NATIONAL OPEN UNIVERSITY OF NIGERIA

SCHOOL OF MANAGEMENT SCIENCES

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COURSE TITLE: INVESTMENT MANAGEMENT ANALYSIS II

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MODULE 1

UNIT 1 INVESTMENT BACKGROUND

CONTENTS

1.0 INTRODUCTION

In all walks of life, people aspire to acquire more wealth, increase their asset base and make progress in life. They therefore embark on putting the money and resources they have at

present into lines of businesses, commercial and industrial endeavours to accumulate more wealth.

2.0 OBJECTIVES

After studying this unit, the student should b e able to:

* Define the concept of Investment
* Distinguish between Real Assets and Financial Assets

3.0 MAIN CONTEENT

3.1 Investment Background

Investment can have a multiplicity of phases, types and approaches. It may involve putting money into bonds, treasury bills, notes or common stock. It may involve putting your money into mortgages, cattle ranching or theatre performance. Diversity and challenge characterize investment practice. But the fundamental objective of any investment is to make gains and increase your wealth. If you do your homework well, the benefits from an investment move can be immense. However, if you are not well-informed and cannot calculate to exactitude, the outcome of your investment can be disastrous.

3.1.1 Definition of Investment

An investment can be defined as committing the money and other resources you have at the present into businesses, activities or assets with the expectation of deriving greater resources from them in the future. For example, an individual might purchase common stock today anticipating that the future proceeds from the shares will justify both the time that the money is tied up as well as they risk of the investment. The time you will spend in studying this text is also an investment into your future progress. You are forgoing current leisure or the income you could be earning in a job in the expectation that your future career will be sufficiently enhanced to justify the time and effort you put into yur studies to earn your diploma or degree. While these two investments differ in many ways, they share one common attribute that is central to all investments – you sacrifice something of value now, expecting to benefit from that sacrifice later.

3.1.2 How Investment Alternatives Compare

No matter in which area of endeavour or in what assets you are investing, investments generally involve 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, and still on-going, this debate on risk-return trade-off. It has been widely assumed that, the higher the risk undertaken in an investment, the greater the returns, and conversely, the lower the risk, the less ample the expected returns. However this is the basic truth but current research is proving that this is not always the case.

The average investor seeks a safe, inflation resistant investment that provides good returns, and with capital gain opportunities, and yet can be liquidated quickly if the need be. However, experience and happenings in the investment world are point to the fact that there is no such investment animal with all the above features and fittings in the investment forest.

SELF-ASSESSMENT EXERCISE 1

What do you understand by the word “Investment?”

3.2 Real Assets and Financial Assets

The material wealth a society possesses is determined by the productive capacity of its economy, that is, the goods and services its members can create. This capacity is a function of the real assets of the economy; the land, buildings, machines, and knowledge that cab be used to produce goods and services.

In contrast with such real assets are financial assets, such as stocks and bonds. Such securities are no more than sheets of paper, with abstract value but having legal backing attached to them. They do not contribute directly to the productive capacity of the economy. But they provide money required for production activities. Individuals or groups who hold financial assets hold their claims on real assets and profits of the company.

3.2.1. Real Assets as Generators of Income

As discussed above, real assets constitute land, buildings, machines, knowledge and skills of the workforce used in the production of goods and services. The goods and services produced are therefore sold directly or indirectly to earn income for the economy. It is in this light that real assets are regarded as generators of income.

3.2.2 Financial Assets as Claims on Income

While real assets generate income to the economy, financial assets simply define the allocation of income or wealth among investors. Individuals can choose between consuming their wealth today or investing them for future earnings. If they choose to invest, they may place their wealth in financial assets by purchasing various securities. When investors buy these securities, from companies, the firms use the money so raised to pay for real assets, such as, plants, equipment, technology and inventory. Investors' returns on then securities they hold come from income generated by the real assets that were originally bought with their money, that is, the money, that is, the money the investors put in the company. For this reason, it is said that financial assets are not earners of income but merely claimers of incomer generated by the real assets.

SELF ASSESSMENT EXERCISE 2

What is the basic difference between real assets and financial assets?

3.3 Evaluation of Common Stocks

The objective of common stocks 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 investment decisions they make. Rational investors attempt to weigh and measure the economic and "going concern" value 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, at any point in time, 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 such price fluctuation will still lie within a consensus of value and opinion held by investors.

3.3.1 The Rationale

Generally speaking, the tendency of the market place is to drive prices to extremes. When optimism is dominant, conceptions of value are liberalized and prices rise steadily. Ultimately, when optimism reaches its peak, jittery takes over that the market may slow down, prices will react downwards. As prices fall, caution turns to fear, and the price decline snowballs until it is finally recognized that the pessimism was overdone. At this point, a price reversal occurs once

again. Experienced and successful evaluators of common stock, therefore, will try to avoid becoming overly optimistic or unduly pessimistic. They will try to determine the approximate range within which the price tides will swell and ebb.

3.3.2 The Source of Common Stock Value

If you find time to ponder over this issue, you will realize that the common stock has value for only three reasons as detailed below:

(a) First Source of Value: Ownership of common stock confers on the stockholder p[art ownership of the company. The size of your ownership of the firm is dependent on the number of shares of common stock you own.

(b) Second Source of Value: If the corporation enjoys growing success, earnings and dividends payable to common stock holders will rise. This state of affair will also cause the price of the stock to appreciate.

(c) Third Source of Value: If a corporation is liquidated, the common stock holder has a claim, to any asset value that may remain after all creditors and preferred stock holders have been settled. In other words, the common stock holders are said to have residual claim on the assets of the firm upon liquidation.

But is must be mentioned that the third source of value is not a very important value as a general rule. The reason is that an efficiently operating corporation is not usually liquidated. And if a corporation is liquidated because it is not operating efficiently, the asset value is not likely to be high enough to leave any tangible residual remains for the common stock holders to divide among themselves.

3.3.3 The Concept of Present Value of Future Dividends

People who realize that the frequency of dividends pay-out and the magnitude of Naira paid each time serve as one of the factors determining that firm's common stock value. With this understanding, you will appreciate 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 of future earning is very simple to understand and it can be demonstrated with a simple example. Let us assume that Mr. Ibrahim wants to borrow N100.00 from Mr. Chike, repayable one year later. Mr. Chike wants to oblige with the loan but feels that he should ask for 10 per cent annual rate of interest considering the risk involved in

the lending, such as, the possibility of default by the borrower. If Mr. Chike now decides to lend the money out at 10 per cent interest, how much money will Chile advance Ibrahim today, on "I owe you" for N100.00 payable after one year? The answer is N90.91. This means that N90.91 is the present value of N100.00 lent out now and repayable after one year at a discount rate of 10 per cent.

SELF ASSESSMENT EXERCISE 3

Discuss two sources of common stock value.

4.0 COLNCLUSIONS

In this unit, we gave the definition of investment and what investment is all about We also discussed investment alternatives, the risk-return trade-off and what propels investors to bring out their money and invest in securities. Er studied real assets and financial assets and noted why real assets are considered to be generators of income and financial assets regarded as mere claim on income generated. Finally, we studied the concept of present value of future dividends which is, in principle, today's value of future payments.

5.0 SUMMARY

It is important to note that any investment activity undertaken anywhere in the world is aimed at making profit out of such investment. Never has it been heard or recorded in the history of investment that an investor simply invested some money in an instrument, not for the purpose of making any gains but for the sake of exchanging his capital for a return of the same amount of money invested.. Therefore profit making is at the centre of every investment be in real asset or in financial asset.

6.0 TUTOR-MARKED ASSIGNMENT

* Why are real assets regarded as generators of income in an economy?

* Discuss the present value of future dividends.

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MODULE 1

UNIT 2 AN OVER-VIEW OF THE FINANCIAL MARKETS AND INSTRUMENTS

CONTENTS

1.0 INTRODUCTION

This unit introduces you to financial markets and the instruments traded in them.
First, we discussed money market instruments and how their yields are measured. Second, we explained the nature of fixed-income capital market, and thirdly, we looked at equity securities.

It is necessary to clarify at this stage that short-term, highly liquid and relatively low risk debt instruments are traded in the money markets.

The money market is therefore market for short-term funds, usually involving borrowings lasting not more than one year before their maturity. On the other hand, in the capital market, we trade long-term securities and debt instruments that are relatively riskier and take longer duration before their repayment.

2.0 OBJECTIVES

At the end of this unit, the student should be familiar with the following:

* The money markets and the instruments traded in them
* Type of securities
* Meaning and nature of equity securities.

3.0 MAIN CONTENT

3.1 The Money Market

Money market instruments include short-term marketable securities, and other low-risk instruments. Money market instruments are sometimes referred to as cash equivalents for the fact that they can be converted to cash within a short time and because of the short maturity time they carry. Let us now look at some of the instruments treaded in the money market.

3.1.1 Treasury bills

Treasury bills are the most marketable of all money market instruments. Treasury bills represent the simplest form of borrowing. The government raises money by selling bills to the public. Investors buy the bills at a discount from the stated maturity value. At the maturity of the bill, the holder receives from the government a payment equal to the face value of the bill. The difference between the purchase price and the value at the maturity date represents the investor's earnings. It is common to see government tr4easury bills issued with maturity of 91 days or 182 days.

Individuals can purchase t4reasury bills directly at the auction or on the secondary market from government security dealers. Treasury bills are highly liquid, that is, they can be converted into cash easily and sold at low transaction cost and with little price risk.

3.1.2 Certificates of Deposit

A certificate of deposit (CD) represents evidence of time deposit (or fixed-time deposit) with a bank. Time deposit may not be withdrawn on demand before the stated maturity date. The bank pays interest and principal to the depositor5 only at the end of the fixed term of the CD. Banks are at home and comfortable when fixed deposits are made by customers with future date because it gives the banks opportunity to use the money for their other high-interest earning investments and transactions without worrying that the depositor might soon come for his money. This is why banks pay higher interest to the time depositor than a simple savings account depositor.

3.1.3 Commercial paper

Corporations are always in need of money to carry on their business. They borrow long-term funds for their capital investments and short-term funds to serve as working capital. Large well-known and efficiently managed companies often issue their own short-term unsecured debt notes directly to the public instead of borrowing from banks. Short-term unsecured debt-notes issued by corporations are called "commercial papers" (CP). Sometimes commercial papers are backed by a bank's line of credit, which gives the borrower access to cash that can be used if needed to pay off the paper at maturity.

Maturity of a CP can extend up to 270 days, and if a firm wants to issue a longer maturity CPO, it may require registration with Securities and Exchange Commission. CP is most commonly issued in multiple denominations of N100,000 each paper.

CP is considered to be a fairly safe financial asset, for the reason that a firm's health can presumably be monitored and predicted over a short-term lasting one or two months within which a CP usually gets matured. It is worth noting, however, that many firms issue commercial papers intending to roll it over at maturity, that is, issue new papers to obtain the funds needed to retire the old paper. If lenders through commercial paper become complacent about monitoring a firm's prospects and allow indiscriminate roll-overs, they can suffer big losses. CP trades in the secondary market and that makes it very liquid.

3.1.4 Bankers' Acceptance

A bankers' acceptance instrument is an order to a bank by a customer of that bank to pay a sum of money at a future date, usually within three to six months. It looks like a post-dated cheque issued privately by a customer to a bank. When the bank endorses the order for payment as

"accepted," it assumes responsibility for the ultimate payment or settlement to the holder of acceptance instrument. In this shape, the acceptance may be traded in the secondary markets just like any other claim on the bank. Bankers' acceptances are considered to be very safe assets as they allow traders to substitute the bank's credit stranding for their own. They are used widely both in domestic and foreign trade where the credit worthiness of one trader is unknown to the trading partner. Acceptances sale at a discount from the face value of the payment order, just as treasury bills sell at a discount rate from the par value.

SELF-ASSESSMENT EXERCISE 1

Discuss the features of a Treasury Bill.

3.2 The Fixed-Income Capital Market

The fixed-income capital market is made up of longer-term borrowing instruments than those that trade in the money market. Debt instrument that can be found in this market include, treasury notes and bonds, corporate bonds, and mortgages. These securities are given the title "fixed-income" securities due to the fact that most of them promise either a fixed stream of income e over time or a stream of income determinable by specified formula at maturity.

3.2.1 Treasury Notes and Bonds

The government of a country can borrow money in large part by selling Treasury Notes and Bonds to organizations or wealthy individuals. Treasury notes and bonds, by definition, are debt obligations of the government that made semi-annual interest payments and are sold at or near par value in denominations of N1,000.00 or more. Treasury notes maturities range from 10 years to 20 years. Semi-annual or annual interest payment made on treasury notes and bonds are sometimes called "Coupon Payments." It is so named because in the pre-computer days, investors would clip a coupon attached to the bond and present it to an agent of the issuing firm to receive the interest payment as specified on the attached coupon.

Treasury notes and bonds differ in two ways. First, they have different maturity periods at issuance. Second, Treasury bonds may be callable during a given period, usually the last five years of the bond before maturity. The call provision gives the Treasury the right to repurchase the bond at par value.

3.2.2 Corporate Bonds

Corporate bonds are the means by which private firms borrow money directly from the public. They are therefore long-term debt instruments issued by private corporations typically paying semi-annual or annual coupons and returning the face value of the bond to the bondholder at maturity. Please note that the major difference between corporate bonds and treasury bonds is then risk implication. Corporate bonds carry heavy risk because the issuing corporation can collapse and the bonds become worthless. But treasury bonds are issued by the government, and to that extent, it is widely regarded as risk-free. In order words, government bonds are called gilt-edged securities.

We have special kind of corporate bond called "secured bond." It is so called because it has specific collateral backing by the asset of the issuing corporation. So in the event of bankruptcy on the part of the issuing company, the bondholder will fall back on the company asset backing his bond. The unsecured corporate bonds are popularly called debentures and they have no asset-collateral backing. There is the second type of debenture called subordinated debenture which has lower priority claim on the assets of the company in the event of bankruptcy.

Corporate bonds sometimes come with options attached. Callable bonds give the firm the option to repurchase the bonds from the holder at a stipulated call price. Convertible bonds give the bondholder the option to convert the bond into stipulated number of ordinary shares (or common stocks).

3.2.3 Mortgages

Nowadays, there is increasing desire among families to own their own home, that is, to live in owner-occupier property. Therefore, so many people are investing in portfolios of mortgage loans and this security has become a major component of fixed income market.

Up to the early 1980s, almost all mortgage loans were for a long duration (between 8 – 15 years maturity), with a fixed interest rate over the life of the loan, and with equal fixed monthly repayments. These so-called conventional mortgages are still the most popular, bur a diverse set of alternative mortgage designs have appeared on the mortgage investment arena.

Fixed interest mortgages can create considerable difficulties for banks in years of increasing interest rates. Because banks commonly issue short-term liabilities (from the deposits of their customers) and hold long-term assets, such as fixed-rate mortgages, they suffer losses when

interest rates increase. The rates they pay on deposits increase, while their mortgage income remains fixed.

Banks have responded positively to this problem by creating what is called "Adjustable-Rate Mortgage." This varied type of mortgage requires the borrower to pay the interest rate that varies with some measure of the current market interest rate. The interest rate, for example, might be set at two points above the current rate on one year Treasury bills and might be adjusted once a year. Usually, a contract limiting the maximum interest change within a year and over the life of the contract. The adjustable-rate contract shifts the risk of fluctuations in interest rates from the bank to the borrower.

Because of the shifting of interest rate risk to their customers, banks arte willing to offer lower rates on adjustable-rate mortgages than on conventional fixed-rate mortgages. This has encouraged borrowers during the periods of high interest rate regime.

SELF-ASSESSMENT TEST 2

Why are Corporate Bonds considered to be very risky?

3.3 Equity

Equity securities generally confer to the holder part ownership of the corporation that issued the securities. We have two common types of equity called the "common stock" and "preferred stock."

3.3.1 Common stocks as Ownership Shares

Common stocks are also known as ordinary shares (equity securities) represent part ownership in a corporate organization. Each share of common stock entitles its owner to one vote on matters of corporate governance and the right to vote at the annual general meeting and to share in the financial benefits of ownership, for example, the right to receive dividends that the company may wish to distribute.

Essentially, a corporation is controlled by a Board of Directors elected by the shareholders. The Board meets once or twice in a year. They have a hand in the appointment of senior management who run the corporation on a day-to-day basis. Managers have the authority to make most business decisions without the approval of the board. The board's mandate is to oversee management to ensure that it acts in the best interest of shareholders.

Members of the board are elected at the Annual General Meeting of the company. Shareholders who cannot attend the meeting due to some personal commitments can vote by proxy, that is, empower another party to vote on their behalf. Usually, the management has considerable discretion to run the firm, as it deems fit in the interest of the owners of the company, without daily intervention from the board of directors.

3.3.2 Characteristics of Common Stocks

The two most important characteristics of common stocks are its residual claim and its limited liability features. Residual value implies that stockholders are the last in line of all those who have claim on the assets and income of the corporation. In the liquidation of a firm's assets, the shareholders have claim to what is left after paying all other claimants, such as the tax authorities, employees, suppliers, bondholders, and other creditors. In a going concern, shareholders have claim to the part of operating income left after interest and income taxes have been cleared. Management either can pay this residual as cash dividends to shareholders or retain and reinvest the residual in the business to increase the value of the shares.

At any point in time, the market price of a firm's common stock represents the focal judgment of all market participants as to the value of then particular firm. Other factors which affect the price of a company's ordinary share include:

(a) The profit level which the company records annually
(b) Dividend payment to common stockholders
(c) Social responsibility programmes and projects undertaken by the company
(d) Salary, fringe benefits and other conditions of service given to employees
(e) The forces of supply and demand as the stock market matches the buy and sell orders from investors.

The term "Limited Liability" means that in the event of the company's collapse, what each shareholder will lose is his original investment in the corporation. Shareholders in a limited liability firm are not like owners of unincorporated businesses whose creditors can lay claim to the personal assets of the owners, such as their personal houses, cars, furniture and other household assets.

Therefore, in the event of corporate bankruptcy, shareholders will have worthless stock and that is all they will lose.. They are not personally liable for the firm's obligations due to the fact that their liability is limited.

3.3.3. Preferred Stock

This kind of stock has features similar to both equity and debt. Like a bond, it promises to pay to its holder a fixed stream of income each year. In this sense, preferred stock is similar to an infinite-maturity bond since the dividend payment is fixed and always paid annually. Payment of preferred stock dividend is made at the end of each year. Preferred stock also resembles a bond in that it does not confer on the holder voting right in the affairs of the company.

Preferred stock is an equity investment. However, the firm retains the discretion to make the dividend payments to the preferred stockholders. Preferred stock dividends are usually cumulative e, that is, unpaid preferred stock dividends are added up or accumulated and paid in full at any future time before the common stock holders are paid any dividends. The firm has a contractual obligation to make the dividend payments to the preferred stockholder. Failure to make these dividend payments sets off corporate bankruptcy proceedings.

Preferred stock also differs from bonds in terms of its tax treatment for then firm. Because preferred stock payments are treated as dividends rather than interests on debt, they are not tax-deductible expenses for the firm.

Even though preferred stock ranks after bonds in terms of the priority of its claim to the assets of the company in the event of corporate bankruptcy, preferred stock often sells at lower yields than corporate bonds in the capital market.

SELF-ASSESSMENT TEST 3

Explain why Common Stockholders are regarded as part-owners of a corporation.

4.0 CONCLUSION

Our discussion in this unit has exposed you to the main instruments traded in the money market which are treasury bills, certificate of deposit, commercial paper and bankers' acceptance. We also studied the debt instruments, the fixed-income investments and noted their special features which included the fact that they yield to the holder fixed stream of interest over time. Equity securities include common stock and common stockholders are called part-owners of the company. Preferred stockholders rank above the common stockholders for the simple reason that they must receive their own dividends before anything is due to the common stockholder.

5.0 SUMMARY

The main thrust of this unit was to introduce the student to the group of instrument in the money market, the fixed income capital market and equity securities market. Instruments traded in each market differ in the magnitude of earnings and the risk inherent in them. We also saw that the instruments possess different maturity durations which ultimately affect their yields and their earnings.

6.0 TUTOR-MARKED ASSIGNMENT

* Explain why Treasury Bills issued by the government are said to be gilt-edged

* What are the features of Bankers' Acceptance?

7.0 REFERENCES/FURTHER READING

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UNIT 3 HOW SECURITIES ARE TRADED

CONTENTS

1.0 INTRODUCTION

In this unit, we shall be discussing financial markets and the various instruments traded in the market. We will talk about money market and fixed-income capital market. We shall be concerned with how securities are traded and where such securities are traded. Our discussion will also include the practices in a special market called “Over-the-Counter” market (OTC).

2.0 OBJECTIVES

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

* Explain the role of investment bankers in primary (new) issues market.

* Identify the various security markets

3.0 MAIN CONTENT

3.1 How Securities are Traded

As soon as a security is born, that is, as soon as it is issued for the first time, trading on it begins. It is therefore wise that we begin or examination of security trading by taking a critical look at how securities are first marketed to the public by investment bankers. Then, we turn to the various exchanges where already issued securities can be traded amongst investors. We will also look at over-the-counter market which, for the most part, exists to patronize the security traders. Then we will shade light on the mechanics of trading in these various markets. We will describe the role of the specialist in exchange markets and the dealers in over-the-counter market.

3.1.1 How Firms Issue Securities

When a firm needs to raise capital, it may choose to float securities. These new issues of stocks, bonds or other securities are marketed to the public by investment bankers in what is called the primary market, that is, market for new issues of securities. Purchase and sell of already issued securities (second-hand securities) among investors occur in the secondary market, or stock exchange market as it is alternatively called.

There are two types of bond issued in the primary market. The first is called “public offering” bond, and the second is named “private placement” Bond. The former (the first one) refers to an issue of bond sold to the general investing public that can then be traded on the secondary market. The latter (the second type) refers to an issue of bond that is usually sold to one or a few institutional investors who then hold such bond to maturity.

3.1.2 Investment Banking

Public offering of both stocks and bonds are usually marketed by investment bankers who, in this role are called underwriters. Please note that underwriters purchase securities from the

issuing company and resell them. More than one investment bankers are usually engaged to market the securities. The lead firm forms an underwriting syndicate of other investment bankers to share the risks and responsibilities for the new stock issue.

Investment bankers advise the firm regarding the terms on which it should attempt to sell the securities. A preliminary registration statement must be filed with the Securities and Exchange Commission (SEC) describing the issue and the prospects of the company. When the statement is in final form, and approved by the SEC , it is called the Prospectus. At this point, the price at which the securities will be offered to the public is announced. The prospectus is simply a description of the issuing firm and the security it is issuing.

In a typical underwriting arrangement, the investment bankers purchase the securities from the issuing company and then resell them to the public. The issuing firm sells the securities to the underwriting syndicate at a price less the offering price. This little reduction in price is called the spread and it serves as compensation to the underwriters. This procedure is called a "firm commitment," that is to say, the underwriters are committed to receive the issue and assume full responsibility especially if, per chance, the shares cannot be sold to the public at the stipulated price.

