs to the investor, CAPM theory states that diversification by a company should have no effect on the risk experienced by a well diversified investor.

The Alpha Factor

The alpha factor in CAPM theory is another term for abnormal return due to the specific (unsystematic) risk of an individual security that can be "eliminated" by diversifying. It is the return on a share that is not due to movements in the general market. Alpha factors is the recorded difference between the actual return and **Rf+ B(Rm − Rf).**

3.7 Limitations of CAPM

1. There may be difficulty in determining the risk free rate.

2. Beta is difficult to measure accurately for an individual company future event.

3. In the real world, a perfect market does not exist.

4. The model only considers systematic risk. The model assumes that investors always hold balanced portfolio, which eliminate unsystematic risk.

5. Beta values may be unstable over time.

6. Beta estimated from historical data may not be appropriate when considering future event.

7. CAPM is a one-period model and should be used with caution especially when dealing with multi-period projects.

8. The model only examines investments from the shareholders point of view and does not consider other interest.

9. CAPM assumes insolvency cost to be zero. It assures that all assets can be sold at

going concern prices and that there are no selling, legal or other costs.

10. Result reached using CAPM may conflict with that reached using WACC.

3.8 Arbitrage Pricing Theory (APT)

APT was suggested by Ross (1976) because of the dissatisfaction with the CAPM. Unlike the CAPM that is a one-factor model (i.e. single Beta generating model), the APT is a multi-factor model (i.e. multi-beta model). APT makes use of relevant factor structure that affects security returns.

Three Main Assumptions
1. Competitive capital markets
2. Investors prefer wealth to less wealth with certainty
3. The stochastic process generating asset returns can be represented as a factor model

The Model is given by:

$Ri = E (Ri) + bifi + bi_2f_2 + ... + binfn + ei$ ....
This can be simply restated as:
$Ri = E (R1) + S^n bijfj + ei$
$\qquad i=1$

Where:

Ri = return on asset 1 during a specified time period

E(Rr) = expected return for asset i

Bij = reaction in asset 1 is returns to movement in a common factor j;.

Fj = a set of common factors with a zero mean that influence the returns on all assets

Such factors include:
1. Inflation
2. Interest supply
3. Money supply
4. Political disturbance
5. Growth in GNP etc

ei = the error term (which has unique effect on asset 1's return, assumed to be uncorrelated with the factor). By assumption, it is completely diversifiable in large portfolio and has a mean of zero.

The APT suggests that there is a linear relationship between a security return and some factors, and

$E(R1) = Rf + libil + 1_2bi_{2 +}\text{................}lnbirn$
Where Rf = risk free rate
In = risk premium related to each of the common factors

4.0 CONCLUSION

CAPM was developed in an attempt to simplify the individual portfolio theory as it relates to investment in securities. The model brings together aspect of portfolio theory, share valuation, the cost of capital and gearing. It can help to establish what the "correct" equilibrium market value of a company's share to be.

6.0 TUTOR MARKED ASSIGNMENTS

1a)   State the assumptions underlying the use of the "Capital Asset Pricing Model" and indicate with definition the linear representation of the model for stock valuation.
b.   Assume that you have invested in some stocks that have a Beta of 1.35. The risk free rate is 10 while the expected return on marked portfolio is 17%. What return would you expect on the stocks using the CAPM.

2.   Discuss the limitations of CAPM. How has APT model proffered solutions to some of these problems.

3.   The returns from the market as a whole have been 20% for some time, which compares with a risk free rate of return of 9%. Peace ltd's shares have a measured beta factor of 1.25. What would the expected returns be for Peace Ltd'sshare:

a.   If the market returns went up to 21.5%
b.   if market return slumped to 8%

4.   Holy Hills Plc currently pays a divided of N150 per share and investors expect it to grow at 12% per annum indefinitely. If the risk free rate is 14% and Holy Hills Plc has a Beta of 1.4, Find the current market price per share of Holy Hills Plc, using

6.0 SUMMARY

In this unit you have learnt the Risk and Capital Asset Pricing Model (CAPM), the different Assumptions of CAPM, the Implications ofCAPM, the concept of Capital Market Line (CML), what Return under CAPM is all about, the various Workings and

Illustrations, the Limitations of CAPM and why Arbitrage Pricing Theory (APT) was evoked.

7.0 REFERENCES/FURTHER READINGS

Igbinosa, S.O. (2012). *Investment analysis and management* , Lagos: Elite Trust Ltd

Nikolay, G. &Cesare, R.(Undated), *Asset Pricising Theories, models, and Tests*, Concordia University and CIREQ

Okafor, F.O. (1983). *Investment decisions : Evaluation of projects and securities,* London : Cassell

Osuoha, J. (2010). *Portfolio management,* Lagos: Emmaeth Printing and publishing

Osuoha, J. (2010). *Equity valuation and analysis,* Lagos: Emmaeth Printing and publishing