Corporations engage investment bankers either by negotiation or by competitive bidding, although negotiation is far more common nowadays. In addition to the profit resulting from the spread between the purchase price and the public offering price, an investment banker may receive shares of common stock or other securities of the firm.

SELF ASSESSMENT TEST

Explain the functions of an Investment Banker?

3.2 Where Securities are Traded

As soon as new securities are issued to the public, trading starts on them immediately. Investors may trade on them among themselves. Trading on new issues is regarded as trading on the primary market. Purchase and sale of already issued securities occur in the secondary markets which include the Nigerian Stock Exchange Market in Lagos and other exchange markets located in Kano, Kaduna, Enugu, etc.

3.2.1 The Secondary Market

The Nigerian Stock Exchange Markets provide facility for its members to trade securities, and only members of the exchange may trade there. Therefore, membership of the Nigerian Stock Exchange (NSE), or the acquisition of a seat in the exchange is a valuable asset. The majority of seats are commission broker seats, most of which are owned by the large full-service brokerage firms. The seat entitles the firm to place one of its brokers on the floor of the exchange where he or she can execute trades. The exchange members charge investors for executing trades on their behalf. The commission that members can earn through this trading activity determines the market value of a seat.

3.2.2 Over-the-Counter Market

Over-the-Counter (OTC) market, by definition, is an informal network of brokers and dealers who Negotiate sales of securities. A large number of securities are traded on over-the-counter market which allows any security to be traded there, but the OTC market is not a formal exchange. Hundreds of brokers register with the SEC as dealers in OTC securities. Security dealers quote prices at which they are willing to buy or sell securities. A broker then executes a trade by contacting the dealer listing an attractive quote. The “bid price” is the price at which a dealer is willing to purchase a security; the “ask price” is the price at which the dealer will sell a security. Hence the ask price is always higher than the bid price, and the difference, the-bid-ask spreads, makes up the dealer’s profit. The system allows a broker who receives a buy or sell order from an investor to examine all current quotes, call the dealer with the best quote, and execute a trade.

For bonds, the over-the-counter market is a loosely organized network of dealers linked or brought together by a computer quotation system. In practice, the corporate bond market is rather very thin in that there may be few investors interested in trading a giv en bond at any particular time. As a result, the bond market is subject to a type of liquidity risk, for it can be pretty difficult to sell one’s bond holdings quickly if the need arises.

SELF ASSESSMENT TEST 2

What is the process of floating new issues of Common Stock?

3.3 Trading on the Nigerian Stock Exchange

As earlier discussed, common stock and corporate bonds are the most popular financial instruments traded on the Nigerian Stock Exchange Market. We will now look at the participants in the exchange market and the type of orders placed in the transactions.

3.3.1 The Participants

We begin this interesting discussion on the mechanics of exchange trading with a brief description of the potential parties to a trade. When an investor instructs a broker to buy or sell securities, a number of players must be involved to consummate the deal.

The investor places an order with a broker. The brokerage firm for which the broker works, and which owns a seat on the exchange contacts its commission broker, who is on the floor of the exchange to execute the order. When the firm's commission brokers are over-loaded and have too many orders to handle, they will use the services of floor brokers who are independent members of the exchange (and own seats) to execute the surplus orders.

The specialist is central to the trading process. All trading on a given stock takes place at one location on the floor called the specialist's post. At the specialist's post is a monitor called the Display Book that displays all the current offers from interested traders to buy or sell shares at various prices as well as the number of shares generally available. The specialist manages the trading in the stock. The market making responsibility for each stock is assigned by the stock exchange to one specialist firm. There is only one specialist per stock but most firms will have responsibility for trading in several stocks. The specialist firm may also act as a dealer in the stock, trading for its own account.

3.3.2 Types of Orders

When you hear Market Orders at the stock market, they are simply buy and sell orders that are to be executed immediately at current market prices. For instance, an investor might call his

broker and ask for the market price of Nigerian Breweries stock. The retail broker will wire this request to the commission broker on the floor of the exchange, who will, in turn, approach the specialist's post and ask the specialist for best current quotes. Finding that the current quotes are N100.00 per share bid price, and N100.50 ask price, the investor might direct the broker to buy 100 shares at "market price" meaning that he is willing to pay N100.50 per share for an immediate transaction. Similarly, an order to "Sell at market price" means that the stock should be sold at N100.00 per share. When a trade is executed, the specialist's clerk will fill out an order card that reports the time, price and quantity of shares traded and the transaction will be reported on the exchange's ticker tape.

3.3.3 How Specialists Execute Trades

The role of a specialist is very essential in the market. For this reason, it is necessary to look at his functions in detail. As we noted in the earlier discussion, a specialist is a trader who makes a market in the shares of one or more firms and who maintains a "fair and orderly market" by dealing personally in the market. This task may require the specialist to act either as a broker or a dealer at any point in time. The role of the specialist as a broker is simply to execute the orders of other brokers. Specialists also may buy or sell shares of stock for their own portfolios. When no other broker can be found to take the other side of a trade, specialists will do so even if it means that they must buy for and sell from their own accounts. The Nigerian Stock exchange appoints these companies to perform this service and closely monitors their performance. Greater part of the specialist's job is simply keeping records of transactions. The specialist maintains a book or computer entry listing all outstanding unexecuted orders entered by brokers on behalf of clients. When the orders can be executed at market prices, the specialist executes the trade.

The specialist is required to use the highest outstanding offered purchase price and the lowest outstanding offered selling price when matching trades. Therefore, the specialist system results in an auction market, meaning all buy and sell orders come to one location, and the best orders "win" the trades. In this role, the specialist acts merely as a facilitator.

The most interesting function of a specialist is to maintain a "fair and orderly market" by acting as a dealer in the stock. In return for the exclusive right to make the market in a specific stock on the exchange, the specialist is required by the exchange to maintain an orderly market by buying and selling shares from inventory. Specialists maintain their own portfolios of stock and

quoted bid and ask prices at which they are under obligation to meet at least a limited amount of market orders. If market buy orders come in, specialists must sell shares from their own account at the ask price; if sell orders come in, they must stand willing to buy at the listed bid price.

Note that if the market is very active, the specialist can match buy and sell orders without using their own accounts. That is, the specialist's own inventory of securities need not be the primary means of order execution. Sometimes, the specialist's bid price and ask price are better than those offered by any other market participant. Therefore, at any point, the effective ask price in the market is the lower of either then specialist's ask price or the lowest of the unfilled sell orders. Similarly, the effective bid price is the highest of the unfilled buy orders or the specialist's bid. These procedures ensure that the specialist provides liquidity to the market.

The fact that the specialist is ready to trade at both quoted bid price and ask price can put him at risk sometimes. Traders with first hand details, or more precisely, large traders with ready access to superior information can trade with the specialists when they observe that the specialist's quotes are out of tune with current assessment of value based on the superior information they possess. Thus specialists who are not open to special information resources to match those held by the large traders will be at a disadvantage because their quoted prices will provide profits to the large traders with up-to-the-minute information.

We may think that the specialist will be able to protect himself if he sets a low price and a high ask price. Specialists using that strategy will be in position to protect themselves from losses only nin a period of dramatic movements in the stock price. In contrast, specialists who offer a narrow spread between the bid price and the ask price have little margin for error and must constantly monitor market conditions to avoid offering other investors advantageous terms.

Very large bid price and ask price spreads are not viable options for the specialist for two reasons. First, one source of the specialist's income is from frequent trading at the bid price and ask price levels with the spread as his trading profit. A too large quote would make the specialists quotes uncompetitive with the limit orders placed by other traders. If the specialist's bid price and ask price are constantly worse than those of public traders, it will not participate in any trades and will lose the ability to profit from the bid price and ask price spread. Another reason that prevents specialists from using large bid price and ask price spread to protect themselves is that they are under obligation to provide fair price continuity to the market.

SELF-ASSESSMENT TEST 3

How does a Specialist execute Trade in the Stock Exchange Market?

4.0 CONCLUSION

In this unit, we discussed securities and how they are treated in the stock markets. We also touched on how the firms themselves issue securities in the first place. We shed light on the primary and secondary markets and then kind of securities that are traded in each of them. We concluded our discussion by looking at what participants in the exchange markets do, the types of orders they place and the functions of the specialists in the exchange markets.

5.0 SUMMARY

Understanding different types of securities and how they are traded on the exchange markets is an important aspect of this study. For an investor to bring out his money and invbest in a security, he must first understand the risks and returns inherent in the security he is investing on. In the next unit we will devote more attention to the study of investors and investment process.

6.0 TUTOR-MARKED ASSIGNMENT

* Explain the difference between a Primary market and a Secondary Market.
* Explain the two ways by which the specialist earns his income.

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UNIT 4 INVESTORS AND INVESTMENT PROCESS

CONTENTS

1.0 INTRODUCTION

Under this unit, we shall focus on the investors and general investment process. We will review the investor's objectives, his circumstances and the constraints under which he operates. It must be mentioned that there is no one "correct" investment process. However, it is agreeable that some investment approaches are better than others.

2.0 OBJECTIVES

After studying this unit, the student should be able to understand:

* Investment objectives of individuals and institutional investors
* Something about the constraints facing individual and institutional investors

3.0 MAIN CONTENT

3.1 Investors and Investment Process

In looking at investors and the process of investment, it will be a better arrangement to divide the study into four stages, namely:

(a) The investor himself and his investment objectives
(b) Constraints facing the investor
(c) Investment policies under which he is operating
(d) Monitoring of investment portfolios

3.1.1 Individual Investors

Generally speaking, a person's age and level of responsibility affects the kind of investment he makes at each time in life. The most significant investment decision for most individuals concerns education in early life and this is interesting because it constitutes an everlasting investment in human capital. You must know that any investment in human training (human capital) is golden and life-long. In human resources management, we do say that human beings working in an organization are its most important assets. That is a good point, but those human beings must be educated, trained, skillful and productive otherwise you are amassing a population of people with no value to add to your organization.

The major asset most people have during their early working years (that is, after their education or technical/craft training) is the earning power derived from their skills. At this point in the life cycle, the most important financial decision concerns insurance against the possibility of disability or sudden death before retirement.

The first economic asset many people acquire is their own house. In Nigeria, for instance, it is a thing of pride and prestige to live in owner-occupier property. One can view the purchase of one's own house as a hedge against two types of risk. The first is the risk of increase in rent payable annually. If you pay rent to yourself, of course, you will not bother about the mounting increases in rent by landlords everywhere in the city. The second kind of risk is the fact that the particular house or apartment where you live may not always be available to you. You may be given a quit notice by your landlord. But, by buying the house yourself, you guarantee its availability always until you decide to dispose of it.

The more interesting economics of owning your own house is that landed property (land and building) are the only assets, in theory and practice, that appreciates in value as time passes-by and as the city where the house is located develops and gets more densely populated.

As ne gets older and accumulates savings to provide for consumption during retirement, the composition of wealth moves from human capital to financial capital. At this point, portfolio choices become progressively more important. At middle age, most investors will be willing to take on a meaningful amount of portfolio risk in order to increase their earnings.

3.1.2 Professional Investors

Professional investors are seasoned experts who provide investment management service at a free to the investing public. Some are employed directly by wealthy individual investors. Some professional investors pull individual investors' funds together and manage them, and others choose to manage investments for institutional investors.

When we have "Personal Trust" which is simply an interest in an asset held by a trustee for the benefit of another person. Personal trust is established when an individual confers legal title to property to another person or institution, who then manages that property for one or more beneficiaries. The holder of the title is called the "Trustee" meaning that a property has been legally entrusted to that person to manage for another person. The trustee can be a bank, a lawyer or an investment professional. The objectives of personal trusts normally are more limited in scope than those of the individual investor. Because of their fiduciary responsibility, personal trust managers typically are expected to invest with more risk aversion than individual investors.

There is also what is called “Pension Funds,” an arrangement in which both the employer and employee contribute money into a pension scheme for the employee and the money is invested and managed by professional fund managers for the benefit of the employee at retirement.

Another form of professional investors in this light is the bank. Most bank investments are loans to businesses and individuals, and most of their liabilities are accounts of depositors. Banks try to match the risk of assets to liabilities while earning a profitable spread between then lending and borrowing rates. The difference between the interest charged to a borrower and the interest rate a bank pays on its liabilities is called the bank’s interest rate spread.

Most liabilities of banks and thrift institutions are time or saving deposits, and certificate of deposits (CDs). Time and saving deposits are of various maturities. Some time deposits may extend as long as seven years, but on the average they are of fairly short maturity. CDs are bonds of various maturities that the bank issues to investors. While the range of maturities is from 90 days to 10 years.

Traditionally, the larger part of the loan portfolios of saving and loan institutions are in collateralized real estate loans, better referred to as mortgages. Typically, mortgages are of 10 to 15 years maturity, significantly longer than the average maturity of bank liabilities. Thus the profits of then savings and loans institutions are exposed to interest rate risks. When interest rates rise in the economy, they have to pay higher interest rates to depositors of funds in their institutions while the interest earnings from their longer-term investments remain fixed. This problem contributed to the collapse of many savings and loans outfit in the past.

It has often been stated that the best investment to make in a developing economy, such as Nigeria, is the investment that can produce profit and also create new jobs. For instance, investment in a bank’s fixed deposit is a solo-profit investment. It produces interest yield for the investor alone. No job is created to make life easy in the society. In contrast, investment in a productive venture, such as plantation production of rice will produce profit for the plantation owner and create jobs for plantation workers.

3.2 Portfolio Management

Portfolio Management is the art of handling a pool of funds so that it will both preserve its original worth and, over time, be able to appreciate the value and yield adequate returns consistent with the level of risks assumed.

Experienced portfolio managers, in their pursuit of this all-too-often elusive goal, employ a wide variety of investment philosophies and procedures. In fact, there are many methods of managing a portfolio just as there are many portfolio managers.

Some portfolio managers are able to predict the ebb and flow of their investments on business cycle analysis or the identification of technical trends. Others structure their equity portfolios to resemble closely the composition of a market index, thus placing special emphasis on those industrial sectors believed to be particularly attractive, while, at the same time, limiting or eliminating those considered less attractive. Still others confine their efforts almost entirely on individual stock selection techniques. Generally speaking, both amateur individuals and professional institutions prefer to adopt broad and holistic approach in their portfolio management practices to achieve the best of results.

3.2.1 Objectives of Portfolio Management

Investment objectives cannot be set in a vacuum. They must reflect both investment market conditions and the particular requirements and constraints of the investor. As discussed earlier on, the purpose of investment anywhere in the world is to make profit out of the money or resources invested. In every investment move, there are underlying risks and it is assumed (although not always true) that the higher the risk involved in an investment, the greater the returns.

3.2.2 The Conflict between Risks and Returns

Generally speaking, all investors would like to preserve their principal capital and make sure that it is always safe and free from any risk, and whenever they invest, to maximize the rate of returns on their investments (net of tax and inflation). Unfortunately, these admirable twin objectives conflict with each other. It is the central tenet of finance in the academic universe that the greater the assurance that the principal sum will be preserved from loss, then lower

the anticipated rate of return. Conversely, the higher the expected return from an investment, the greater then possibility of loss. However, practical investment results, have shown that, in the great majority of cases, less risky investments earn more income than high-risk investment, and there lies the dilemma of risk-return assumptions in investment. In practice therefore, increased investment risk does not always guarantee a higher return on investment.

Stocks versus Bonds: The investor's risk-return trade-off usually discussed in terms of the relative rates of return provided by the stock market versus fixed-income securities. Over the long run, do in fact, provide higher total returns. In other words, higher actjual returns are related to higher anticipated risk. An investment guru summarized this long view of equity earnings by stating as follows: "The most enduring relationship in all finance is perhaps, the relationship between returns on equities and the returns on bonds. In all periods of American, British and African history, over long periods of time, equities have provided higher returns than bonds. The reason is crystal clear; equities are riskier than bonds."

3.3 Investment Policies

The single and most important objective of every investor is to make profits out of his investment. But there are some constraints, risks and huddles that must be scaled before getting to the paradise of investment profits. T be a successful investor, you need to put sound policies and plans in place to ensure that you are not taking undue risks or making disastrous investment decisions.

At all times, your investment policies must reflect appropriate risk-return profile as well as needs for liquidity, income generation, and tax positioning. For example, the most important portfolio decision an investor makes is the proportion of the total investment fund allocated to risky as opposed to safe assets such as money market securities, usually called cash equivalents. This choice is the most fundamental means of controlling investment risk.

It follows, therefore, that the first decision an investor must make is the asset allocation decision. Asset allocation refers to the allocation of the portfolio across major asset categories such as: Money market assets (cash equivalents), fixed-income securities (primary bonds), common stocks, real estate, sometimes precious metals and other commodities. Only after the broad asset classes to be held in the portfolio are determined can one sensibly choose then specific securities to purchase.

Investors who have relatively high degree of risk tolerance will choose asset allocation more concentrated in higher-risk investment classes, such as equity, to obtain higher expected rates of return. More conservative investors will choose asset allocation with a greater weight in bonds and cash equivalents

3.3.1 Policies for Institutional Investors

Individual investors need not concern themselves with organizational efficiency. But professional investors with large amounts to invest must structure asset allocation activities to decentralize some of the decision making.

A common feature of large organizations is the investment committee. The investment committee includes top management officers, senior portfolio managers, and senior security analysts. The committee determines investment policies and verifies that portfolio managers and security analysts are operating within the bounds of specified policies. A major responsibility of the investment committee is to translate the objectives and constraints of the company into what may be called “asset universe” an approved list of assets for each of the company’s portfolios.
Thus, the investment committee has responsibility for broad asset allocation. While the investment manager might have some leeway to tilt the portfolio toward or away from one or another asset class, the investment committee establishes the benchmark allocation that largely determines the risk characteristics of the portfolio. The task of choosing specific securities from the approved universe is more fully delegated to the investment manager.

3.3.2 Taxes and Investment Strategy

In our discussion of asset allocation, we have not said anything with regard to the position of income tax. Of course, to the extent that investments are tax exempt, as is the case for pension funds, or when the portfolio constitutes investments in tax-sheltered zone, such as individual retirement account, taxes are irrelevant to your portfolio decisions.

But suppose at least some of your investment income is subject to income taxes. You will be interested in the after-tax rate of return on your portfolios. At first glance, it might appear to be a simple matter to figure out after-tax returns on stocks, bonds, and cash if you know the before-tax returns, but there are several complicating factors.

The first and, of course, the easiest issue you will consider is the fact that you can choose between tax-exempt and taxable bonds. You will choose to invest in tax-exempt bonds if your personal tax rate is high enough that the after-tax rate of interest on taxable bonds is less than the interest rate on tax-exempt bonds.

The second complication is not as easy to deal with as the first. Part of your return will be in the form of a capital gain or loss. Under the current tax system, you pay income tax on capital gain only if you realize it by selling the asset during the holding period. This applies to bonds as well as common stocks and makes the after-tax rate of return for any investment period a function of whether the security will actually be sold by the end of that period., Sophisticated investors time the sale of securities and the realization of capital gains or losses ton maximize their tax advantage. This often calls for se4lling securities that are nlosi9njgn money at the end of then tax year and holding on to those that are making money. Furthermore, because cash dividends on stocks are fully taxable while capital gains taxes can be deferred by not selling stocks that appreciate in value, the after-tax rate of return on stocks will depend on the dividend payout policy of the corporation.

3.3.3 Monitoring Investment Portfolio

Choosing the investment portfolio requires the investor to set objectives, acknowledge constraints, determine asset-class proportions, and carry out security analysis. By the time we have completed all of these steps, many of the inputs we have used will be out of date. Moreover, our circumstances as well as our objectives change over time. Therefore, the investment process requires that we continually monitor and update our portfolios.

Moreover, even if our circumstances do not change, our portfolios necessarily will. For example, suppose you currently hold 100 shares of Seven-Up Bottling Company, selling at N60,00 per share, and 100 shares of Nigerian Breweries Limited, selling at N80.00 per share. If the price of Seven Up Bottling Comp[any falls to N50.00 per share, while that of Nigerian Breweries rises to N90.00 per share, the fractions of your portfolio allocated to each security will change automatically. The value of your investment in Seven-Up is now lower and the value of your investment in the Nigerian Breweries is higher. Unless you are happy with this reallocation of investment proportions, you will need to take some action to restore the portfolio weights to desired levels.

Asset allocation also will change over time, as the investment performance of different asset classes diverge. If the stock market out-performs the bond market, the proportion of your portfolio invested in stock will increase, while the proportion invested in bonds will decrease. If you are uncomfortable with this shift in the asset mix, you must re-balance the portfolio by selling some of the stocks and purchasing bonds.

4.0 CONCLUSION

In this unit, we looked at the individual investors and the institutional investors as well. We studied the best way to manage your portfolio, the essential objective of portfolio management and the conflict existing between risk and expected return in our investments. We also touched on tax and investment strategy, and how to monitor investment portfolios to achieve the best of results.

5.0 SUMMARY

We repeatedly emphasized in our study that the essence of investment is to make profit out of the money we are investing. Sound knowledge of investment is an asset to us both for the purpose of passing our examination and for our future endeavours as some of us will be going into business and then using the knowledge gained in this study to prosper our business.

6.0 TUTOR-MARKED ASSIGNMENT

* What is the marked difference between individual investor and institutional investor?
* Discuss the conflict between risk and return in investment practice.

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MODULE 2

Unit 1 Risk and Return on Assets
Unit 2 Fixed-Income Securities
Unit 3 Capital Asset Pricing and Arbitrage Pricing Theory
Unit 4 Efficient Diversification

UNIT 1 Risk and Return on Assets

CONTENTS

1.0 INTRODUCTION

Here we are going to study the risk and return on assets and the returns various assets will yield over multiple periods. We will look at some conventions that are followed in quoting rates of

return and risk and risk premium. Further, we will shade light on asset allocation across risky and risk-free portfolios.

2.0 OBJECTIVES

After studying this unit, the student will be able to:

* Use the data on the past performance of stocks and bonds to predict the future
* Understand Conventions for quoting rates of return
* Understand the process of asset allocation across risky and risk-free portfolios

3.0 MAIN CONTENT

3.1 Risk and Return on Assets

We may start this discussion by wanting to now, in the first place, what constitutes a satisfactory investment portfolio. This question is not very easy to answer. However, to some extent, a reasonable answer is a bank's savings account (because it is a risk-free asset) unless the bank is collapsing so soon and the Nigerian Deposit insurance Corporation (NDIC) can do nothing to rescue the depositor. Nowadays, investors have access to a vastly wider array of assets and may contemplate complex portfolio strategies that may include foreign stocks and bonds, real estate, precious metals and collectibles.

Clearly, every individual security must be judged on its contributions to both the expected returns and the risk of the entire portfolio. But these contribution must be evaluated in the context of the expected performance of the over-all portfolio. To guide you in forming reasonable expectations for portfolio performance, we will examine various conventions for measuring and reporting rates of return. Given these measures, we turn to the historical performance of several broadly diversified investment portfolios. In doing so, we use a risk-free portfolio or Treasury bills s a benchmark to evaluate the historical performance of diversified stock and bonds portfolios.

Then we will proceed to consider the trade-off investors face when they practice the simplest Form of risk control, that is, choosing the fraction of the portfolio invested in virtually risk-free money market securities versus risky securities such as common stocks. We show how to

calculate the performance one may reasonably expect from various allocations between a risk-free asset and a risky portfolio and discuss the considerations that determine the mix that would best suit different investors.

Rates of return: A key measure of an investor's success is the rate at which his funds have grown during the investment period. The total "Holding-period Return" HPR of a share of common stock depends on the increase (or decrease) in the price of the share over the investment period. The rate of return is defined as Naira earned over the investment period (price appreciation as well as dividends) per Naira invested, that is:

$$\text{HPR} = \frac{\text{Ending} - \text{Beginning price} + \text{Cash dividend}}{\text{Beginning price}}$$

This definition of common stock Holding-Period Return (HPR) assumes that the dividend is paid at the end of the holding period. To the extent that dividends are received earlier, the definition ignores reinvestment income between the receipt of the dividend and the end of the holding period. Recall also that the percentage return from dividends is called the dividend yield, and so the dividend yield, plus the capital gains yield equals the HPR.

3.1.1 Investment Return over Multiple Period

The holding period return is a simple and unambiguous measure of investment return over a single period. But often you will be interested in average returns over longer periods of time. For example, you might want to measure how well a mutual fund has performed over the preceding five-year period. In this case, return measurement is more ambiguous.

Consider, for example a fund that starts with one million Naira at the beginning of the year. The fund then receives additional funds to invest from new and existing shareholders and also receives requests for redemptions from existing shareholders. Its net cash inflow can be positive or negative. Suppose its quarterly results are as given in the table below, with negative numbers enclosed in parenthesis:

	1st Quarter	2nd Quarter	3 Quarter	4th Quarter
Asset under management at the start of quarter (N Million)	1.0	1.2	2.0	0.8
Holding period Return (%)	10-0	25.0	(20.0)	25.0
Total assets before net inflows	1.1	1.5	1.6	1.0
Net Inflow (N Million)	0.1	0.5	(0.8)	0.0
Assets under management at the end of quarter (N Million)	1.2	2.0	0.8	1.0

The story behind the figures given above is that, when the firm is doing well (that is reporting good HPR), it attracts new funds, otherwise it may suffer a net outflow. For example, the 10% return in the first quarter by itself increased assets under management by 0.10 x Ni million = N100,000; it also elicited new investments of N100,000 thus bringing assets under management to N1.2 million by the end of the quarter. An even better HPR in the second quarter elicited a larger net inflow, and the second quarter ended with N2 million under management. However, HPR in third quarter was negative and net inflows were negative.

3.1.2 Risk Premiums and Risk Aversion

Every investment involves some degree of uncertainty about future holding period returns, and in most cases that uncertainty is significant. Sources of investment risk range from microeconomic fluctuations, to the changing fortunes of various industries, to asset-specific unexpected developments.

How much, if anything, should you invest in the common stock of a blue-chip company? First, you must ask how much of an expected reward is offered to compensate for the risk involved in investing money in the stocks.

We measure the reward as the difference between the expected HPR on the stock and the risk-free rate, that is, the rate you can earn by leaving money in risk-free assets such as Treasury bills, money market funds or in the bank. We call this difference, the risk premium on common stocks. For example, if the risk-free rate of return is 6% per year, and the expected return from the common stock is 14%, then the risk premium on stocks is 8% per annum.

The degree to which investors are willing to commit funds to stocks depends on risk aversion. It seems obvious that investors are risk averse in the sense that, if the risk premium were zero, people would not be willing to invest any money in stocks. In theory then, there must always be a positive risk premium on stocks in order to induce risk-averse investors gto hold the existing supply of stocks instead if placing all their money in risk-free assets.

3.2 Historical Record of Assets

The record of the past rate of return is one source of information about risk premiums and standard deviations. We can estimate the historical risk premium by taking an average of the past differences between holding-period returns (HPRs) on an asset class and the risk-free rate.

3.2.1 Inflation and Real Rates of Interest

If for instance, the asset an investor is holding has 10% annual rate of return, this means that your investment is worth 10% more at the end of the year than it was at the beginning of the year. This does not necessarily mean, however, that you could have bought 10% more goods and services with that money, for it is possible that in the course of the year, prices of goods and services also increased. If prices have changed, the increase in your purchasing power will not equal the increase in your Naira wealth.

At any time in the commercial and industrial world, the prices of some goods may rise while the prices of other goods may fall. The general trend in prices is measured by examining changes in the consumer price index, usually called CPI for short. The CPI measures the cost of purchasing a bundle of goods that is considered representative of the "consumption basket" of a typical urban family. Increase in this standardized consumption basket are indicative of a general trend toward higher prices. The "inflation rate" or the rate at which prices are rising, is measured as the rate of increase in the CPI.

3.2.2 The Equilibrium Nominal Rate of Interest

We have seen that the real rate of return on an asset is approximately equal to the nominal rate minus the inflation rate. Because investors should be concerned with their real returns, that is, the increase in their purchasing power, we would expect that, as inflation increases, investors will demand higher nominal rates of return on their investment.

It has been argued in some quarters that the nominal rate ought to increase one for one with increases in the expected inflation rate. If we use the notation E(i) to denote the current expectation of the inflation rate that will prevail over the coming period, then we can state it as in the following equation: $R = r + E(i)$

Then, suppose the real rate of interest is 2% and the inflation rate is 4% so that the nominal interest rate is about 6%. If the rate of inflation increases by 5%, the nominal rate should climb to roughly 7%. The increase in the nominal rate offsets then increase in the inflation rate giving the investors an unchanged growth of purchasing power at a 2% real rate. The evidence for this equation is that periods of high inflation and his nominal rates generally coincide.

3.3 Asset Allocation Across Risky and Risk-free Portfolios

In our study, we have seen that investment in long term bonds is riskier than investment in treasury bills and that stock investment is even worse than all in terms of risk involvement. But the riskier investments offer higher average returns, all things being equal. Investors therefore choose securities to invest on by constructing investment portfolios that include securities from many or all asset classes.

Experienced investment managers know it all. They have expressed the view that the most fundamental decision of investing is the allocation of your assets. That is determining how much you should own in stock, how much you should invest in treasury risk-free assets, and of course, how much you should maintain as cash reserves. If your choice is carefully and wisely made, it will affect your total returns positively.

It has been suggested that the most straightforward way to control riskiness in the portfolio of your assets is to maintain 50 percent investment on treasury bills and other money market risk-free assets, and to invest 50 percent on a range of risky assets.

Let us start our discussion of the risk-return trade-off available to investors by examining the most basic asset allocation choice; the choice of how much of the portfolio to place in risk-free money market securities versus other risky asset classes.

We will denote the investor's portfolio of risky assets as P, and the risk-free asset as F.
We will assume for the sake of illustration that the risky component of the investor's over-all portfolio is made up of two mutual funds, one invested in stocks and the other invested in long term bonds. For now, we take the composition of the risky portfolio as given and focus only on the allocation between it and risk-free securities.

3.3.1 Risky Assets

When we shift wealth from the risky portfolio (P) to risk-free portfolio (F), we do not change the relative proportions of the various risky assets within the risky portfolio. What we do is to reduce the relative weight of the risky portfolio as a whole in favour of risk-free assets.

Let us use a simple example to demonstrate the procedure. Assume the total market value of an investor's portfolio is N300,000. Out of that, N90,000 is invested in the money market funds, a risk-free asset. The remaining N210,000 is in risky securities, say, N113,000 is invested in Vanguard Trust Fund and N96,000 in Fidelity Investment Bond Fund.
The Vanguard Trust Fund (V) is passive equity fund, and the Fidelity Investment Bond Fund (F) invests primarily in corporate bonds with high safety ratings and also in Treasury bonds. We choose these two funds for the risky portfolio in the spirit of low cost, well diversified portfolio.

The holdings in Vanguard and Fidelity make up the risky portfolio, with 54% in V and 46% in F. We use "W" below to denote "Weight" so we have:

M(V)	=	113,400/210,000	=	0.54 (Vanguard)
W(F)	=	96,600/210,000	=	0.46 (Fidelity)

The weight of the risky portfolio, P in the complete portfolio (that is, including risky and risk-free investments) is denoted by Y andn so the weight of the money market fund is P in 1 – Y

	Y	=	210,000/300,000	=	0.7 (risky assets, portfolio P)
1 -	Y	=	90,000/300,000		0.3 (risk-free assets)

The weights of the individual assets in the complete portfolio © are:

Vanguard	113,400/300,000	=	0.378
Fidelity	96,600/300,000	=	0.322
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Portfolio P	210,000/300,000	=	0.700
Ready Asset F	90,000/300,000	=	0.300
Portfolio C	300,000/300,000	=	1.000

3.3.2 Risk-Free Assets

The power to tax and to control the money supply is the reason the government alone issues default-free bonds. The default-free guarantee by the government itself is not entirely sufficient to make the bonds risk-free in real terms, since inflation affects the purchasing power of the proceeds from an investment in treasury bills. The only risk-free asset in real terms would be a price-indexed government bond. Even then, a default-free perfectly indexed bond offers a guaranteed real rate to an investor only if the maturity of the bond is identical to the investor's desired holding period.

These qualifications notwithstanding, it is common to view Treasury bills as the risk-free asset. Because they are short-term investments, their prices are relatively insensitive to interest rates fluctuations. Any inflation uncertainty over the course of a few weeks, or even months, is negligible compared to the uncertainty of stock market returns.

In practice, most investors treat a broad range of money market instruments as effectively risk-free assets. All the money market instruments are virtually immune to interest rate risk (unexpected fluctuations in the price of a bond due to changes in market interest rates) because of their short maturities, and all are fairly safe in terms of default or credit risk.

4.0 CONCLUSION

In this unit, we studied investment returns over multiple periods and the risk premium earnable on an investment. We also looked at how inflation affects the real value of an investor's return. We talked about the effect of asset allocation across risky and risk-free assets and whagt the investor stands to benefit if asset allocation is wisely made. Some assets are riskier than others although may carry more returns. Therefore, an investor needs to make good judgment and careful study of the situation on the ground before making any investment move.

5.0 SUMMARY

We now know that investment in an asset is prone to risk and return. Some investments carry more risk than others and, for this reason, it is important for every investor to invest wisely. One way of making this wise investment decision is to allocate your assets across both risky and risk-free portfolios. In the next unit, we shall be looking at the earnings and risks inherent in fixed income securities.

6.0 TUTOR-MARKED ASSIGNMENT

* Explain what you understand by Risk Premium
* What is inflation and how does it affect your return investment?

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MODULE 2

UNIT 2 FIXED INCOME SECURITIES

CONTENTS

1.0 INTRODUCTION

We discussed in unit 1 the risk and return relationships. We treated securities at a high level of abstraction, assuming implicitly that detailed analysis of each security has been perforemed and that its risk and return features have been completely assessed.
We are now turning to specific analysis of particular security markets. We will examine valuation principles, determinants of risk and return, and portfolio strategies commonly used within and across the various markets.

2.0 OBJECTIVES

After studying this unit, you should be able to:

* Compute a bond's price given its yield to maturity
* Understand how bond prices change over time for a given interest rate.

3.0 MAIN CONTENT

3.1 Fixed Income Securities

We begin by analyzing fixed-income securities. A fixed-income security by definition is a security (such as a bond) that pays a specified cash flow over a specified period. Fixed-income securities have the advantage of being relatively easy to understand because the level of payment is specified in advance. Uncertainty surro0unding cash flows paid to the security holder is reduced to the barest minimum as long as the issuer of the bond is sufficiently credit-worthy. That makes these securities a convenient starting point for our analysis.

This unit reviews the principles of bond pricing. We show how bond prices are set in accordance with market interest rates, and why bond prices change with those rates. After examining the treasury bond market, where default risk may be ignored, we move to the corporate bond sector. Here, we look at the determinants of credit risk and the default premium built into bond yields. We examine the impact of call and convertibility provisions on prices and yields. Finally, we study the yield curve, the relationship between bond maturity and bond yield.

3.1.1 Characteristics of Bond

A bond is a security that holds the issuer under obligation to make specified payments to the holder over a period of time. A bond is usually issued under a specified borrowing arrangement. The borrower issues (that is, sells) a bond to the lender for some amount of cash. In a sense, the bond can be called a long-term I.O.U. issued by the borrower to the lender. The arrangement makes it obligatory, on the part of the borrower (the issuer) to make periodic payments of interest, usually called coupon payments to the lender (the holder) of the bond.

Payments are commonly made semi-annually or annually throughout the life or maturity of the bond. The interest payments on bond are called coupon payments because, in pre-computer days, most bonds had coupons that investors would clip off and mail to the issuer of the bond to claim the interest payment. When the bond matures, the issuer pays the debt by paying the bond holder the bonds "par value" (the face value). The coupon rate of the bond serves to determine the interest payment. It is calculated this way: The annual payment equals the coupon rate times the bond's par value.

Let us illustrate the process of this payment with some simple figures. Assume we have a bond with par value of N1,000 and a coupon rate of 8% and the bond is sold to a buyer at N1,000. The issuer then pays the bond holder 8% on N1,000 or N80 per year for the stated life of the bond, say 20 years. At the end of the 20-yearlife of the bond, the issuer also pays the N1,000 par value to the bond holder.

It is a common practice to issue bonds with the coupon rate set high enough to attract investors to pay par value to buy the bonds. Sometimes, however, "zero-coupon bonds" are issued that make no coupon payments. Under this arrangement, investors are paid only par value amount (that is, the original sum they invested) at the maturity date of the bond, but they receive no interest payment because the bond has a coupon rate of zero. Since an investor anywhere in the world must be given some interest or compensation on his investment, issuers of zero-coupon bonds usually sell them to the investor below the par value. Thus, the investor's return comes from the difference between the issue price and the payment or par value at maturity.

3.1.2 Treasury Bonds and Notes

Treasury Bonds and Notes

Treasury notes maturity could last for up to 8 years, while Treasury bonds are issued with maturity from 8 to 20 years. Both are issued in denominations of N1,000 or more. Both make semi-annual or annual coupon payments. Aside from their differing maturities at issue date, the only major distinction between Treasury notes and Treasury bonds is that, in some cases Treasury bonds are "callable" for a given period, usually during the last five years of the bonds life. The call provision gives the Treasury the right to repurchase the bond at par value during the call period.

Accrued interest and Quoted Bond Prices

The bond prices you see quoted in the Financial Times and other daily newspapers and Magazines are not actually the prices that investors pay for the bond. This is because the quoted price does not include the interest that accrues between coupon payment dates.

If a bond is purchased between coupon payments, the buyer must pay the seller for accrued interest, that is, the prorated share of the upcoming semi-annual coupon payment. For example,. If 40 days have passed since the last coupon payment, and there are 182 days in the semi-annual coupon period, the seller is entitled to a payment of accrued interest of 40/182 of the semi-annual coupon. The sale or invoice price of the bond, which is the amount the buyer actually pays, would equal the stated price plus the accrued interest.

Suppose that the coupon rate is 8%. Then the semi-annual coupon payment is N40 because 40 days have passed since the last coupon payment, the accrued interest on he bond is:
N40 x (40/182) - N8.79. If the quoted price of the bond is N990, then the invoice price will be N990 + 8.79 = N998.79.

The practice of quoting bond prices net of accrued interest explains why the price of a maturing bond is listed at N1,000 rather than N1,000 plus one coupon payment. A purchaser of an 8% coupon bond one day before the bond's maturity would receive N1,040 the following day and so should be willing to pay a total of N1,040 or the nearest equivalent for the bond.

3.2 Bonds and Preferred Stocks: Quality Analysis

Some investment analysts view the subject of bond and preferred stock analysis as sheer academic exercise which boils down to a waste of time and energy. This attitude stems from an overriding concern with common stocks as a rewarding and exciting investment asset. But interest in fixed-income security analysis has been growing in recent times as a result of the disappointing [performance of the stock market and the high interest rate available on bonds. Indeed, in recent years there have been more new career opportunities for bond analysts and traders than for common stock analysts and traders. Moreover, knowledge of corporate bonds and preferred stocks is very useful even to an investor whose interest is exclusively on common stocks.

A company with a high credit standing can finance growth more readily and more efficiently than a company whose senior securities (that is, preferred stocks) are held in low esteem. Therefore, in evaluating the common stock of a company which has senior securities outstanding, it is usually worthwhile to examine the merits of the preferred stocks. Similarly, it is also important to examine the potential credit standing of a company which does not currently have senior securities outstanding.

3.2.1 Call Provision on Corporate Bonds

Some large organizations issuing corporate bonds to investors attach to such bonds what is called "Call Provision." The call provision allows the issuer to repurchase the bond at a specified call price before the maturity date. For example, if a company issues a bond with high coupon rate when market interest rates are high, and interest rates later fall, the firm might like to retire the high coupon debt and issue new bonds at a lower coupon rate to reduced high interest payments. The proceeds from the new bonds issued are used to pay for the repurchase of the existing higher coupon bonds at the call price.

Callable bonds typically come with a period of call protection, that is, an initial time during which the bonds are not callable. Such bonds are referred to as deferred callable bonds. The option to call the bond is valuable to the firm, because it allows the company to buy back the bonds and refinance at lower interest rates when market rates fall. Of course, the firm's benefit is the holder's burden. Holders of called bonds forfeit their bonds to the call price, thereby giving up the prospect of an attractive rate of interest on their original investment. To compensate investors for this risk, callable bonds are issued with lower rate of interest.

3.2.2 Floating Rate Bonds

Floating rate bonds are tied to some measure of current Treasury bill rate plus some 2%. If the one-year Treasury bill rate at the adjustment date is 4%, the bond's coupon rate over the next year would then be 6%. This arrangement is put in place to ensure that the bond will always pay approximately current market rates.

The major risk involved in floating-rate bonds has to do with changing credit conditions. The yield spread is fixed over the life of the security, which may be many years. If the financial

health of the firm deteriorates, then a greater yield premium would be required than is offered by the security. In this case, the price of the bond would fall. Note that, the coupon rate of floating-rate bonds adjusts to changes in the general level of market interest rate, it does not adjust to changes in the financial condition of the firm.

3.3 Innovation in the Bond market

Organizations issuing bonds constantly develop innovative bonds with unusual features. The existence of innovative bonds illustrates that bond design can be extremely flexible. For example, issuers of "pay-in-kind" bonds may choose to pay interest either in cash or in additional bonds with the same face value. If the issuer is short of cash, it may chooswe to pay with new bonds rather than scarce cash.

Reverse floating-rate bonds are similar to the floating rate bonds we described above, except that the coupon rate on these bonds falls when the general level of interest rises. Index bonds make payments that are tied to a general price index or the price of a particular commodity, say oil. For instance' the Nigerian government can issue 1000 bonds at a price that is at par with the current price per barrel of oil. If by tomorrow the price of oil falls to a given level, the interest rate payable to holders of government index bonds will also fall.

3.3.1 Default Risk of Bonds

Although bonds generally promise a fixed flow of income, that income stream is not riskless entirely unless the investor can be sure that the issuer will not default on the obligation. While the Nigerian government bonds may be treated as free from default risk, this is not true of corporate bonds. If the company goes bankrupt, the bondholders will not receive all the payments they have been promised. Therefore the annual payments on these bonds may be uncertain, for they depend, to some degree, on the ultimate financial health of the company.

Determinants of Bonds Safety:
Bond rating agencies base their quality ratings largely on an analysis of the level and trend of some of the issuer's financial ratio. The key ratios used to evaluate safety are:

(a) Coverage Ratios: Ratios of company earnings to fixed costs. For example, the times-interest-earned ratio is the ration of earnings before interest payments and taxes to interest obligations. The fixed-charge coverage ratio adds lease payments and sinking fund payments to interest obligations to arrive at the ratio of earnings to all fixed cash obligations. Low or falling coverage ratios signal possible cash flow difficulties.

(b) Leverage Ratio: Debt to equity ratio. A too high leverage ratio indicates excessive indebtedness, signaling the possibility that the company may be unable to earn enough to satisfy the obligations on its bonds.

(c) Liquidity Ratios: The common liquidity ratio ius the "Current Ratio" (current assets/current liabilities). This ratio measures the firm's ability to pay bills coming due with cash currently being collected.

(d) Profitability Ratios: These ratios are used to measure the rates of return on assets or equity. Profitability ratios are indicators of a firm's overall financial health. The return on assets (earnings before interest and taxes divided by total assets) is the most popular of these measures. Firms with higher return on assets should be better able to raise money in security markets because they offer prospects for better returns on the firm's investments.

(e) Cash Flow to Debt Ratio: This is the ratio of total cash flow to outstanding debt. It is important to note that ratios must always be evaluated in the context of industry standards, but the complication here is that analysts differ in the weights they place on particular ratios. Therefore calculation of ratios suffer from subjective assessment.

3.3.2 Bond Indentures

In addition to specifying the interest payable on bond, there must be a Bond Indenture document formally prepared. A bond indenture is a contract between the issuing company and the bondholder, detailing restrictions on the issuer to protect the rights of the bondholder. Such restrictions include provisions relating to collateral, sinking fund, dividend policy, and further borrowing. The issuer of the bond agrees to this so called "Protective Covenant" in order to encourage investors to feel safe and purchase the company's bonds.

Collateral:
Some bonds are issued with specific collateral behind them. Collateral can take several forms, but it represents a particular asset of the firm that the bondholder receives if the firm defaults on the bond. If the collateral is a property, the bond is called a mortgage bond. If the collateral takes the form of other securities held buy the firm, the bond is a collateral trust bond. In the case of equipment, the bond is known as an equipment obligation bond. Because of the specific collateral that backs mortgage bond, collateral trust bond, and equipment obligation bond, they are generally considered the safest variety of corporate bonds.

Debentures:

A debenture bond is a bond issued by a company but not backed by any specific collateral. Generally, debenture bonds are unsecured bonds. The bondholder relies solel,y on the general earning capacity of the firm for the bond's safety. Thus the debenture bondholder is constantly in prayer saying "let business be good for me to earn my money." Please note the difference here. If the firm defaults, the debenture bondholder goes home weeping and waiting for any possible residual payment that could, per chance, be given to general creditors like him at the end of formal liquidation. But a collateralized bondholder such as mortgage bondholder or equipment obligation bondholder will quickly take over the asset and dispose of it to recover his money.

Dividend Policy: Protective Covenants drawn also limit firms in the amount of dividends they are allowed to ay. These limitations protect the bondholders because they force the firm to retain a part of their earnings rather than pay all out to common stock holders as dividends. A typical restriction disallows payments of dividends if cumulative dividends paid since he inception of the firm exceed cumulative net income plus proceeds from sale of stocks.

3.3.3 Preferred Stock

Although preferred stock, strictly speaking, is considered to be equity, it often is included in the fixed-income universe. This is because, like bonds, preferred stock promises to pay a specified stream of dividends. However, unlike bonds, the failure to pay the promised dividend does not result in a corporate bankruptcy. Instead, the dividend owed simply cumulate, and the common stockholders may not receive any dividends until the preferred stockholders have been fully paid. In the event of bankruptcy, the claim of preferred stockholders to the firm's

assets has lower priority than that of bondholders, but higher priority than that of common stockholders.

Most preferred stock pay a fixed dividend. Therefore, it is, in effect, a perpetuity, providing a level of cash flow indefinitely. Some firms also issue what is called adjustable or floating-rate preferred stock. Floating rate preferred stock is much like floating-rate bonds. The dividend rate is linked to a measure of current market interest rates and is adjusted at regular intervals.

Unlike interest payments on bonds, dfividend payments on preferred stock are not considered tax-deductable expenses to the firm. Tkhis reduces their attractiveness as a source of capital to issuing firms. On the other hand, there is an offsetting tax advantage to preferred stock. When one corporation buys the preferred stocks of another corporation, it pays taxes on only 30% of the dividends received. For example, if the firm's tax bracket is 35% and it receives N10,000, in preferred stock dividend payments, it will pay tax on only N3,000 of that income.

4.0 CONCLUSION

In this unit, we discussed fixed income securities such as corporate bonds and treasury bonds. We looked at the special characteristics of bonds and how bond prices are quoted in the securities market. Then we went forward to shade light on the difference between bonds and preferred stock and discussed the call provisions of corporate bonds. Corporate bonds and treasury bonds are said to be risk-free when compared with the risk involved in common stock. We concluded the discussion with the study of default risk inherent in bonds.

5.0 SUMMARY

Securities having fixed income yield are generally more popular with investors for the fact that the interest earning on bonds and dividend earning on preferred stock are relatively constant compared to fluctuating dividend associated with common stock. Of course, we studied this unit and noted that investment in bonds are safe and that default is unlikely, but in reality, especially when the business climate of corporate bodies is bad, there could be default and disaster in corporate bonds. In the next unit, we shall be looking at capital assets and their pricing.

6.0 TUTOR-MARKED ASSIGNMENT

* Discuss two types of fixed-income securities you know
* What is the advantage of call provision attached to some corporate bonds?

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MODULE 2

UNIT 3 CAPITAL ASSET PRICING AND ARBITRAGE PRICING THEORY

CONTENTS

1.0 INTRODUCTION

The Capital Asset Pricing Model usually referred to as CAPM, is the centre-piece of modern financial economics. The CAPM provides a precise prediction of the relationship we should observe between the risk of an asset and its expected return.

2.0 OBJECTIVES

After studying this unit, the student should be able to:

* Compute security risk premium
* Construct and use the security market line

3.0 MAIN CONTENT

3.1 Capital Asset Pricing and Arbitrage Pricing Theory

As we mentioned above, CAMP provides a more accurate guess on the observable relationship between the risk of an asset and its expected return. This relationship serves two vital functions.

First, it provides a benchmark rate of return for evaluating possible investments. For example, a security analyst might want to know whether the expected returns he forecasts for a stock is more or less than its "fair" return given its risk. Second, the model helps us make an educated guess as to the expected return on assets that have not yet been traded in the market-place. For example, how do we price an initial public offering of stock? How will a major new investment project affect the return investors require on a company's stock? Although, the CAMP does not fully withstand empirical tests, it is widely used because of the insight it provides, and because its accuracy suffices for many important applications.

The exploitation of security mispricing to earn risk-free economic profits is called arbitrage. It typically involves the simultaneous purchase and sell of equivalent securities (often in different markets) in order to make profit out of the discrepancies existing in their price relationship.

The most basic principle of capital market theory is that equilibrium market prices should rule out arbitrage opportunities. If actual security prices allow for arbitrage, the resulting opportunities for profitable trading will lead to strong pressure on security prices that will persist until equilibrium is restored. Only a few investors need be aware of arbitrage opportunities to bring about a large volume of trade, and this trade will bring prices back to alignment. Therefore, no arbitrage restrictions on security prices are extremely powerful.

The implication of no-arbitrage principles for financial economics were first explored by Modigliani and Miller, both of them Nobel Laureates (1995 and 1990).

The Arbitrage Pricing Theory (APT) uses a no-arbitrage argument to derive the same relationship between expected return and risk as the CAMP. We will explore the risk-return relationship using well diversified portfolios. We will also discuss the similarities and the differences between the APT and the CAPM.

3.1.1 Demand for Stocks and Equilibrium Prices

Let us now discuss how expected returns are determined in a competitive securities market. To understand how market equilibrium is formed, we must connect the determination of portfolios with security analysis and actual buy/sell transactions of investors. The quest for efficient diversification in an investor's portfolio holding leads to a demand schedule for shares. In turn, the supply and demand for shares determine equilibrium prices and expected rate of return.

Imagine a simple world with only two corporations: Bottom Up Inc. (BU) and Top Down Inc. (TD). Investors can invest in a money market fund (MMF0 which yields a risk-free interest of 5%.

Sigma Fund is a new actively managed Mutual Fund that has raised N220 million to invest in the stock market. The security analysis staff of Sigma Fund believes that neither BU nor TD will grow in the future and therefore it is expected that each of the two firms will pay level annual dividends for the foreseeable future.

This is a useful simplifying assumption because, if a stock is expected to pay a stream of level dividends, the income derived from each share is a perpetuity. Therefore, the present value of each share (often called the intrinsic value of the share) equals the dividend divided by the appropriate discount rate. A summary of the report of the security analysts appear in Table 1 below:

TABLE 1

A Table showing Capital Market Expectations of Analyst's Portfolio Manager

		BU	TD
Expected Annual Dividend (N/share)		6.40	3.80
Discount rate = Required return (%)		16	10
Expected end-of-year price (N/share)		40	38
Current Price		39	39
Expected return (%):	Capital gain	2.56	-2.56
	Dividend yield	16.41	9.74
Total expected return for the year		18.97	7.18
Standard deviation of rate of return		40%	40%

Correlation coefficient between rates of return on Bottom Up Inc. and Top Down Inc = 0.2

The expected returns in the Table above are based on the assumption that next year's dividend will conform w3ith the forecast made, and share prices will be equal to intrinsic values at year end. The standard deviation and the correlation coefficient between the two stocks were estimated by the firm's security analysts from past returns and assumed to remain at these levels for the coming year.

3.1.2 Analysis of Common Stock Growth

Virtually any logical approach to the evaluation of a corporation's common stock requires, as primary information, an estimate of the corporation's probable growth in earning power, either in absolute terms or relative e to the growth of all corporations in aggregate. So important is the estimate of earning power that we shall try to take a more in-depth study of the rechniques that can assist the analyst in making such estimates.

Since common stock attained a degree of respectability as a sound investment vehicle, security analysts have stressed growth of demand for a company's products as an essential part of investment success. Why is the growth in demand so important? Probably the main reason is that overhead has been a factor of steadily increasing importance in modern industry. Pressure has therefore constantly been in the direction of increasing utilization of labour-saving plant and equipment. But capital equipment carries a heavy overhead in the form of interest on debt

incurred to buy it, depreciation, maintenance, insurance, taxes, supervisory salaries, etc. This raises the break-even point of companies, that is, the number of units which must be produced and sold in order to cover costs. In order for a company to operate profitably under conditions of increasing mechanization, it is essential that its market should expand so that its plants can operate at a high percentage of capacity.

Note that expanding production and sales guarantee rising profits, which in the final analysis is what investors are after. But rising demand does, at least, give a company an opportunity to earn a rising profit. In many cases, rising demand can even absorb losses from managerial errors that must be expect4ed to occur from time to time. Indeed, without the cushion of rising demand, management may be unwilling to take risks, and without risk-taking little should be expected in the way of rising profits.

3.2 History as a Guide in Forecasting Future Growth

Experience indicates clearly that the best way to begin to estimate future developments is to examine what has happened in the past. Analysts will first become familiar with the historical data by looking at the record of sales growth. They will try to learn why the past record was what it was. For example, if the sales growth had been exceptionally rapid relative e to the sales of the competitors, analysts might want to find out the extent to which exclusive patient rights accounted for the competitive advantage.

As they begin to understand the conditions what created the past trends, analysts question whether these conditions are likely to persist in the future. Continuing the above illustration, analysts would investigate whether any basic patents were nearing expiration or whether any other companies had developed some improvements that would render the existing product technologically obsolete. If the conditions that created the past trends seem likely to persist kin the future, analysts can simply project the past trends forward. But if, as is more likely, analysts believe that certain past conditions will probably be altered in form, or disappear entirely, they will try to estimate the impact of the changes and make allowance for them in their projections of the past record. In either event, the key to the future is an understanding of the past.

If possible, analysts should try to gather data for a period which encompasses a variety of economic conditions. In this way, they have an opportunity to observe the impact of changing conditions on the company's sales (and on its prices, labour costs, raw material supplies and other profit determinants). They also can examine management's response to change more adequately than if they have only a few years of data available.

3.3 The Industry Life Cycle

An analysis of the sales growth record and growth prospects of an industry or a company frequently can be conducted within the frame-work of the so-called industry life cycle. Many students of economic history have argued that industries, like people go through a few fairly well-defined life stages of development. In the early part of their lives, they grow at a very rapid rate. After a time, the growth rate slows down; they continue to expand, but at a more moderate pace. Finally, they stop growing and either live a relatively stable existence for a long time or die. The "industry life cycle," visualized from an investment perspective is divided into three stages: Stage 1 - Pioneering Stage; Stage 2 - Investment Maturity; Stage 3 - Stabilization.

3.3.1 Pioneering Stage

Exponents of the industry life cycle concept see the pioneering stage of an industry's life development as being characterized by rapid expansion of the market with concomitant opportunities for large profits. These opportunities, however, give rise to fierce competition and high risk of bankruptcy. The automobile industry in the 1950 provided a very good example.

Some investment authorities recommend that the best way to participate in the pioneering phase of the industry life cycle is to buy the stocks of several competing companies. By spreading risks in this way, investors take the position that even if only one of several companies survives, the profits on that one will more than off-set or make up for the losses on the others.

3.3.2 Investment Maturity Stage

We are now focusing on the second stage of growth which is labeled “investment maturity stage.” This stage refers to the fact that, after some years, through consolidations and internal expansion, a relatively few companies usually take over a fairly large percentage of a young industry’s total volume of business. They broaden the market by improving the quality and reducing the price of the product or service. They establish a strong financial position and a record of dividend payments, even if the dividends are quite moderate. Growth of the industry’s market continues to be quite rapid. However, it is not as rapid as in the pioneering stage and the risks are not as great. The air-conditioning and television manufacturing industries can be said to have passed from the pioneering to the investment maturity stage.

3.3.3 Stabilization Stage

Gradually, the second stage begins to slow down giving way to the third stage which is called “stabilization stage.” Technological advances become fewer and occur after longer tome lags. Unit costs become more difficult to reduce, and the ability to broaden markets through reduced prices is thereby restricted. The market itself tends to become saturated, a process which is aggravated by the inroads of newer products and services..

The theory of industry life cycle departs from a strict anthropomorphic analogy (or human face analogy) at this point. Although the industry may, in fact die, it is not argued that an aging industry necessarily must ultimately die. Indeed, in absolute terms, its sales may continue to grow, but the growth may be below average. The industry’s sales may expand less rapidly than the economy during periods of general prosperity, and they can decline more rapidly during recessions. These changes in trend show that the industry has reached stabilization stage, but, as earlier said, the fact that an industry has reached this third stage does not mean that the industry must surely die.

To many proponents of industry life cycle concept, the investment implications of the stabilization stage are quite bleak. In their view, investors should dispose of their stockholdings in the industry before stabilization takes hold. If they wait until it is common knowledge that the industry is leveling off, it may be too late to sell their stocks. Stock prices may decline, and opportunities for a good rate of return may disappear. According to this approach, investment success will be achieved by:

(a) Detecting growth industries that are about to emerge from the pioneering stage.
(b) Investing in the stocks of the dominant companies in those industries
(c) Selling the stocks just before the industries enter the stabilization phase.

In many respects, the life cycle approach offers a convenient method of classifying the growth patterns of different companies. But while the industry life cycle concept is useful, several criticisms have been leveled against the concept and its investment implications. The most notable criticism against the industry life cycle approach to investment analysis is that equating each growth stage with a different degree of investment attractiveness is to overlook the factor of security prices and values. A major premise of this text is that it is possible to pay too much for growth and that at the right price even a no-growth situation can be attractive.

4.0 CONCLUSION

In this unit, we have discussed the demand for stocks and equilibrium prices. We also presented analysis of common stock growth and looked at the best way to forecast future growth. We studied the theory of industry life cycle which shows that an industry passes through three stages in it life time. First, it goes through the first stage called the pioneering stage, and then through the second stage labeled, the investment maturity stage, and lastly shades into the stabilization stage.

5.0 SUMMARY

What drives investors to invest in common stock of a company is the value of the stock, the price at which it is offered and the level of risk in that company or industry. This is why investment analysts devote time to analyze these factors that affect the demand for a company's stock. In the next unit, we shall be studying the major tenets of portfolio theory.

6.0 TUTOR-MARKED ASSIGNMENT

* What are the factors affecting the growth in the demand for common stocks?
* Discuss the three stages which an industry must pass in its life cycle.

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MODULE 2

UNIT 4 MAJOR TENETS OF PORTFOLIO THEORY

CONTENTS

1.0 INTRODUCTION

In recent years, portfolio management techniques have entered a critical innovative phase of activity. Faced with increasing pressure for higher rates of return, with advances in performance measurement techniques, and with the glare of academic inquiry, portfolio managers are being forced to develop new decision-making procedures.

2.0 OBJECTIVES

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

* The Principles of Portfolio Theory
* The Meaning of "Efficient Frontier" in Portfolio Management
* How the Securities Market Respond to New Information

3.0 MAIN CONTENT

3.1 Major Tenets of Portfolio Theory

Tenets of portfolio theory define the main principles underlying the theory of portfolio management. Before delving into these key principles, let us first of all, provide the historical setting.

3.1.1 Historical Setting

The pressure for higher rates of return and other factors reflect the historical inability of those concerned with investment analysis, portfolio decision making, and performance evaluation to express quantitatively their views concerning risk and its relationship with investment return. Past returns could not be compared through the use of a generally accepted common denominator of "risk." The future uncertainty of expected return could not be expressed with any degree of quantitative assurance.

The lack of quantitative risk dimension created widespread confusion as to what had actually been accomplished in a portfolio management sense. Mutual Fund management companies, for example, compared their results with the broad market averages as a yardstick, but made no allowance for portfolio objectives, management techniques, and the volatility of returns, or the risk exposure. In the past, it was easy to achieve higher returns than the stock market averages by adopting an aggressive attitude towards maximizing capital gains, with minimal regard for the consequences of such policies during a bear market. It has been more recently recognized that the apparent achievement of portfolio managers during this period did not necessarily reflect their real capabilities, but merely their willingness to take high risks.

As for future anticipations, it was increasingly recognized that the problem of certainty was only being qualitatively assessed, with most managers nurturing fuzzy notions as to broad, generalized stock classifications such as conservative, defensive, growth, income, and speculative.

3.1.2 Reason for Applying Formal Analytical Techniques

Deficiencies in the investment environment created an excellent opportunity for the academic community to attempt to apply formal analytical techniques to very practical types of problems. The availability of mutual funds data on a continuous basis for an extended period of time facilitated the effort. The result was a significant body of new thought concerning the usefulness of widely employed investment decision-making practices, a body of thought now described under the general heading "Modern Portfolio Theory" or "Capital Asset Pricing Theory."

Modern portfolio theory treats risk for the first time in quantitative terms. It focuses attention beyond the traditional exhaustive analysis and evaluation of individual security. Issues, and to the problem of overall portfolio composition predicated on explicit risk-reward parameters and on the identification and quantification of client objectives.

These techniques and theories have been slow to evolve and to gain acceptance by practitioners. Several reasons are apparent, not the least of which is the traditional inability of academic critics to communicate effectively with practicing professionals. Suspicion and lack of understanding, and the personal fear of recognizing how ineffective results actually have been, further reduced practitioners' willingness to accept the benefits which can be provided by these techniques. The theories themselves are continually being challenged and revised, so that practitioners are reluctant to implement new ideas which may become obsolete quite rapidly.

Nevertheless, the attempt to introduce scientific tools and techniques to the long-established conduct of investment management shows signs of success. Available theory is no longer in its infancy, and substantial practical implications, both as to performance measurement and portfolio balancing techniques, have already received significant acceptance. We have here explored the development of modern portfolio theory and its implications for the evaluation pf professional investors' performance.

3.2 Markowitz and "The Efficient Frontier"

The basic elements of modern portfolio theory emanate from a series of propositions concerning rational investor behaviour set forth by Dr. Harry Markowitz and later in a complete monograph sponsored by Cowles Foundation.

Essentially, the Markowitz model provided a theoretical framework for the systematic selection of optimum portfolios, once the level of risk willing to be assumed by an investor was established. Markowitz applied the complex mathematics of quadratic programming to the question of how most effectively to diversify portfolio holdings, given a free choice among hundreds of individual securities, and provided that certain basic information could be supplied by either security analysts or portfolio managers. Markowitz and others following the same line of reasoning, recognized the function of portfolio management as one of composition, and not individual stock selection, as it is more commonly practiced. Decisions as to individual security additions to the existing portfolio or deletion from it are predicated on the effect such change will have on the delicate diversification balance.

3.2.1 The Need for Rational Behaviour

The central theme of Markowitz's work is that investors should conduct themselves in a rational manner which reflects their inherent aversion to absorbing increased risk without compensation by an adequate increase in the expected return. As such, it was stated that for any given "expected" rate of return (where the expected return is, the mean of a probability distribution), most investors will prefer a portfolio containing minimum expected deviation of returns around the mean over a determined period of time. Thus, it can be seen that risk was defined as the uncertainty, or variability, of expected returns, marking a major effort to quantify investment risk for portfolio planning purposes. The use of variance as a measure of risk also forces the investor to consider a fixed time horizon for investment calculations.

3.3 Capital Asset Pricing Theory

The presentation o0f portfolio theory by Markowitz was followed by a period of active academic concern dealing with the underlying implications for the security pricing mechanism, and shortly gave rise to a cohesive body of thought now known as capital asset pricing theory, also referred to as capital market theory. This theory details the character of the market's

pricing mechanism when all investors act as if they are governed by the principles of risk aversion and the desire to optimize portfolio compositio0n through effective diversification. In general terms, the following assumptions provide framework for the application of portfolio diversification techniques, and the foundation for comparative portfolio measurement procedures:

1. Investors are risk averse in that they will prefer the smaller variance at comparable levels of return, and the greater return at the same level of variance.

2. Investors as a group view the risk-return relationship for individual securities over similar time periods (i.e. they have similar "investment horizons").
3, Investors seek to optimize their portfolios through efficient diversification.

4. Investors hold similar views as to the variance, risk, or distribution of future returns.

5 Investors are able to lend or borrow unlimited funds at the prevailing risk-free rate (e.g. taken up 91-day Treasury bills).

6. Securities are also assumed to be perfectly divisible, and an investor is able to commit any desired amount of funds without affecting the price of the rate of return associated with each and any investment.

It is immediately apparent that many of these assumptions do not coincide with the actual state of the working day security market pricing mechanism. However, it is not necessary for every assumption to serve as an exact description for e very circumstance. It is rather more important that the general theory represent a reasonable approximation of real-world investor activity and of the market's pricing behaviour. As such, the price of an individual security, and the market as a whole, is seen at any point in time as being the composite view of interested investors, balanced to reflect differences in existing opinions, views, and preferences. While these differences may be large in some cases, security prices are seen as being basically in equilibrium. That is, each security, and the market as a whole, is seen as being on balance priced "fairly" in relation to the risk associated with its ownership.

3.3.1 Equilibrium Assumption

Given the equilibrium assumption, rational investors should develop their desired portfolio positions by adjusting the risk element of their investments. Higher returns can be expected by increasing risk and lowering of the risk element reduces the expected return. But capital asset pricing theory departs somewhat from the Markowitz presentation at this point. Whereas the Markowitz scheme adjusts risks by moving up or down the efficient frontier of alternative portfolios of different individual securities, risk is adjusted under capital asset pricing theory by borrowing or lending against a single optimal risky portfolio. This portfolio, because of equilibrium assumptions, affects the entire market.

3.3.2 Random Walk and Efficient Market

One should immediately question at this point why daily stock market trading activity is actually so hectic if the market mechanism even approximates a condition of price equilibrium. The answer most often given are, first, that investors' risk/return preferences are constantly changing, which gives rise to frequent need to adjust the composition of their holdings to reflect these changes. Second, different investors are continually revising their anticipations about the expected risk and return associated with the holding of particular securities in response to new events. These new events are held to occur in a random fashion, a tenet of another and related aspect of modern portfolio theory, namely, the random-walk theory of stock price movements.

The random-walk hypothesis of stock price movement is based on the assumption that the security trading mechanism represents an "efficient" market place. In essence, the market is said to be characterized by the presence of large number of rational, profit-seeking, risk-averting investors who compete freely with each other in their effort to predict the future value of individual securities.

In that scenario, any information significant enough to affect any security's future value is held to be quickly available to knowledgeable investors. |As a result, new information affecting a stock's value becomes quickly reflected in the price of the issue. Consequently, a new investment decision made after the information becomes wide-spread, is believed to carry the risk/reward potential of a randomly selected purchase (or sale). This is because the next piece

of information is believed to bear no necessary relationship to the prior information. That is, new information is believed to enter the market in random fashion.

The general premise flies in the face of what many professional investors consider their greatest strength, the ability to benefit from quick action taken after some new important event occurs which substantially affects the value of a particular stock, or occasionally the market as a whole. Most professionals still accept what can be considered, the "Sociology of information recognition." This is a principle indicating that the movement of new information and its proper interpretation flows from the intelligent, well-informed and understanding sophisticated segments of the market, who do tend to act quickly to the lesser informed, slower moving elements at the other end of the spectrum. This, in turn, is believed to cause a sequence of interim stock price movements to develop, which reflects the accompanying gradual discounting of new information as it moves through the investor system.

3.3.3 Market Response to New Information

A new perspective has emerged with regard to market response to new information. This group[of investment experts are of the opinion that the establishment of the right price for a stock does not depend entirely on the market having adequate information because the market's evaluation of the same data can vary over a wide range, depending upon bullish enthusiasm and speculative interest or bearish disillusionment. Knowledge is only ingredient required among other influences to arrive at the right price for a stock.

Nevertheless, actual stock prices are considered, by random walk definition, to reflect at any point in time past events, along with those considered likely to take place. In other words, in the efficient market model, at each point in time, the actual price of a security is the best composite investor estimate of its real value. Obviously, the true value of a risky investment can never be precisely determined. If the true value of a stock could be established accurately, it then means that uncertainty and risk would disappear giving way to certainty of returns on investment. However, the interaction of large number of buyers and sellers, acting with a knowledge base ranging from extremely well-informed to complete ignorance affect the value each investor puts on stock.

4.0 CONCLUSION

In the study of this unit, we noted that past returns on investment in a particular security could not be compared through the use of a generally accepted common denominator of "risk." And that future uncertainty of expected return could not be expressed with any degree of quantitative assurance. We also studied Markowitz's efficient frontier and noted that Markowitz model provided a theoretical framework for the systematic selection of optimum portfolios.

5.0 SUMMARY

The study of portfolio theory provides us with theoretical knowledge that guides investors in the selection of securities that make up their portfolio holding. We noted essentially that the actual stock prices are considered to reflect at any point in time past events, along with those considered very likely to happen in the near future. In the next unit, we shall be looking at financial statements analysis.

6.0 TUTOR-MARKED ASSIGNMENT

* Explain the major tenets of portfolio theory
* What do you understand by random walk with regard to change in stock price?

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MODULE 3

UNIT 1 FINANCIAL STATEMENTS ANALYSIS

CONTENTS

1.0 INTRODUCTION

Under this unit, we shall show how investors can use financial data as input into stock valuation analysis. We start by reviewing the basic sources of such data; the income statement, the balance sheet, and the statement of cash flows. We shall discuss the difference between economic and accounting earnings. While economic earnings are more important for the issues of valuation, accounting data are still useful for assessing the economic prospects of a firm. We show how investment analysts use financial ratios to explore the sources of a firm's profitability and evaluate the quality of its earnings in a systematic fashion. We shall also examine the impact of debt policy on various financial ratios. Finally, we shall conclude with a discussion of the limitations of financial statement analysis as a tool for uncovering mispriced securities. Some of these limitations are due to differences in individual firm's accounting procedures. Others arise from inflation-induced distortions in accounting figures.

2.0 OBJECTIVES

After studying this unit, the student should be able to:

* Use a firm's income statement, balance sheet, and statement of cash flows to calculate standard financial ratios.
* Calculate the impact of taxes and leverage on a firm's return to equity

3.0 MAIN CONTENT

3.1 The Major Financial Statements

The major (or the most important) financial statements are:

(a) The Income Statement
(b) Balance Sheet
(c) The Statement of Cash Flows

3.1.1 The Income Statement

The income statement is a summary of the profitability of the firm over a period of time, usually after one year. It presents revenues generated during the operating period, the expenses incurred during that same period, and the company\s net earnings or profits which are simply the difference between revenues and expenses.

It is useful to distinguish among four classes of expenses; cost of goods sold, which is the direct cost attributable to producing the products sold by the firm; general and administrative expenses which correspond to overhead expenses, salaries, advertising, and other costs of operating the firm that are not directly attributable to production; interest expenses on the firm's debt; and taxes on earnings owed to Federal, State and local governments.

Table 1
Consolidated Statement of Income for Destiny Chemical Company for the year ended December 31st, 1998

	(Figures in Millions)
Operating revenues	
Net Sales	N18,441.00
Operating expenses	
Cost of sales (cost of goods sold)	N12,582.00
Research and development	1,156.00
Selling, general and administrative expenses	1,666.00
Depreciation and amortization	1,305.00
Other expenses	346.00
Total operating expenses	N17,055.00
Operating Income	N 1,386.00
Non-operating income (expenses)	980.00
Earnings before interest and income tax	N 2,366.00
Net interest income (expenses)	(354.00)
Earnings before taxes	N 2,012.00
Provision for taxes	(685.00)
Net Income	N 1,327.00

At the top are revenues from standard operation. Next is the operating expenses, that is, the cost s incurred in the course of generating these revenues, including a depreciation allowance. The difference between operating revenues and operating costs is called operating income. Income from other primarily non-recurring sources is then added to obtain earnings before interest and taxes (EBIT), which is what the firm would have earned if not for obligations to its creditors and tax authorities. EBIT is a measure of the profitability of a firm's operations abstracting from any interest burden attributable to debt financing. The income statement then goes on to subtract net interest expense from EBIT to arrive at taxable income. Finally, the income tax payable to the government is subtracted to arrive at net income, the bottom line of the income statement.

3.1.2 The Balance Sheet

While the income statement provides a measure of profitability over a period of time, the balance sheet provides a snapshot of the financial condition of the firm at a particular time. The balance sheet is a list of the firm's assets and liabilities at that moment. The difference in assets and liabilities is the net worth of the firm. This is also called stockholders' equity. Like income statements, balance sheets are reasonably standardized in presentation:

Table 2
Destiny Chemical Company: Consolidated Balance Sheet (1998)

	Naira (Millions)	Percentage of Total Assets
Assets:		
Current Assets		
Cash and cash equivalents	N 123	1%
Other short-term investments	267	1
Receivables	4,537	19
Inventories	2,810	12
Prepaid taxes and other expenses	303	1
Total Current Assets	N 8,040	34%

Property, plant and equipment (net of depreciation)	8,447	35%
Net intangible assets	1,641	7
Investments	3,926	
Other assets	1,776	7
Total assets	N 23,830	100%
Liabilities and stockholders' equity		
Current liabilities		
Debt due within one year	N 1,826	8%
Accounts payable and other current liabs.	2,663	11
Income taxes due	290	1
Other current liabilities	2,063	
Total current liabilities	6,842	29%
Long term debt	4,051	17%
Deferred income taxes	747	3
Post retirement benefits	1,903	
Other long-term liabilities	2,858	12
Total liabilities	N 16,401	69%
Stockholders' equity		
Common stock par value	N 818	3%
Additional paid-in capital	718	3
Retained earnings	12,887	54
Others	(347)	(1)
Treasury stock (at cost)	(6,647)	(28)
Total stockholders' equity	N 7,429	31%
Total liabilities and stockholders' equity	N23,830	100%

The first section of the balance sheet gives a listing of the assets of the firm. Current assets are presented first. These are cash and other items such as accounts receivable or inventories that will be converted into cash within one year. Next comes a listing of long-term assets, which generally correspond to the company's property, plant and equipment. The sum of current and long-term assets is total assets, the last line of the assets section of the balance sheet.

The liability and stockholders' equity section is arranged similarly. First are listed short-term or current liabilities, such as accounts payable, accrued taxes, and debts that are due within one year. Long-term debt and other liabilities due in more than a year follow. The difference between total assets and total liabilities is stockholders' equity. This is the net worth or book value of the firm. Stockholders' equity is divided into par value of stock, capital surplus (additional) paid-in capital) and retained earnings, although this division is usually unimportant. Briefly, par value plus capital surplus represents the proceeds realized from the sale of the stock to the public, while retained earnings represent the build-up of equity from profits ploughed back into the firm. Even if the firm issues no new equity, book value will increase each year by the retained earnings of the firm.

3.1.3 The Statement of Cash Flow

The statement of cash flow replaces what used to be called the statement of changes in financial position or flow of funds statement. It is a report of the cash flow generated by the firm's operations, investments, and financial activities.

While the income statement and the balance sheet are based on accrual methods of accounting, which means revenues and expenses are recognized when incurred even if no cash has yet been exchanged or received, the statement of cash flows recognizes only transactions in which cash changes hands. For example, if goods are sold now with payment due in 60 days, the income statement will treat the revenue as generated when the sale occurs, and the balance sheet will be immediately augmented by accounts receivable, but the statement of cash flows will not recognize the transaction until the bill is paid and the cash is in hand.

Table 3: Consolidated Statement of Cash Flows for Destiny Chemical Company 1998)

Cash flows from operating activities	**(N million)**
Net income	N1,304
Adjustments to reconcile net income to net cash provided by operating activities:	
Depreciation and amortization	N1,305
Others	(428)
Changes in operating assets and liabilities	
Decrease (increase) in accounts receivable	564
Decrease (increase) in inventories	52
Increase (decrease) in accounts payable	(10)
Decrease (increase) in other current assets	159
Total adjustments	1,642
Net cash provided by operating activities	2,946
Cash flows from investing activities	
Cash provided by (used for) disposal of (additions to) property, Plant and equipment	(1,546)
Cash provided by (used for) sales (acquisitions) of businesses	503
Cash used for net new investments	(52)
Net cash provided (used) in investing activities	(1,095)
Cash flows from financing activities	
Proceeds from issuance of long-term debt	218
Repayment of long-term debt	(549)
Increase (decrease) in notes payable	(206)
Dividends paid	(786)
Sale of common stock	142
Share repurchases	(742)
Others	(33)
Net cash provided by (used in) financing activities	(1,956)
Effect of exchange rate changes	(7)
Net increase(decrease) in cash and cash equivalents	(112)

The first entry listed under cash flows from operations is net income. The entries that follow modify that figure by components of income that have been recognized but for which cash has not yet changed hands. Increase in accounts receivable, for example, means income has been claimed on the income statement, but cash has not yet been collected. Put succinctly, any cash payment made out of the firm reduces the cash flow statement; conversely, any cash payment received into the company increases the cash flow statement.

Another major difference between the income statement and cash flows involves depreciation, which accounts for a substantial addition in the adjustment section of the statement of cash flows. The income statement attempts to smoothen large capital expenditures over time to reflect a measure of profitability not distorted by large infrequent expenditure. The depreciation expense on the income statement is a way of doing this by recognizing capital expenditure over a period of many years rather than at the specific time of those expenditures.

The statement of cash flows, however, recognizes the cash implication of a capital expenditure When it occurs. It will ignore the depreciation "expense" over time but wioll account for the full capital expenditure when it is paid.

Rather than smoothen or allocate expenses over time, as in the income statement, the statement of cash flows reports cash flows separately for operations, investing, and financing activities. This way, any large cash flows such as those for big investments can be recognized explicitly as non-recurring without affecting the measure of cash flows generated by operating activities.

The second section of the statement of cash flows is the accounting of cash flows from investing activities. These entries are investments in the capital stock necessary for the firm to maintain or enhance its productive capacity.

Finally, the last section of the statement lists the cash flows realized from financing activities. Issuance of securities will contribute positive cash flows, and redemption of outstanding securities will use up cash. For example, Destiny Company purchases N752 million of debt amounting to N218 million, which was a major source of cash. The N786 million it paid in dividends reduced net cash flow. Notice that while dividends paid are included in the cash flows from financing, interest payments on debt are included with operating activities, presumably because, unlike dividends, interest payments are not discretionary.

The statement of cash flow provides evidence of the well-being of a firm. If a company cannot pay its dividends and maintain the productivity of its capital stock out of cash flow from operations, for example, and it must resort to borrowing to meet these demands, this is a serious warning that the firm cannot maintain payout at its current level in the long run. The statement of cash flows will reveal this developing problem when it shows that cash flow from operations is inadequate and that borrowing is being used to maintain dividend payments at unsustainable levels.

3.2 Accounting Versus Economic Earnings

We have seen that stock valuation models require a measure of economic earnings or sustainable cash flow that can be paid out to stockholders without impairing the productive capacity of the firm. In contrast, accounting earnings, represent earnings of a firm as reported on its income statement, and they are largely affected by several conventions guiding the valuation of assets, such as, inventories (e.g. LIFO versus FIFO treatment). We shall discuss problems associated with some of these accounting conventions in greater detail later. In addition to these accounting issues, as the firm makes its way through the business cycle, its earnings will rise above or fall below the trend line that might more accurately reflect sustainable economic earnings. This introduces an added complication in interpreting net income figures. One might wonder how closely accounting earnings approximate economic earnings and, correspondingly how useful accounting data might be to inbvesto4rs attempting to value the firm.

In fact, the net income figure on the firm's income statement does convey considerable information concerning a firm's performance. We see this in the fact that stock prices tend to increase when firms announce earnings greater than market analysts or investors had anticipated.

3.2.1 Return on Equity: Past Versus Future ROE

Return on equity (ROE) is one of the two basic factors in determining a firm's rate of earnings. There are two sides to using ROE. Sometimes, it is reasonable to assume that future ROE will be high.

A declining ROE, on the other hand, is an evidence that the firm's new investments have offered a lower ROE than its past investments. The best forecast of future ROE in this case may be lower than the most recent ROE. The vital point for an analyst is not to accept historical values as indicators of future values. Data from the recent past may provide information regarding future performance, but the analyst should always keep an eye on the future. Expectations of future dividends and earnings determine the value of a company's stock.

3.3.2 Financial Leverage and Return on Equity (ROE)

An analyst interpreting the past behaviour of a firm's ROE or forecasting its future value must pay careful attention to the firm's debt-equity mix and to the interest rate on its debt. An example will show why. Nigertel is a firm that is all-equity financed and has total assets of N100 million. Assume that it pays corporate tax at the rate of 40% of taxable earnings.

Table 4 below shows the behaviour of sales, earnings before interest and taxes, and net profits under three scenarios representing phases of the business cycle. It also shows the behaviour of two of the most commonly used profi8tability measures: Operating Return on Assets (ROA, which is equal to EBIT/Total Assets, and ROE, which equals Net Profit/Equity.

Table 4: Nigertel's Profitability Over the Business Cycle

Scenario	Sales (Nm)	EBIT (Nm)	ROA (% per year)	Net Profit (Nm)	ROE (% per year)
Bad year	N 80	N 5	5%	N 3	3
Normal year	100	10	10	6	6
Good year	120	15	15	9	9

Afritel is an identical firm with Nigertel, but N40 million of its N100 million of assets are financed with debt, bearing an interest rate of 8%. It pays annual interest expenses of N3.2 million. Table 5 shows how Afritel's ROE differs from Nigertel's.

Table 5: Showing the difference in Afritel's ROE

Scenario	Sales (Nm)	EBIT (Nm)	ROA (% per year)	Net Profit (Nm)	ROE (% per year)
Bad year	N 5	N 3	3%	N1.08	1.8%
Normal year	10	6	6	4.08	6.8
Good year	15	9	9	7.08	11.8

Note that annual sales, EBIT, and therefore Return on Asset (ROE) for both firms are the same in each of the three scenarios, that is, business risk for the two companies is identical. It is their financial risk that differs. Although, Nigertel and Afritel have the same ROA in each scenario, Afritel's ROE exceeds that of Nigertel in normal and good years and is lower in bad years.

We can summarize the exact relationship among ROE, ROA, and LEVERAGE in the following equation:

$$ROE = \frac{(1 - \text{Tax rate})\{ROA + (ROA - \text{interest rate})\,\text{debt}\}}{\text{Equity}}$$

The relationship has the following implications. If there is no debt or if the firm's ROA equals the interest rate on its debt, its ROE will simply equal (1 minus the tax rate) times ROA.
If its ROA exceeds the interest rate, then its ROE will exceed (I minus the tax rate) times ROA by an amount that will be greater the higher the debt/equity ratio.

This result makes intuitive sense: If ROA exceeds the borrowing rate, the firm earns more on its money than it pays out to creditors. The surplus earnings are available to the firm's owners, the equity holders, which raised ROE. If, on the other hand, ROA is less than the interest rate, then ROE will decline by an amount that depends on the debt/equity ratio.

To illustrate the application of ROE equation provided above, let us use the numerical example in Table 5. In normal year, Nigertel has ROE of 6%, which is 0.6 (1 minus the tax rate) times its ROA of 10%. However, Airtel,which borrows at an interest rate of 8% and maintains a debt/equity ratio of 2/3, has an ROE of 6.8%. The calculation using the given equation is:

$$ROE = 0.6\{10\% + (10\% - 8\%)2/3\}$$
$$= 0.6(10\% + 4/3\%) = 6.8\%$$

The important point to remember is that increased debt will make a positive contribution to a firm's ROE only if the firm's ROA exceeds the interest rate on the debt. Note also that financial leverage increases the risk of the equity holder's returns. Table 5 shows that ROE on Afritel is worse than that of Nigertel in bad years. Conversely, in good years, Afritel outperforms Nigertel because the excess of ROA over ROE provides additional funds for equity holders.
The presence of debt makes Afritel more sensitive to the business cycle than Nigertel.
Even though the two companies have equal business risk (reflected in their identical EBIT in all the three scenarios), Afritel carries greater financial risk than Nigertel.

Even if financial leverage increases the expected ROE of Afritel relative to Nigertel (as it seems to in Table 5), this does not imply the market value of Afritel's equity will be higher. Financial leverage increases the risk of the firm's equity as surely as it raises the expected ROE.

3.3 Ratio Analysis: Decomposition of ROE

To understand the factors affecting a firm's ROE, including its trend over time and its performance relative to competitors, analysts often "decompose" ROE into the product of a series of ratios. Each component ratio is in itself meaningful, and the process serves to focus the analyst's attention on the separate factors influencing performance. This kind of decomposition of ROE is often called Du Pont System. One useful decomposition of ROE is:

$$ROE = \frac{\text{Net profit}}{\text{Pre-tax profit}} \times \frac{\text{Pre-tax profit}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

3.3.1 Turnover and Other Asset Utilization Ratiosa

It is often helpful in understanding a firm's ratio of sales to assets to compute comparable efficiency-of-utilization, or turnover, ratios for subcategories of assets. For example, fixed asset turnover would be:

$$\frac{\text{Sales}}{\text{Fixed Assets}}$$

The ratio measures sales per Naira of the firm's money tied up on fixed assets.
To illustrate how you can compute this and other ratios for a firm's financial statements, consider growth industries Inc (GI). GI's income statement and opening and closing balance sheets for the years 2001, 2002, and 2003 appear on Table 7 below:

GI's Income Statement and Opening and Closing Balance Sheets for 2001, 2002, and 2003

	2000	2001	2002	2003
Income Statements				
Sales Revenue		N100,000	N120,000	N144,000
Cost of goods sold (with depreciation		55,000	66,000	79,200
Depreciation		15,000	18,000	21,600
Selling and Administrative expenses		15,000	18,000	21,600
Operating expenses		30,000	36,000	43,200
Interest expense		10,500	19,095	34,391
Taxable income		19,500	16,905	8,809
Income tax (40% rate)		7,800	6,762	3,524
Net income		11,700	10,143	5,285
		---	---	---
Balance sheet (end of year)				
Cash and marketable securities	50,000	60,000	72,000	82,400
Accounts receivable	25,000	30,000	36,000	43,200
Inventories	75,000	90,000	108,000	129,600
Net plant and equipment	150,000	180,000	216,000	259,200
	---	---	---	---
Total Assets	300,000	360,000	432,000	518,400
	=======	========	=======	=======
Accounts payable	30,000	36,000	43,200	51,840
Short-term debt	45,000	87,300	141,957	214,432
Long-term debt				
(8% bonds maturing in 2007)	75,000	75,000	75,000	75,000
	---	---	---	---
Total Liabilities	150,000	198,300	260,157	341,272
	=======	=======	=======	========
Shareholders' equity				
(1 million shares outstanding)	150,000	161,700	171,843	177,128
Other data				
Market price per common stock				
at the end of the year		93.60	61.00	21.00

GI's total asset turnover in 2003 was 0.303, which was below the industry average of 0.4. To understand better why GI underperformed, we compute asset utilization ratios separately for fixed assets, inventories, and accounts receivable.

GI's sales in 2003 were N144 million. Its only fixed assets were plant and equipment which were N216 million at the beginning of the ye3ar and N259.2 million at the end of the year. Average fixed assets for the year were, therefore, N237.6 million (i.e. N216 million + N216.2 million)/2. GI's fixed asset turnover for 2003 was N144 per year / N237.6 million = 0.606 per year. In other words, for every Naira of fixed assets, there was N0.606 in sales during the year 2003. Comparable figures for the fixed asset turnover ratio for 2001 and 2002 and 2003 industry average are:

2001	2002	2003	2003 Industry average
0.606	0.606	0.606	0.700

GI's fixed asset turnover has been stable over time and below the industry average.
When a financial ratio includes one item from the income statement, which covers a period of time and another from a balance sheet, which is a snapshot at a particular time, the practice is to take the average of the begin ing and the end of the year balance sheet figures. Thus in computing fixed asset turnover ratio, you divide sales (from the income statement) by average fixed assets (from the balance sheet).

3.3.2 Liquidity and Interest Coverage Ratios

Liquidity and interest coverage ratios are of great importance in evaluating the riskiness of a firm's securities. They aid in assessing the financial strength of the firm. Liquidity ratios include the current ratio, the quick ratio, and interest coverage ratio.

Current Ratio: Current assets/current liabilities. This ratio measures the ability of the firm to pay off its current liabilities as they fall due bu liquidating its current assets (that is, turning them into cash). It indicates the firm's ability to avoid insolvency in the short run. GI's current ratio in 2001, for example, was (60 + 30 + 90)/(36 + 87.3) = 1.46.

2001	2002	2003	2003 Industry average
1.46	1.17	0.97	2.0

This presents an unfavourable time trend and poor standing relative to the industry.

Quick Ratio: (Cash + Receivables)/current liabilities. This ratio is also called Acid Test Ratio. It has the same denominator as the current ratio, but its numerator include cash, cash equivalents such as marketable securities, and receivables. The quick ratio is a better measure of liquidity than the current ratio for firms whose inventory is not readily convertible into cash. GI's quick ratio shows the same disturbing trends as its current ratio.

2001	2002	2003	2003 Industry average
0.73	0.58	0.49	1.0

Interest Coverage Ratio: EBIT/Interest expense. A high coverage ratio tells the firm's shareholders and lenders that the likelihood of bankruptcy is low because annual earnings are significantly greater than annual interest obligations. It is widely used by both lenders and borrowers in determining the firm's debt capacity and is a major determinant of the firm's bond rating. GI's interest coverage ratios are:

2001	2002	2003	2003 Industry average
2.86	1.89	1.26	5

GI's interest coverage ratio has fallen dramatically over this three-year period, and by 2003 it is far below the industry average. Probably, its credit rating has been declining as well, and no doubt GI is considered as relatively poor credit risk in 2003.

4.0 CONCLUSION

Under this unit, we have studied the major financial statements which organizations prepare periodically to show their financial and operational positions. These financial statements include; income statement, balance sheet, and the statement of cash flow.
We also discussed ratio analysis, especially the asset utilization ratios.

5.0 SUMMARY

It is mandatory for every organization to prepare financial statements at the end of a given period, or at a particular time in the year, depending on the policy of the organization. The main financial statements are the income statement, the balance sheet, and the cash flow statement. The statements show the shareholders and other stakeholders of the company the trend of business and financial position of the firm. In the next unit , we shall be discussing financial reporting and interpretation.

6.0 TUTOR-MARKED ASSIGNMENT

* List three financial statements you know and discuss the importance of each of them to would-be investors and the existing shareholders.

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MODULE 3

UNIT 2 FINANCIAL REPORTING AND INTERPRETATION

CONTENTS

1.0 INTRODUCTION

In this unit, we shall be studying financial reporting and its interpretation, side by side with investment analysis. Basically, financial reports deal with the presentation of financial and other relevant statements to show the extent to which the objective of the organization has been achieved. It has been described as a way of documenting the day to day financial and investment activities of an organization for a given financial year. It involves the preparation of financial, investment and accounting information required by the various stakeholders in an organization including would be investors.

2.0 OBJECTIVES

At the end of this unit, the student will be familiar with the following:

* The usefulness of financial reports
* Components of Financial Reports
* Importance of Financial Reports to would-be investors

3.0 MAIN CONTENT

3.1 Historical Background of Financial/Investment Reporting

The Industrial Revolution that took place in Europe in the 19th Century gave rise to significant social changes, among them was the establishment of large industrial and commercial enterprises. These new businesses were given separate ownership status. In other words, they were corporate organizations having the right to operate on their own. They were entities separate from their owners by legal incorporation.

At the turn of the 20thb Century, corporations had become a dominant force in financing and in the production and distribution of goods and services. There was the demand for a feedback on the financial and investment activities of every firm to their shareholders and other stakeholders, such as investors, creditors, security analysts, and suppliers. This feedback was rendered in form of financial reports at the end of each trading year.

Subsequently, government and its agencies enacted laws compelling all corporate bodies to give annual financial reports about their operations to stakeholders and the general public. Since then to date, it has been the tradition for businesses to prepare reports for the stakeholders on the affairs of the corporate body.

3.1.2 Regulatory Framework

Financial statements published by companies in Nigeria are products of several regulatory influences. Such statements are influenced by the Companies and Allied Matters Act, which stipulates rules relating to information which should be disclosed in financial statements.

The Nigerian Securities and Exchange Commission requires full public disclosure of specified items of financial and accounting information by companies offering their shares for sale for the first time in the securities market. Such information serves as input required for the determination of the price of the shares.

The Nigerian Stock Exchange (NSE):
The NSE regulates items which companies must disclose in publishing accounts in addition to those statutorily required by Companies and Allied Matters Act. It enforces this requirement by ensuring that quoted companies obtain its approval before publishing their annual report and account. Other laws and standards that influence the financial reports of companies are: Bank and Other Financial Institutions Decree, Mortgage Institutions Decree, and CBN Guidelines issued from time to time.

3.1.3 Components of Financial Reports

By law, there are essential information that are expected to be included in any financial statement being issued by a corporate body. The regulatory requirements are to be followed consistently every year. Where peculiar circumstances demand alteration, the reason for the change or changes made must be explained in notes attached to the report. Some of the major financial/accounting information disclosed by most organizations are as follows: Accounting convention, income recognition, fixed assets, depreciation, investments, debts, taxation, foreign currencies and exchange rates.

Balance Sheet
This document reveals the financial position of the organization as at the accounting year end. It is sometimes referred to Statement of a Company's Affairs. The balance sheet contains a lot of vital information which can be used in assessing the overall viability of any company. Investors need the information about the company to help them decide whether or not to invest in a company.

The balance sheet must be prepared in accordance with the dictates of all relevant standards. The disclosure and presentation requirements must be strictly adhered to before any meaningful conclusion can be drawn from it. The statute requires that the following should be stated clearly: Fixed assets, current assets, creditors and amount falling due within one year, amount falling due after more than one year, cap0ital and reserves, minority interests.

3.2 Profit and Loss Reporting

Profit and loss reporting is also called an income statement or revenue statement. Its purpose is to derive the profit or loss for each accounting year. Like the balance sheet, it reveals a lot of vital information about the operation of a company. It essentially includes the major source of income to the organization showing investments and yields there-from.

The profit and loss account deals with transactions and events which are related to the year or period under consideration. That is to say, it shows the financial accounting information relating to the current year alone. The most important information shown are: Turnover, investment income, total expenses related to ordinary activities, extraordinary items, profit or loss for the year, dividends and taxation.

3.2.1 Notes and Explanation

These notes and explanation form an integral part of the profit and loss reporting and the balance sheet. The notes usually provide explanatory information in respect of the items already disclosed in these statements. Put differently, it serves as a tool for enhancing the understanding of the other financial/accounting statements. On the other hand, due to special circumstances, where certain events have occurred which are of importance to the users of the report, the notes to the account is used in disclosing such information. Examples include: Capital commitments, contingencies, related party transactions, and post balance sheet events.

3.2.2 Report of Directors

Directors are required to prepare in respect of each financial year a report which is included in the annual report of the company. The report contains, among other things, the following: The principal activities of the company, the legal status of the company. A fair review of the business, summary of results, donations and gifts, proposed dividends and transfers to reserves, post balance sheet events, appointment of auditors.

Five-year Financial Summary
Some companies also prepare financial summary which provides the major information on a company and facilitates inter-period comparison over the five years involved. The document usually highlights the following: Turnover, profit before and after taxation, dividends, assets employed, issued and paid up capital, reserves, medium and long-term liabilities, earnings and dividends per share.

3.3 Objectives of Financial Reporting

Among other objectives, the main aim of financial reporting is to provide information that is useful for rational investment, credit and similar decisions. In other words, the report provides guiding information that assists the company in its future decision making to ensure continued existence of the enterprise.

3.3.1 Compliance with Statutory Regulations

The regulatory framework within which companies operate are reflected in the preparation and presentation of a financial report. A departure from the requirements of regulations attracts sanction. To avoid the penalties and sanctions involved, companies ensure strict compliance.

3.3.2 Stewardship of Management to the Shareholders

This requirement derives from the entity concept. Management is stewarding the organization for the shareholders who are the owners of the company. It is therefore mandatory on the steward to render account of his activities to the owner of the business. This is done through financial report. The report gives the shareholders the opportunity to determine how well the business is being managed.

Other objectives of financial reporting include; determining the extent to which the resources of the enterprise is being fully utilized. Shareholders want to make sure that the resources available to the organization, in terms of, money, men, machines and materials are effectively and efficiently utilized to produce the highest possible profit.

Another objective of financial report is to show the owners of the enterprise, the extent to which the organization is being socially responsible. Every modern organization is expected to carry out some form of social responsibility projects and programmes to help the grass-root and make life easy in the society.

4.0 CONCLUSION

Under this unit, we have studied financial reporting and the interpretation of such report. We also looked at the regulatory frame –work and the most important components of a financial report. We also examined the reason for rendering financial report and why it is necessary for a company to comply with the statutory requirements and regulations governing the operation of a business organization.

5.0 SUMMARY

We now know that a business organization is not just set up to do business and make profit they way it likes without any checks and balances. Every business organization must abide by the regulatory and statutory guidelines put in place by the government. Any deviation from the statutory laws will lead to sanctions or even result in the closure of the firm.

6.0 TUTOR-MARKED ASSIGNMENT

* What is the importance of a financial report to investors and other stakeholders?

* Discuss the major components of a financial report.

7.0 REFERENCES/FURTHER READING

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MODULE 3

UNIT 3 USERS OF FINANCIAL REPORTS/STATEMENTS

CONTENTS

7.0 INTRODUCTION

It was highlighted in the previous unit that financial reports and statements rendered by business organizations are primarily used to guide management in their future decisions about the general running of the company. Such reports also give the shareholders a picture of how their company is being run. In addition, investment analysts and individual investors carefully study financial reports to obtain direction clue and vital information they need to guide them in their investment decisions.

2.0 OBJECTIV ES

At the end of this unit, the student will be conversant with the following:

* Key information contained in Financial Reports

* Users of Financial Reports and Limitations imposed on such Reports

3-0 MAIN CONTENT

3.1 Financial reports contains information about quoted companies, and sometimes information relating to individuals who have key business dealings with the report-issuing firm. For instance, in the financial report issued by of a bank, shareholders may wish to know major individual borrowers especially when such loan accounts are not adequately performing.

3.1.2 Information about Business Enterprise

Owners of businesses, creditors, suppliers, investors, tax authorities, employees, and customers need financial information about business enterprises. For example, owners may examine financial information to determine if they should expect to receive dividend payment from their firm this year. Other professionals such as financial analysts and advisers, stock exchanges, lawyers, regulatory and registration authorities, financial press and rep0rting agencies, trade associations, labour unions and the general public use financial reports to evaluate business firms and make decisions on whether or not to invest in them.

3.1.3 Information about Non-profit Organizations

Non-profit organizations (or organizations not engaged in profit-making business), such as, churches, political parties, and professional associations also issue financial reports. The report shows members and supporters of these organizations how the institutions are being managed. Through this report, members and supporters will determine whether or not to continue with their membership of such associations. If funds are being embezzled, for instance, members may stop making donations and paying membership subscriptions.

Information about social programmes: Administrators of social programmes must adequately report on the success of their programmes. For example, day care centres which receive business community and government support must account for how the funds are used.

3.2 Users of Financial Statements

In order to present a clear picture, we provide in Table 1 below, users of some specific financial statements, including the purpose for which they are needed and the kind of information expected from each statement.

Table 1: **Users and Purpose of Financial Statements**

Users of Financial Statement	**Purpose for which Statement is Required**	**Information needed**
Management	For the purpose of asset control To ascertain the efficacy of Management policies To ascertain the proportion of cost incurred and revenues generated	Details of assets Details of cost and revenues Profitability level
Shareholders and investment analysts	To enable them make appropriate investment decision.	Rate of return on investment
Lenders including) Banks	To enable them decide whether or not to grant facilities	Liquidity position of the firm, and ratio of debt and equity
Employees	To enable them bargain for improved working conditions, and ascertain their job security	Profitability level of the firm
Tax Authorities	To access the true tax level payable by the company	Details of revenue and expenses
Auditors	General audit purpose and to enable them for their opinion on the company's state of affairs	All relevant books of account and records to enable them give true and fair view
General public	To determine the extent to which the firm has carried out corporate social responsibility projects.	Information about social help, and other social projects which the firm has undertaken

3.2.1 Limitations of a Financial report

It is the general believe that the public should have limited trust and confidence on the financial reports published by companies. The reason is that the management of most companies paint beautiful pictures of their operations and profits to attract investors to their organization. In order words, stories told by financial reports are not always entirely true, as such, they should be taken with a pinch of salt . Some of the strategies employed by managers of companies to present cosmetic and convincing pictures to the public include:

Overstating Financial Condition and Operating Performance:
This is often achieved by accelerating the recognition of revenues and deferring the recognition of expenses. Young fast-growing and aggressive companies sometimes use this reporting strategy to attract the much needed capital from the public by showing that their firms are making huge profits. It is also in common use with companies have serious financial problems.

Creating Artificial Losses:
Some companies use very conservative accounting methods and judgment to create artificial losses in years of good performance. In such years, excess accounting losses are recognized to ensure that reported earnings are not high in order to avoid paying high-tax figures.

Manager have been known to structure financial transactions and choose certain accounting methods that will hide the debt figure owed by the company in the balance (that is, the figure of debt will not appear). By avoiding the recognition of debt, such activities called "off-balance sheet financing" may produce more favourable values for the current ratio and the debt/equity ratio of the company.

3.2.2 Absence of Information for Assessing a Company's True Value

Financial statements are inherently limited because they ignore much information which are relevant for assessing a company's true value. For example, estimate of the quality and true value of a company's human resources are not included in the balance sheet. Obviously, human resources are the most important assets of an organization. This is a familiar song of praise in personnel management. Yet the quality of this all-important asset is never measured and included in the balance sheet. It therefore boils down to the fact that a financial statement that does not include the monetary worth of human resources quality is not reflecting the value of the company.

3.3 Internal and External Users' of Accounting/Financial Information

Users of accounting/financial information can be divided into two broad categories:
Internal and External users.

3.3.1 Internal users

Internal users are those employees in an organization involved in making day to day decisions and monitoring of activities related to purchasing, hiring, production, payment, sales, collection of debts, financing, investment and similar operations. The officers use the general accounting/financial information provided to guide them in their various functions.

3.3.2 External Users

External users of accounting/financial information issued by firms are not directly employed or involved in the decision making in an organization. One key user group are the stockholders. When investors decide to acquire stock in a company, they will require information on its financial condition and its past, present and expected future performance.

Other external users of the infor5mation are the creditors, prospective investors, regulatory agencies, consumers, competitors prospective employees, internal revenue officials researchers, and union leaders.

Each of these groups has different interest and objectives when examining the accounting/financial information. We review below the needs which financial accounting information serve some specific users.

Shareholders/Stockholders: The shareholders can gain a return on investment both from dividends and from proceeds on the sale of stock at an increased price. They want to be able to predict a firm's future profits, because profitability is the best indicator of the ability to pay dividends and to determine the value the market is likely to place on the stock.

Short and long-term creditors: Short-term creditors such as banks are interested in a firm's ability to repay a loan promptly. Hence the short-term cash generating ability, that is, the degree of liquidity of a firm is important to the creditor (the banks). While long-term creditors such as bond holders, would like to be able to predict the ability of the firm to pay the interest obligation on the bonds it issued and also be able to pay the principal at maturity.

Potential investors: Potential investors likewise need the the financial statement to know whether or not the firm ios making profit and paying dividends enough to its shareholders. If they are satisfied with the past r5ecords of the company, they will then make up their mind to invest in the firm.

4.0 CONCLUSION

In this unit, we have studied the uses of financial reports and the information which individuals, enterprises and non-business organization look for when they study such reports. We also shed light on the fact that financial reports, though useful information providers, have their limitations.

5.0 SUMMARY

Naturally, we have seen that not everything that appears in a financial report should be trusted. We have also noted that the reports do not contain some vital information which are needed to determine the true value of an enterprise. In the next unit, we shall be studying portfolio management objectives and practices.

6.0 TUTOR-MARKED ASSIGNMENT

* Discuss the uses of Financial Statements

* What are the limitations of a Financial Report?

7.0 REFERENCES/FURTHER READING

Berton, L (1974) Investing by Computer: Can you beat the market?
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MODULE 4

Unit 1 Portfolio Management Objectives and Practice
Unit 2 Managing Fixed Income Investments
Unit 3 Managing Working Capital
Unit 4 Managing Investment Portfolio in Financial Institutions

UNIT 1 PORTFOLIO MANAGEMENT OBJECTIVES AND PRACTICE

CONTENTS

7.0 INTRODUCTION

Portfolio management is the art of handling a pool of funds or a pool of investments so that it preserves its original worth and also appreciates in value over time, and yields an adequate return, consistent with the level of risk assumed.

2.0 OBJECTIVES

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

* How to manage Investment Portfolio
* The objectives of portfolio Management in general

3.0 MAIN CONTENT

3.1 Portfolio Management Objectives and Practices

Practicing portfolio managers, in their pursuit of portfolio management objectives employ a wide variety of investment philosophies and procedures. In fact, it has been frequently noted that there are as many methods of managing a portfolio as there are portfolio managers.

Some portfolio managers predict the ebb and flow of their investments on business cycle analysis or the identification of technical trends. Others structure their equity portfolios to resemble closely the composition of a market index.

Whatever the case may be, portfolio managers have not typically practiced integrated decision-making, that is, a single procedure that incorporates the determination of the specific objectives of the particular portfolio under management, establishment of a frame-work for asset selection and distribution, provision for the realignment of holding as conditions change, and the monitoring of performance in an objective manner. Rather, portfolio management, both by amateur individuals and professional institutions has traditionally been practiced as if it were divisible into a variety of unrelated activities. It must be noted , however, that investment objectives cannot be set in a vacuum. They must reflect the investment market conditions, the constraints on the part of the investor, and the behaviour and the risk inherent in the security.

3.1.1 Risk and Return: Objectives in Conflict

Generally speaking, all rational investors would like to:

1. Preserve principal and have it available at any time (i.e., maintain liquidity)

2. Maximize the rate of return on investment, net of taxes and inflation

Unfortunately, these admirable twin objectives conflict with each other. It is a central tenet of finance that then greater the assurance that principal will be preserved from loss, the lower the anticipated rate of return. Conversely, the higher the expected return from your investment, the greater the possibility of loss.

There is substantial evidence documenting a long-run tendency for actual returns on investment and anticipated risk of principal to vary directly. However, the evidence shows that over shorter periods of time, there is frequently an inverse relationship, with less risky investments actually earning more than risky ones. There lies the dilemma of investment theory. It therefore implies that the undertaking of increased investment risk does not inherently guarantee a higher return, at all times, than what the investor would get if he undertakes a less investment risk.

Thus in both the setting of their objectives and in making actual portfolio decisions, investors must engage in a compromise, or trade-off, between the desire to preserve capital and maintain liquidity on the one hand, and to maximize anticipated total return on the other hand.

3.1.2 Stocks Versus Bonds

The investor's risk-return trade-off is usually discussed in terms of the relative e rates of return provided by the stock market versus fixed-income securities. Over the years, extensive research efforts have documented the proposition that stocks, over the long run, do in fact provide higher total returns. In other words, higher actual returns are related to higher anticipated risk. A recently completed extensive e research which weighed and measured earnings on common stock and corporate bonds in 50 blue-chip companies showed that common stock returned arithmetic average annual rate of 10.9 per cent compared with 3.7 per cent for corporate bonds. The difference between the rate of return on stocks and bonds, that is, 7.2 per cent, is sometimes considered as the "risk" premium earned from the decision to invest in common stock.

The researchers summarized this finding in the following statement: "The most enduring relationship in all finance perhaps, is the relationship between returns on equities and the returns on bonds. In all periods of American history, British history, French history and, of course, the third world investment history, the clear evidence is that, over a long period of time, equities have provided higher returns than bonds. The reason is obvious, equities are riskier than bonds."

3.1.3 Other Assets

Unfortunately, there has been little research conducted on the relative rates of return from assets other than stocks and bonds. One of the few available studies covering mortgage investing indicates that returns on a Federal Housing Scheme insured mortgage portfolio exceeds bond returns by 0.8 per cent per annum over the past 10 years.

Although strictly comparable data are not available, yields, on commercial and industrial mortgages (as opposed to residential) were generally higher. It should be noted however that commercial and industrial mortgages are considered more risky than residential mortgages. Moreover, bond returns have tended to exceed mortgage returns in more recent years, so definite conclusions about bond/mortgage risk-return trade-offs are not possible.

3.2 The Individual as Investor

Portfolio objectives of then individual investor are influenced by a wide variety of factors but the two most important ones are:

(a) Change in the life-0cycle

(b) Psychological make-up or capacity to withstand the stress and tensions of risk.

How, consider three key stages in the life cycle of an average human being (i) The Young Family, (ii) The family at Midstream, (iii) The older family (on the verge of retirement).

3.2.1 The young family

"Thrift is a wonderful virtue in a human being," Someone once remarked. Naturally, a young family which has inherited a substantial estate has no financial problem. It has merely an investment problem, probably requiring investment counseling. Note that , conventionally, a problem is something or an event that worries you and makes you uncomfortable; you run around looking for the way to solve such problem. But an investment problem of this nature for someone who wallows in great wealth is called "a nice problem."

For the average family, say a newly married couple, having no substantial inheritance, life may not be too easy. A family planning expert once noted that: The first half of life consists of the capacity to enjoy without the chance; the last half of life consists of the chance without the capacity." The explanation of this remark is that, members of the young family are bouncing with life and need the money to enjoy themselves, but they have no money. By the time they would have struggled through life and acquired some wealth to enjoy themselves, they would have become too old to enjoy life.

The head of the average family usually between 25 and 35 years of age is married and has one or two children. Income ranges from N121,000 to N50,000 per month. The largest single expenditure for most young families is housing. How much to pay for a house and how to finance it is likely to be the first major investment problem for the young family.

Most young families go into debt to finance a house, buy a car, obtain house furniture, and so on. The golden advice is that young families should, first of all, try to build up savings account, take up insurance cover, and them begin gradual investments. An experienced investment analyst has these words hanging on the wall of f his office: "How to make a poor fellow get rich – Save N5,000 and then begin prudent investing."

Every young family needs an emergency fund to fall back upon in the event of trouble, such as loss of job or serious illness in the family. A good rule of thumb to follow is that the emergency fund should be built up until it amounts to at least three months or preferably six months take-home pay, then it could be kept aside possibly in a separate interest-yielding account to serve the required need.

3.2.2 How to Build a Family Estate

Generally speaking, the quickest way for a young family to build an estate is via life insurance (or life assurance). There are only three basic types of policy. (a) Term Policy, which is a temporary protection; (b) Whole-life policy, which is life-time protection with some savings, and (c) Endowment policy, which is mostly savings with protection until the endowment matures.

The initial need for the young family usually is for maximum protection at minimum cost. This is provided by term insurance policy. Term insurance provides temporary protection for a given period of time. It pays off only if you die (God forbid) within the given period of time which may be one year, five years or ten years. Term insurance is the lowest premium life insurance because it provides only temporary protection. It may not require any payment by the insurance company and it does not, as a general rule, build any cash value for the insured.

3.3 The Investor at Midstream

The average businessman or professional person is probably moving into the prime of life from 40 to 50. Although, earnings are perhaps not at the highest level that will be attained, they find themselves in these years with greater financial mobility than previously. Generally, the house is paid for or almost so, insurance programme are well under way, and a comfortable cash balance is available in the bank for any emergency which may arise. The investor is financially more matured and sophisticated. It is during this period that funds can be used more aggressively. The whole range of investment possibilities may be considered. These include a speculative capital gains portfolio, or trading in performance stock. The investor can

buy on margin to enhance profitability, sell short, look into special situations, take-up convertible bonds or warrants or trade in options. The switching from stock to bonds to take advantage of interest rate trends can also be undertaken.

3.3.1 The Older Investor

As the individual moves along in years to the verge of retirement, we would expect the desire for risk aversion to become greater. For the investor between 55 and 65 years of age, it makes less sense to take speculative chances in the pursuit of capital gains and high returns. Since the prime earning years are about over, there is no time left t5o rebuild capital and recoup possible speculative losses. Presumably, then, the investor on the eve of retirement will want to shift the portfolio to provide income to augment social security and other possible retirement benefits. The objective becomes mainly the highest income commensurate with safety, rather than speculative or even long-term capital gains.

Of course, individuals differ greatly in financial status, especially at this stage of life. In some cases, financial planning undertaken in productive years will now pay off by adequately supplementing social security, insurance, and pension income. Previous success in achieving substantial capital appreciation may make the difference between a lean retirement and an ample one. Recipients of substantial deferred compensation and large pensions may face no problem at all. In fact, in some cases, because of a change in tax level and insurance status, a person may be as well off in retirement as he or she was when actively employed.

But for the average older family, the most pressing investment problem is having an accumulation which does not yield enough to live on comfortably, especially in an inflationary environment. This presents a very difficult investment dilemma. For instance, an accumulation of, say N500,000 or N800,000 which seems ample when the family was living on the salary of the bread-winner, becomes much less adequate when one has to rely on the income from the fund to live on for another 15 to 20 more years of retirement, with an inflationary rate of about 7 per cent per annum.

3.3.2 Using-up the Accumulated Fund

Many experts believe that the only way to resolve the problem is to cannibalize the accumulated fund. The retired family should not plan to leave an estate. It should plan to use up its accumulated resources over its remaining life-time. It can do this by means of annuities which can be fixed, variable or balanced. This programme has merit for a concrete reason.

With age comes a certain level of weariness of attention to investment trends and details. In all probability, investing at this stage of the life cycle is better turned over to the investment professional managers who devote time and full attention to this matter.

4.0 CONCLUSION

This unit has shed enough light on the objectives of portfolio management and showed the difference in earnings and level of risks between an investment in common stock on the one hand and investment in corporate bonds on the other hand. We also looked at individual investors at various stages of the life cycle.

5.0 SUMMARY

As far as portfolio management objectives and practices are concerned, the choice between level of risk involved and Naira amount of returns from an investment is the key issue. Individual investors differ in their view about choice. Majority are risk averters, but there at the other end of the spectrum are people who are risk oriented (or risk loving). In the next unit, we shall be studying how to manage fixed-income investments.

6.0 TUTOR-MARKED ASSIGNMENT

* Discuss the conflict that exists between risks and returns in portfolio management
* What type of investments should an older person at retirement age make?

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MODULE 4

UNIT 2 MANAGING FIXED-INCOME INVESTMENTS

CONTENTS

7.0 INTRODUCTION

We now turn to the various strategies that fixed-income portfolio managers can pursue. We will make distinction between "passive investment strategy" and "active investment strategy." We will discuss interest rate risks and sensitivity in the management of fixed-income investments.

2.0 OBJECTIVES

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

* The method of computing the duration of bonds

* How to make choices in an actively-managed fixed-income portfolio.

3.0 MAIN CONTENT

3.1 Managing Fixed-Income Investments

We begin our discussion by explaining the two popular strategies a fixed-income portfolio manager can pursue. A passive investment strategy takes market prices of securities as fairly set. Rather than attempting to beat the market by exploiting superior information or insight, passive managers act to maintain an appropriate risk-return balance given market opportunities. One special case of passive management is an immunization strategy that attempts to insulate the portfolio from interest rate risk.

An active investment strategy, on the other hand, attempts to achieve returns 0that are more than commensurate with the risk borne. In the context of fixed-income management, this style of management can take two forms. Active managers either use interest rate forecasts to predict movements in the entire fixed-income market, or they employ some form of intra-market analysis to identify particular sectors of the fixed-income market (or particular securities) that are relatively miss-priced.

Let us carry out a bit of analysis of the sensitivity of bond prices to interest rate fluctuations. The concept of duration, which measures interest rate sensitivity, is basic to formulating both active and passive fixed-income strategies. We the turn to passive strategies and show how duration matching strategies can be used to immunize the holding-period return of a fixed-income portfolio from interest rate risk. Finally, we explore a variety of active strategies, including intra-market analysis, interest rate forecasting, and interest rate swaps.

3.1.1 Interest Rate Risk

You know already that there is an inverse relationship between bond prices and yields and that interest rates can fluctuate substantially. As interest rates rise and fall, bond holders experience capital gains and losses. It is these gains and losses that make fixed-income investment risky, even if the coupon and principal payments are guaranteed, as in the case of Treasury obligations.

We may be forced to ask this question: Why do bond prices respond to interest rate fluctuations? In a competitive market, all securities must offer investors fair expected rates of return. If a bond is issued with an 8% coupon when competitive yields are 8%, then it will sell at par value. If the market rate rises to 9%, however, who would purchase an 8% coupon bond at par value? Conversely, if the market price falls to 7%, the 8% coupon on the bond is attractive compared to yields on alternative investments. Investors eager for that return will respond by bidding the bond price above its par value until the total rate of return falls to the market rate.

3 .1.2 Interest Rate Sensitivity

The sensitivity of bond prices to change in market interest rates is obviously of great concern to investors. Generally, bond prices decrease when yields rise and that the price curve is convex, meaning that decreases in yields have bigger impacts on prices than increases in yields of equal magnitude. We summarize these two observations in the following two propositions:

1. Bond prices and yields are inversely related; as yields increase, bond prices fall; as yields fall, bond prices rise.

2. An increase in a bond's yield to maturity results in a smaller price decline than the price gain associated with a decrease of equal magnitude in yield.

3. Prices of long-term bonds tend to be more sensitive to interest rate changes than prices of short-term bonds.

4. The sensitivity of bond prices to changes in yields increases at a decreasing rate as Maturity increases. In other words, interest rate is less than proportional to bond Maturity.

It must be mentioned at this point that maturity is a major determinant of interest rate risk. However, they also show that maturity alone is not sufficient to measure interest rate sensitivity.

3.2 DURATION

Duration is a measure of the effective maturity of a bond, defined as the weighted average of the times until each payments, with weights proportional to the present value of the payment. To deal with the concept of the "maturity" of a bond that makes many payments, we need a measure of the average maturity of the bond. This measure shouid also give us some information on the sensitivity of a bond to interest rate changes because we have noted that price sensitivity tends to increase with time to maturity.

An investment expert called the effective maturity concept the "duration" of the bond. He suggested that duration be computed as the weighted average of the times to each coupon or principal payment made by the bond. The weighty applied to each time payment clearly should be related to the "importance" of that payment to the value of the bond. Therefore, the weight for each payment time is the proportion of the total value of the bond accounted for by that payment. This proportion is just the present value of the payment divided by the bond price.

Duration is a key concept in fixed-income portfolio management for at least three reasons. First, it is a simple summary measure of the effective average maturity of the portfolio. Second, it turns out to be an essential tool in immunizing portfolios from interest rate risk. Third, duration is a measure of the interest rate sensitivity of a bond portfolio. We have already noted that long-term bonds are more sensitive to interest rate movements than short-term bonds. The duration measure enables us to quantify this relationship.

3.2.1 Determinant of Duration

The sensitivity of a bond's price to changes is market interest rates is influenced by three key factors: Time to maturity, coupon rate, and yield to maturity. These determinants of price sensitivity are important to fixed-income portfolio management. Therefore, we summarize some of the important relationships in the following rules:

Rule 1: The duration of a zero-coupon bond equals its time to maturity.

Rule 2: If we hold time to maturity and yield to maturity constant, a bond's duration and interest rate sensitivity are higher when the coupon rate is lower.

3.2.2 Holding the Coupon Rate Constant

Please note also that, when the coupon rate is held constant, a bonds duration and interest rate sensitivity generally increase with time to maturity. Duration always increases with maturity fror bonds selling at par or at a premium to par.

While long-maturity bonds generally will be high-duration bonds, duration is a better measure of the long-term nature of the bond because it also accounts for coupon payments. Only when the bond pays no coupon is time to maturity an adequate measure. In that situation, maturity and duration are equal.

Holding other factors constant, the duration and interest rate sensitivity of a coupon bond are higher when the bond's yield to maturity is lower. This rule applies to coupon bonds. For zero-coupon bonds, duration equals time to maturity, regardless of the yield to maturity.

3.3 Passive Bond Management

Passive bond managers regard bond prices as fair and therefore seek to control only the risk of their fixed-income portfolios. Generally, there are two ways of viewing this risk, depending on the investor's peculiar circumstances. Some institutions, such as banks, are concerned with protecting the portfolio's current net market value against interest rate fluctuations. Risk-based capital guidelines for commercial banks and thrift institutions require the setting aside of additional capital as a buffer against potential losses in market value incurred from interest rate fluctuations. The amount of capital required is directly related to the losses that may be incurred under various changes in market interest rates. Other investors, such as pension funds, may have an investment goal to be reached after a given number of years. These investors are more concerned with protecting the future values of their portfolios.

What is common to the bank and pension fund, however, is interest rate risk. The net worth of the firm and its ability to meet future obligations fluctuate with interest rates. If they adjust the maturity structure of their portfolios, these institutions can shed their interest rate risk.

3.3.1 Immunization

We come to the concept of “immunization” which is simply a strategy that investors use to shield their net worth from exposure to interest rate fluctuations or movements. Many banks and thrift institutions have a natural mismatch between the maturities of assets liabilities. For example, bank liabilities are primarily the deposits owed to customers, most of which are short-term in nature and consequently of low duration. Assets are largely composed of commercial and consumer loans or mortgages. These assets are of longer duration than deposits, which means their values are correspondingly more sensitive than deposits to interest rate fluctuations. When interest rates increase unexpectedly, banks can suffer serious decreases in net worth, that is, their assets fall in value by more than their liabilities.

Similarly, a pension fund may have a mismatch between the interest rate sensitivity of the assets held in the fund and the present value of its liabilities, that is, the promise to make payments to retirees. Pension funds face some dangers when they neglect the interest rate exposure of both assets and liabilities. What usually happens is that the value of their liabilities changes as soon as the prevailing interest rate alters.

The decline in interest rate may bring joy to borrowers, but to a pension fund, when the interest rate drops, it is near a disaster. It means that more money needs to be set aside to pay off a fixed obligation tomorrow. In accounting parlance, the discounted present value of their liabilities rises. Also, most funds are mismatched, meaning that their liabilities are longer-lived than their investments. The longer an obligation, the more its current value reacts to changes in rates. Considering a typical pension fund, even though the average obligation is 15 years away, the average duration of its bond portfolio is roughly five years. Ordinarily, no sensible family puts its common grocery money (a short-term obligation) into common stock (a long-term obligation). In our daily life, everyone practices the principle of “matching” without even thinking about it.

3.2.2 Bond’s Duration is a Good Guide on Rates

Suppose you buy a 10-yeaar Treasury note today at a yield to maturity of 6% and interest rates shoot up to 8%. What happens to your investment?

A. You lose money
B. You make money
C. Nothing happens
D. All of the above.

The answer is D. All of the above.
You may ask, how is this possible? The trick is, how long you hold the investment.

In the short run, you lose money. Since interest rates and bond prices move inversely to one another, higher rates means the value of your bond investment withers when rates go up. For a 10-year Treasury yielding 6%, a two percentage-point rise in rates would cause the value of your principal to sink by roughly 14%.

However, if you hold, rather than sell it, you will get to reinvest the interest received from it at the new, higher 8% rate. Over time, this higher "interest on interest" adds up, allowing you not only to offset your initial loss of principal but also to profit more than if rates had never moved at all.

Perhaps the best way to judge a bond's interest-rate sensitivity is to get a handle on its "duration." Duration is one measure of a bond's life. It is that sweet spot, somewhere between the short-term and the long-term where a bond's return remains practically unchanged, no matter what happens to interest rates.

Bond's Duration: The duration of a 10-year Treasury note yielding 6% in today's market is between seven and seven and half years. By that time in that note's life, potential price changes as rates go down or up would be about equally offset by consequent changes in the amount of interest-on-interest that would be received.

As a result, the bond's total return will be about equal its initial yield to maturity, even if rates change. Duration is a reassuring feature for investors who have expenses coming due in the future, that is, for retirement or tuition payments, for instance, that they need to cover with the proceeds of their bond investments. By making sure the duration of their investments roughly matches the due date of their expenses, they can avoid being caught off-guard by adverse rises in interest rates.

Gauge of Risk: But the best thing about duration may be that it provides an extremely handy gauge of interest-rate risk in a given bond or bond fund. To figure out how much prices will move in response to rate changes, simply multiply the percentage change in rates by the duration of the bond or bond fund and, surely, you have a pretty good estimate of what to expect.

For instance, if rates go from 6% to 8%, a 10-year Treasury note with duration of 7.4 will take a price hit of about 13.5%, or a bit less than two percentage point times the duration.

4.0 CONCLUSION

In this unit, we discussed the management of fixed-income investments. We have seen how changes in interest rates affect the yield to maturity of bonds. Maturity period is a major determinant of interest rate risk on fixed-income assets. We have also seen changes in earnings that occur when coupon rate on a bond is held constant.

5.0 SUMMARY

Generally speaking, in bonds management, duration is a good guide to rates.
Immunization, as we discussed, refer to the strategies that experienced investors use to shield their net worth from exposure to interest rate fluctuations. In the next unit, we shall study how to manage working capital in a corporate organization.

7.0 TUTOR-MARKED ASSIGNMENT

* What is the major determinant of Interest Rate Risk?
* Discuss that you understand by immunization

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MODULE 4

UNIT 3 MANAGING WORKING CAPITAL

CONTENTS

7.0 INTRODUCTION

There are two major concepts of working capital – net working capital and gross working capital. Net working capital is calculated as current assets minus current liabilities. The gross working capital is the firm's total investment in current assets, such as cash, marketable securities, receivables and inventory. However, when organizations use the term working

capital, they are generally referring to net working capital which is the Naira difference between current assets and current liabilities. This is one way of measuring the extent to which the firm is protected from liquidity problems. From management point of view, it makes little sense to actively try to manage the net difference between current assets and current liabilities particularly when that difference is continually changing.

2.0 OBJECTIVES

After studying this unit, the student will be able to:

* Explain the Definition of Working Capital
* Discuss how to determine the optimal level of Current Assets.

3.0 MAIN CONTENT

3.1 Managing Working Capital

Managing working capital simply involves the administration of a firm's current assets and financing needed to support current assets. Management of working capital is important for several reasons. For one thing, the current assets of, say, a manufacturing company account for over half of its total assets. For a distribution company, they account for even more. Excessive levels of current assets can easily result in a firm realizing a substantial return on its investments. However, firms with scanty current assets may incur shortages and difficulties in maintaining smooth operations.

For small companies, current liabilities are the principal source of external financing. These firms do not have access to the longer-term capital markets. The fast-growing but larger companies also make use of current liability financing. For these reasons, the financial manager and his staff devote a considerable portion of their time to working capital matters.

The management of cash, marketable securities, accounts receivable, accounts payable, accruals and other means of short-term financing is the direct responsibility of the financial manager. However, only the management of inventories is not within the purview of the

financial manager's schedule. Management of the above listed short-term assets requires day-to-day supervision. Unlike dividend and capital structure decisions, you cannot stu8dy the issue, reach decision, and set the matter aside for many months to come. Thus, working capital management is important, if for no other reason, for the fact that the financial manager devotes a lot of time to it. It must be mentioned at this point that working capital decisions can have a far-reaching effect on a company's risk, return, and share price.

3.1.1 Profitability and Risk

Proper working capital management involves two issues in a firm. These are:

1. The determination of the optimal level of investment in current assets
2. The determination of the appropriate mix of short-term and long-term financing used to support this investment in current assets.

In turn, these decisions are influenced by the trade-off that must be made between profitability and risk. Lowering the level of investment in current assets, while still being able to support sales, would lead to an increase in the firm's return on total assets. To the extent that the explicit costs of short-term financing are less than those of intermediate and long-term financing, the greater the proportion of short-term debt, to total debt, the higher is the profitability of the firm.

Although, short-term interest rates sometimes exceed long-term rates, generally they are less. Even when short-term rates are higher, the situation is likely to be only temporary. Over an extended period of time, we would expect to pay more in interest cost with long-term debt than we should with short-term borrowings, which are continually rolled over (re-financing) at maturity. Moreover, the use of short-term debt as opposed to longer-term debt is likely to result in higher profits because debt will be paid off during periods when it is not needed.

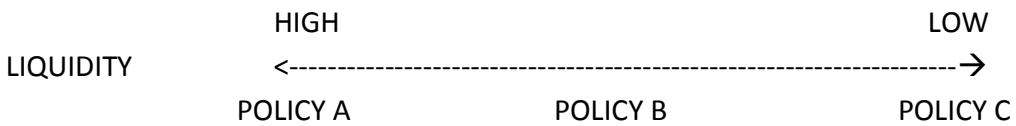
These profitability assumptions suggest maintaining a low level of current assets and a high proportion of current liabilities to total liabilities. This strategy will result in a low or conceivably negative level of net working capital. Off-setting the profitability of this strategy, however, is the increased risk to the firm. Here, risk means jeopardy to the firm for not maintaining sufficient current assets to meet its cash obligations as they fall due, and to support the proper level of sales.

3.1.2 Optimal Level of Current Assets

In determining the appropriate level of current assets, management must consider the trade-off between profitability and risk. To illustrate this trade-off, suppose that, with the exiting fixed assets, a firm can produce up to 100,000 units of product in a year. Production is continuous throughout the period under consideration, in which there is a particular level of output. For each level of output, the firm can have a number of different level of current assets. Let us assume, initially, that there are three different current asset policy alternatives. Study of the relationship between output and current asset level for these three alternatives shows that the greater the output, the greater the need for investment in current assets to support that level of output (and sales). However, the relationship is not perfectly linear; current assets increase at a decreasing rate with output. The relationship is based on the notion that it takes a greater proportional investment in current assets when only a few units of output are produced than it does later on, when the firm can use its current assets more efficiently.

If we equate liquidity with conservativeness, Policy A (as given below in Figure 1) is the most conservative of the three alternatives. At all levels of output, Policy A provides for more current assets than any other policy. The greater the level of current assets, the greater the liquidity of the firm, all other things being equal. Policy A is seen as preparing the firm for almost any conceivable current asset need; it is the financial equivalent to wearing a belt and suspenders. Policy C is the least liquid and can be labeled "aggressive." This "lean and mean" policy calls for low level of cash, marketable securities, receivables and inventories. We should keep in mind that for every output level, there is a minimum level of current assets that the firm needs just to get by. There is a limit to how lean and mean a firm can get. We can now summarize the rankings of the alternative working capital policies with respect to liquidity as follows:

FIGURE 1



Though, policy A clearly provides the highest liquidity, how do the three alternative policies rank when we shift our attention to expected profitability? To answer this question, we need to recast the familiar return on investment (ROI) equation as follows:

$$ROI = \frac{\text{Net Profit}}{\text{Total Assets}} = \frac{\text{Net Profit}}{(\text{Cash} + \text{Receivables} + \text{Inventory}) + \text{Fixed Assets}}$$

From the equation above,, we can see that decreasing the amounts of current assets held (for example, a movement from Policy A toward Policy C) will increase our potential profitability. If we can reduce the firm's investment in current assets while still being able to properly support output and sales, ROI will increase. Lower levels of cash, receivables, and inventory would reduce the denominator in the equation; and net profits, our numerator, would remain roughly the same or perhaps even increase. Policy C, then, provides the highest profitability potential as measured by ROI.

However, a movement from Policy A towards Policy C results in other effects besides increased productivity. Decreasing cash reduces the firm's ability to meet financial obligations as they fall due. Decreasing receivables, by adopting stricter credit terms and a tougher enforcement policy, may result in some lost customers and sales. Decreasing inventory may also result in lost sales due to products being out of stock. Therefore, more aggressive working capital policies lead to increased risk. Clearly, Policy C is the most risky working capital policy. It is also a policy that emphasizes profitability over liquidity. In short, we can now make the following generalizations.

	HIGH	MODERATE	LOW
Liquidity	Policy A	Policy B	Policy C
Profitability	Policy C	Policy B	Policy A
Risk	Policy C	Policy B	Policy A

3.1.3 The Basic Principles

Our discussion of working capital management has illustrated two basic principles:

1. Profitability varies inversely with liquidity. Note that, for our three alternative working capital policies, the liquidity rankings are the exact opposite of those for profitability. Increased liquidity generally comes at the expense of reduced profitability.

2. Profitability moves together with risk (that is, there is a trade-off between risk and return). In search of higher profitability, we must expect to take greater risks. Notice how the profitability and risk rankings for our alternative working capital Policies are identical. You might say that risk and return walk hand in hand.

Ultimately, the optimal level of each current asset (cash, marketable securities, receivables, and inventory) will be determined by management's attitude to the trade-off between profitability and risk. For now, we continue to restrict ourselves to some broad generalities.

3.2 Information Needed for Short-term Financial Plan

Short-term financial plan can be assumed to relate to the forthcoming one-year period. Therefore, the plan would normally consist of the following:

* Projected profit and loss account
* Projected cash flow statement
* Projected balance sheet at the end of the period
* Statement of relevant assumptions, e.g. inflation rate, interest rate & exchange rate
* Statement of contingency plans, to allow for events which may occur differently than in the projected accounting statements. Examples would be setting lower prices if projected sales volumes were not being achieved, or using financial futures to hedge exchange risks if exchange rates were not as anticipated.
* Financing implications of the plan, in particular how cash surpluses and deficits are to be dealt with.

3.2.1 The Financing of Working Capital

Traditionally, current assets were seen as fluctuating, originally with seasonal agricultural pattern. Current assets would then be financed out of short-term credit, which could be paid off when not required, while fixed assets would be financed by long-term funds (debt or equity).

3.2.2 Modern Approach to Working Capital Funding

Given the prominent nature of a large proportion of current assets, it is generally advisable to fund a proportion of new current assets with long-term finance. The question is generally one of the extent to which such funding occurs. The possibilities include: Financing some permanent current assets by short-term credit, financing all permanent and some fluctuating current assets by long-term credit. The choice is a matter of managerial judgment but the trade-off between relative cheapness of short-term debt compared to the risks of short-term debt.

Cost of short-term finance: Short-term finance is usually cheaper than long-term finance. This is largely due to the risk associated with long-term lending. For example, if a bank is considering two loan applications, on for one year and the other for ten years, all other things being equal, it would demand a higher interest rate on the ten-year loan. This is because it feels more exposed to risk on long-term loans than when the lending is for a short time.

Short-term finance also tends to be more flexible. For example, if funds are raised on overdraft and used to finance a fluctuating investment in current assets, it can be paid off when no longer required and interest payment saved. On the other hand, if funds were borrowed long-term, early payment may not be possible.

Sources of Short and Medium-term Finance: As a general rule, borrowing for one year period is called short-term borrowing, and borrowing for a period between three to five years is regarded as medium-term borrowing. Some of the most common sources of short and medium-term financing methods are: Bank overdrafts and loans, private loans, trade and expense credit, leasing and installment credit, and various forms of debtor related finance including factoring of debts and invoice discounting.

Risks involved in Short-term Finance: Short-term finance may need to be continually re-negotiated as repayment falls due. Sometimes renewal of a short-term loan is not possible. Also, if a company is subjected to constant re-negotiation and renewal of its loans, it will be exposed to interest rates fluctuations.

Short-term Versus Long-term Finance: Note that in practical terms, there is no ideal financing package that can be recommended in all circumstances. Much will depend upon the risk-return trade-off for individual companies. The general rule of thumb is that short-term assets should be financed by short-term funds and long-term assets by long-term funds. This approach will match up maturity of loans with the duration of the investments.

3.3 The Cash Operating Cycle

The investment made in working capital is largely a function of sales and, therefore, it is useful to consider the problem in terms of the firm's cash operating cycle (otherwise referred to as the working capital cycle).

The cash operating cycle (or working capital cycle) reflects then firm's investments in working capital as it moves through the production process towards sales. The investment in working capital gradually increases, firstly, in raw materials followed by labour and overhead costs as production progresses. This investment must be maintained throughout the production process, the finished goods holding period and up to the final collection of cash from trade debtors. Note that the new investment can be reduced by taking net credit from suppliers. The faster a firm can push items around the operating cycle, the lower its investment in working capital will be. However, too little investment in working capital can lead to loss of sales since customers will generally prefer to buy from suppliers who are prepared to extend trade credit, and if items are not held in stock when required by customers, sales may be lost.

With some fairly basic financial information it is possible to measure the length of the working capital cycle for a given firm. The measure is of the (average) time period that elapses between payment of cash to trade creditors and receipt of cash from sales. The idea is one of minimizing the time period, thus minimizing the cash tied up in working capital investment.

3.3.1 Influence on the Cash Operating Cycle

The length of a firm's cash operating cycle and, therefore, its investment in working capital will be a function of several variables. The first influence to be considered here is industry influence.

Industry Influence: In some industries, the working capital cycle is very short (e.g. food retailing) while in others (e.g. construction) it is, by necessity, much longer. Hence, the length of the production process and the nature of the industry must be considered when examining working capital requirements.

3.3.2 Influence of Sales Growth and Inflation

A firm's cash operating cycle and investment in working capital will also be influenced by sales growth and inflation.

Rapid growth in sales will mean a rapidly increasing investment in working capital. This can cause particular problem as the extra investment in working capital will not be balanced by increased sales revenue until the extra sales have worked their way right through the cycle. Care must be taken in this situation as an increase in investment in current assets that is not supported by new funds can lead to overtrading. This is a potentially dangerous situation where fixed assets might have to be sold to repay liabilities.

Increase in the prices of raw materials and other factors of production as a result of inflation can cause similar problems as growth in sales. It means that the firm has to finance an increased investment in working capital for the length of the cash operating cycle.

4.0 CONCLUSION

In this unit, we studied in detail how to manage working capital for the best interest of a corporate organization. We also touched on how to maintain optimal level of current assets. We looked at working capital financing, the approach to working capital funding.

5.0 SUMMARY

We have seen that efficient working capital management is essential for an organization's survival. Poor management, among other effects, will lead to loss of sales and thus eventual loss of profitability. In the next unit, we shall bne studying in detail how to manage investment portfolio in financial institutions.

6.0 TUTOR-MARKED ASSIGNMENT

* Discuss ho poor working capital management can affect a firm's profitability
* Discuss modern approach to working capital funding

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MODULE 4

UNIT 4 MANAGING THE INVESTMENT PORTFOLIO IN FINANCIAL INSTITUTIONS

CONTENTS

7.0 INTRODUCTION

Investment is an important item in a bank's balance sheet. In this unit, we are discussing investments in financial assets financed from the bank's investment reserve. In recognition of the obligations they owe the public they serve, then first major concern of all banks is to provide liquidity for meeting the public's legitimate demand for loans and advances. The balance is then put in investments. In this way, investments become a residual and cushion between liquid assets and loans and advances, tending to increase during slack liquidity and loan demand and to decrease during high demand for liquidity and loans.

2.0 OBJECTIVES

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

* Key issues in the management of Investment Portfolio in Banks
* How Investments serve as Liquidity Buffer
* Maturity Structure of the Investment Portfolio

3.0 MAIN CONTENT

3.1 Managing the Investment Portfolio in Financial Institutions

So far as we have highlighted in the introduction, it is important to note that investments differ from liquid assets. They are primarily held for income and secondarily for liquidity. They are less liquid in nature. They mature longer and yield higher income than liquid assets, which are held primarily for liquidity. They are more rapidly converted into cash with minimum cost in time and expenses, and are more liquid and short-term.

Investments also differ from loans. The initiative to invest usually comes from the bank. Investments are usually more long-term with promise of streams of fund flows over a relatively long period before the principal is repaid. In contrast, in most loans, the initiative comes from the borrower, the transaction is more short-term and the bank is often the only or one of a few creditors, and the commitment including the repayment, is usually over a relatively shorter time period than investments.

Although investment can be in private or government debt instruments and those of government agencies such as State and Local governments, commercial banks' investments in Nigeria are entirely in Federal Government development loan stocks. This was clearly the picture during the 1980s and 1990s. The position contrasts with the trends in the developed capital markets of the world such as the United States, the United Kingdom and Japan over the same period, where most investments were made in the private sector.

By acting as a liquidity back-up or cushion, investments are important to banks in reducing liquidity risks and are an important source of income. In 1884, for instance, they accounted for 26.3% of total revenue of all banks in the United States. Another important function of investments is that they provide acceptable collaterals for borrowing, e.g. from the CBN.

The management of bank investment portfolio, like the management of bank funds generally, differs from bank to bank depending on size, location, loan demand and managerial capabilities. There are, however, steps which if carefully followed, should lead to sound, flexible and effective management of the investment portfolio. Expert investment managers have identified five steps to follow in this regard. These steps are; establishing general criteria and objectives, forecasting the external environment, making an inventory of security management needs, formulating policies and strategies, and establishing the administrative machinery.

3.1.1 Establishing General Criteria and Objectives

In establishing general criteria and objectives, the prerequisite is management's awareness that bank investments are not risk-free. Accordingly, the risks inherent in investments elsewhere should be identified and recognized. Basically, bank investments are subject to four types of risks; interest rate risk, credit risk, risk of marketability, and purchasing power risk.

Interest Rate Risk: Interest Rate Risk occurs because returns earned on the investment portfolio vary as interest rates vary. There are two risks involves in interest rate changes. One is price risk and the other is re-investment risk. These risks occur because bond prices and bond yields are inversely related. When bond prices are high, yield is low, and when they are low, yield is high. Investors who purchase bonds when interest rates are low risk a decline in value if rates increase. If rates fall, value will increase. For most bonds, the magnitude of such changes will increase with the maturity of the debt instrument and decline as the maturity decreases.

Credit Risk: This refers to the possibility of non-payment of principal or interest or both. Credit risk is usually very minimal and indeed often absent with Federal Government obligations. This is because of the federal mighty in taxing and borrowing powers and the strength of the total economy from which it derives its funds. Obviously, the states and the local governments are less favourably placed with respect to taxing and borrowing powers which are considerably less than those of the Federal Government both individually and as a group. While this implies that state and local government debt obligations cannot be expected to be as risk free and safe as the obligations of the Federal Government, it does not by any means imply that all state and local government obligations are equally risky.

It is for this reason, however, that the debt obligations of governmental agencies other than the Federal Government are regarded by banks as carrying credit risks which vary with the economic mighty of the agencies. This calls for extra caution when investing in such securities.

Market Risk: Market risk refers to the variation in return caused by selling costs when bonds are sold before maturity. This occurs when unforeseen changes in then securities market or the economy reduce the investment appeal of the securities so that their sale is possible only at a heavy loss. Examples are the collapse in then price of property shares during the fringe bank crisis in the United Kingdom in the mid 1970s, and of oil company shares during the reverse oil price shock, that is, the drastic decline in oil prices in the early 1980s.

Purchasing Power Risk: If the Naira received as interest or principal repayments purchases less than the Naira used to purchase the debt instruments, then the investor has suffered purchasing power loss. This risk is present in all fixed-income investments. Usually investors attempt to overcome this risk by requiring a good margin of higher return on their investment especially during inflationary period.

3.1.2 Investment as Liquidity Buffer

The function of investment as liquidity buffer informs then concern of bank management to recognize the above risks and to devote extensive attention to avoiding or minimizing them. In many cases, of course, banks have little or no choice but to sell and take losses on their investments. This may occur because of the need to restore their primary and secondary reserves when deposits have declined or it becomes necessary to meet increased demand for loans. The need to avoid, and to guide the investment manager on occasions like this inform the necessity for a clear investment policy.

Such a policy should clearly specify the investment objectives, the proportion of resources available for investment, the principles and strategy to be adopted, the implementation machinery and then procedure for monitoring, appraisal and review. It goes without saying that the policy should be a part of the bank's overall corporate plan and should be in writing. A written policy makes for a clear understanding of purposes and procedures, enables management to see through the ramifications and integrate the policy with the overall corporate plan. Above all, written policies provide continuity of approach over time and a concrete basis for appraising investment portfolio performance.

Given that the investments serve as a cushion between liquid reserves and loans and advances, the principal objective of portfolio management should be maximum contribution to the resolution of the liquidity-profitability syndrome. In other words, the objective should be to so order the investment portfolio that it makes maximum contribution to both liquidity and profitability and fulfill other functions. These include, providing asset diversification and counter cyclical balance to the interest rate cycle by generating funds when loan demand is strong, and absorbing funds when loan demand is weak. This balancing of the liquidity and income needs of a bank and keeping bank funds fully employed at all times are among the key tasks of the investment manager.

3.1.3 Forecasting the External Environment

The attainment of the investment objectives requires a forecast of the external environment. This is to take account of exogenous factors that influence deposit and loan volumes. An accurate forecast is, of course, usually not feasible, and at any rate, would have been attempted and incorporated in the bank's overall corporate plan of which the investment plan is a part. In particular, those factors that specifically impinge on investments should specially and additionally be forecast and incorporated in the portfolio management strategy. These include movements in interest rates and changes in monetary and fiscal policies. Forecasts of interest rates are particularly important as they affect security prices and yields. Since virtually every investment decision has an implicit interest forecast, e.g. buying long versus short investments, explicit forecasts should be incorporated as a deliberate investment management policy.

3.2 Making an Inventory of the Portfolio Needs

After establishing the broad objectives and forecast the macro-economic environment, the bank's next stage is to identify its portfolio management needs. Many factors come into play. One is regulatory constraints. Banks are generally allowed to make limited investments in equity and, in the case of bonds, they are allowed to invest only in high grade corporate bonds. Prudential regulations, in some countries, also require banks to hold a certain proportion of their assets in specified investments in government and municipal securities.

In other countries, such as the United States, banks are required to pledge, that is, hold securities of certain amounts and quality to secure public deposits. While prudential regulations in Nigeria do not incorporate pledging securities to secure public deposits, government securities and first class commercial paper are required as collaterals for lender of last resort lending or assistance through the discount window. In identifying the investment portfolio needs, therefore, banks have to reckon with the regulatory constraints as they limit flexibility in the management of the investment portfolio.

Another point to take into account is the residual, equilibrating or balancing function of the investment portfolio. While investments are primarily held for income, they are expected to generate funds when loan demand is high and rising. This liquidity buffer function of investment may require that some investments be held temporariloy in short-term securities. In making an inventory of portfolio needs, the bank should distinguish between the purposes for which investments are required and held. Investments also function to balance the risks the bank has taken in its loans and other assets. A bank pursuing an aggressive lending policy may well find itself already fully exposed to risks, that is to say, soon reaching prudential risk limits in its lending and other assets. In such circumstances, portfolio management may step in to limit further exposure by limiting the risks taken in the investment portfolio. Portfolio management may also have to play this role in cases where the bank has inadequate capital base and the cost of raising new capital estimated to exceed the benefits from higher risk portfolio. In that situation, prudential management should take little risk in the investment portfolio. There is also the need for the investment portfolio to balance, dilute or equilibrate the interest sensitivity of the bank's other assets and liabilities. The higher the interest sensitivity of these other assets and liabilities, the lower the interest risks the investment portfolio should undertake to achieve the desired overall position of the bank, and vice versa.

3.2.1 Diversification and the Tax Position

Two other factors that have to be taken into account in making an inventory of the investment portfolio needs are diversification and the tax position. Certain investments are tax exempt and some losses are deductible from gross income before taxes. In this case, it is essential that bank management should be conversant with the tax position and structure of its costs and ensure that the investment portfolio management takes maximum advantage of the existing and prospective tax laws to reduce taxes legally, and maximize income without compromising

the bank's obligation to make sound loans and the ability to support risk assets with adequate capital funds. In addition, investment portfolio inventory should address the needs for diversification in terms of maturity, geography, type of security and type of issue. While risks may not be completely avoided, they can be reduced through appropriate diversification.

3.2.2 Principles and Strategy

The next stage is to establish the principles and strategy for the management of the investment portfolio. This refers to the variety of trading methods to be employed and in particular the nature of the strategy. It also refers to the size of the investment portfolio, its quality levels, media to be used and maturity considerations.

Perhaps, the first consideration is the establishment of the investment portfolio management strategy is to decide the nature of the strategy. Will it, for instance, be aggressive? Or, will it be passive? Each has costs and benefits. In a passive strategy, the bank buys and holds securities in the portfolio and does not trade them actively. In this way, the bank reduces the costs of administration and transactions as well as personnel costs. It also reduces risks but the returns are invariably much smaller. Active aggressive strategy involves frequent trading of securities. By pursuing an aggressive strategy, the bank attempts to maximize the returns from the investment portfolio by taking full advantage of expected movements in interest rates, attempting to profit from temporary imbalances in securities pricing and sophisticated swapping techniques. However, this results in greater risks and in higher transactions, administrative and personnel costs. In deciding which strategy to adopt, management must balance these costs with the expected benefits.

In addition, management must consider three other factors; the size of the investment portfolio and of the bank, accessibility to the bond market and technical capacity or the level of expertise available to the bank. Efficient active trading requires that the investment portfolio must be a certain minimum size, that the bank has ample access to the securities market and that its technical capacity is adequate for the task of forecasting interest rate changes and other factors that influence them, and assessing the frequent changes in security prices and yields. A small bank with limited portfolio and access to the securities market is unlikely to possess the required level of expertise for an active or aggressive strategy. Nor is aggressive strategy automatic for big banks. These banks still have to assess whether the additional returns generated by an aggressive strategy and active trading are sufficient to overcome the additional costs and the added risks involved.

It is important that whatever strategy is pursued adopts investment media and quality levels that match the type and quality of the investment portfolio with the portfolio needs of the bank. In selecting the investment media and quality levels, it is necessary to pay attention to prudential constraints and pledging or collateral requirements and risk positions mentioned above. In general, banks taking considerable risks, that is, in relation to their capital position and lacking managerial expertise should concentrate in securities of the Federal Government and in top quality highly rated state and local government and agency securities. The superiority of Federal Government obligations derives from regulatory attitudes that treat them as being free of default risk.

3.3 Maturity Structure of the Investment Portfolio

Strategy devised for the management of the investment portfolio must also address the maturity structure of the investment portfolio whether or not the strategy is aggressive or passive. Two approaches have generally been adopted by banks either singly or in combination. One is the Ladder Approach and the other is the Barbell Approach.

The ladder approach involves the investment of an equal amount of securities that mature each year up to a given number of years. This may be ten, twelve, fifteen or more years as the case may be. If a twelve year period is chosen, then the investment portfolio is structured in such a way that one twelfth matures in the first year, another one twelfth in the second year and so on until the twelfth year is reached. Funds released from maturing securities in each year are re-invested in the longest maturity category. This results in a portfolio with equal percentages of funds spaced over the maximum specified maturity.

In the barbell approach, a significant proportion of the funds is concentrated in the long maturing securities and the balance is retained in the short maturity range with few, if any, funds invested in securities maturing in the intermediate range. Alternatively, a significant proportion might be concentrated on the short end and the balance on the long end with few if any, on the intermediate range.

3.3.1 Similarity between the Ladder Approach and the Barbell Approach

The similarity between the ladder approach and the barbell approach should be noted. As the short-term investments mature in each approach, then proceeds are re-invested at the end of the short-term segment, and as he long-term securities mature, the re-investment of the proceeds is made at the end of the long-term segment. The difference between the two is that, unlike the ladder approach, investments are not made in the intermediate maturity range in the barbell approach

The barbell approach is one form of a third approach for ordering maturity structures. It is a midway between the two extremes of the split-maturity strategy; the all shorts strategy and the all longs strategy. Under the former, the split is 100 percent in short-term securities and zero percent in long-term obligations. Under the latter, it is the reverse with 100% of the funds invested in long-term securities and none in short-term. An advantage of the all-long strategy is a promise of high income because long term rates tend to be above short term rates. Against the approach is illiquidity and inflexibility, both of which imply high risk. Besides, a bank engaging in active trading under the all longs strategy, must be prepared to set capital gains against capital losses to break-even.

On the other hand, an all-shorts strategy would tend to make the investment portfolio extremely liquid and flexible. There is, however, the drawback that the approach makes the income generating ability of the portfolio depends on the movements in the interest rate cycle. In an interest rate cycle dominated by a negatively sloping yield curve, then portfolio would be highly profitable, but if long term rates are above the short term rates, there may be relative shortage of income.

Compared with the barbell strategy, the ladder approach is simple and easy to manage. As an experienced investment manager characterized it, all that is required is “just place a bucket at the end of the conveyor belt and check its contents regularly for re-investment.” Under this approach, there is no need to attempt to forecast future interest rates or to engage in any trading activity. Besides, while avoiding thee risks of potential capital losses, the ladder approach tends to generate at least an average income. However, it is inflexible. It precludes shifts in maturity schedules that might increase returns due to changes in the interest rates. It is a sub-optimal approach because it does not provide opportunities to achieve the highest returns for a given level of portfolio risks.

While avoiding bonds at the intermediate maturity ranges, the barbell strategy has many advantages. It aims to provide liquidity, flexibility and income. More specifically, it attempts to achieve the greatest return for a given level of risk measured by potential capital losses or the variability of the portfolio's total return (interest income plus appreciation or depreciation). It is, in other words, designed to determine the bank's efficiency frontier.

A serious drawback of the barbell strategy is that it requires much technical expertise. It therefore only makes sense for a bank that has the requisite management competence and is willing to exercise judgment. Similarly, a bank that has no technical competence should not attempt the barbell strategy. It should rather adopt the ladder strategy. Whichever strategy is adopted, however, it must be appreciated that scheduling maturities within the investment portfolio is probably the most difficult and exacting task of portfolio management. There is no substitute for improved methods for simplifying the analysis of the environment, interest rates and funds available for investment, and improved methods for analyzing and studying the implications of the developments for portfolio management. Constant review and decision making is an imperative as funds become available for investment or as opportunities to improve income position present themselves.

3.3.2 Machinery for Administration, Appraisal and Review

Investment portfolio management, in the final analysis, requires effective machinery for administration, appraisal and review. Banks generally entrust this responsibility to an investment department. The size of a bank's investment department will depend, to a large extent, on the size of the bank, the size of the investment portfolio to be managed, and the availability of professional manpower. It is important that the investment manager and the investment department be given adequate authority to take decision and commit the bank within prescribed limits. This is because investment function involves an analysis of the credit and money market risks of the asserts to be purchased, evaluation of the bank's ability to assume the risk thrown up by the risk analysis, and once purchased, continual assessment of the securities is imperative. The ultimate responsibility will, of course, remain with the board of directors.

In banking generally, profitable investment opportunities when they arise require quick decisions to embrace such chances and opportunities. If decisions must always be referred to an investment committee or even to the chief executive who may be tied up with many other pressing issues (some taking him out of the bank for continuous periods) the profitable opportunities may be lost and gone forever.

Delegation should not, of course, mean abdication of control and responsibility. Based on the size of the bank, the investment portfolio and competence of the department, trading limits should be established within which the department and the investment manager can exercise discretion. Reporting and review procedures should also be established for accountability, appraisal and review of policies, strategies and procedures. This is, in fact, an additional reason supporting the necessity to put the investment policy in writing.

4.0 CONCLUSION

In this unit, we discussed how to manage investment portfolio in financial institutions. Because banking is a very risky business, it is the general opinion that management of investment portfolio in the banking industry is more difficult than portfolio management in other corporate bodies. This is why we have devoted more time and attention to portfolio management in banks. We looked at the general criteria and objectives and also stated why investments, especially short-term investments, are regarded as liquidity buffers.

5.0 SUMMARY

Success in investment portfolio management calls for foresight and constant assessment of the opportunities and threats in the investment environment. It goes without saying that the investment manager and the investment department must be manned by qualified portfolio managers who can identify and cease investment opportunities as they arise.

6.0 TUTOR-MARKED ASSIGNMENT

* Why do we regard short-term investments as liquidity buffers?
* Discuss “aggressive approach” and “passive approach” in investment portfolio management.

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INVESTMENT ADVICE

Based on personal experience and today's realities in the investment world, the Course Writer provides the following investment advice:

1. If you invest in corporate bonds, beware of "Junk Bonds." These are dishonestly issued corporate bonds which promise to pay high rate of interest because the bonds have high risks involved in them. They are often used for raising money quickly by firms which are in serious financial problem and virtually at the verge of collapse. under the present economic downturn, many of such bonds are in the market.

2. Do not invest in any newly established company, no matter how large, rich or sophisticated the company may look. Consider putting your money in a firm when such company has operated for, at least, five years. This advice is based on the following facts:
   (a) Some firms sustain themselves, in the short-term, with borrowed funds whose maturity date has not come.
   (b) Some firms remain afloat by taking new loans to settle old debts with the hope that they will soon be able to stand on their own financially. Five years period will give the investing public an opportunity to know whether a company in this practice of joggling old and new debts will sink or survive.
   (c) Some dishonest businessmen deliberately establish fake businesses just to cheat investors and disappear into the tin air. We saw this scenario in Nigeria during the last two decades. Many finance companies came on stream and collected savings and fixed deposits from the public only to bolt with the money after a short time.
3. Under the present business climate, it is imperative for any investor in equity securities to exercise due care and caution. This has become very necessary because a "blue chip" firm today can turn "bear" tomorrow in the face of the present world economic downturn.
4. Never engage in a speculative business of any type. That is, a promise of some big profit in future but whose success is uncertain. A pool betting young man once borrowed money from his friend with the promise to pay back double because he was sure that his betting on English Soccer results for the season would hit the jackpot. What happened? The soccer result was a disaster. He became a big debtor overnight and could not pay back the money.

5. Do not make big donation promises in your home town or community with the hope that your future business would thrive for you to discharge the self-imposed obligation. Tomorrow is pregnant with uncertain events. You never can say what will happen. William Shakespeare summarized it when he wrote saying: “Tomorrow is in the womb of time, what it holds no one knows.”
6. Do not follow the “bandwagon” in your investment decisions. Always look well before you leap.
7 If you are a money lender, lending money to people with little interest. It is good because you are helping society and people to survive. But be very wise about it. Watch out for people with sugar-coated tongue because many Africans have the mentality of borrowing with thanks and paying back with curses (that is, if you are lucky to get paid at all).
8. “Time” is money, business people say. Surely, time is a valuable commodity. If you invest it in doing something good today, it will yield for you future gains; If you waste your time today doing nothing reasonable, it will produce for you future regrets. As a young person, learn new trade, undertake vocational training, engage in honest and clean business, join good sporting club to practise professional sporting and God will see you through. The bigger gain for all of us at the end is that society will be at peace.

NATIONAL OPEN UNIVERSITY OF NIGERIA

COURSE GUIDE

COURSE CODE: ENT332

COURSE TITLE: INVESTMENT MANAGEMENT ANALYSIS II

COURSE GUIDE

ENT 332: INVESTMENT MANAGEMENT ANALYSIS II

Course Code	ENT 332
Course Title	Investment Management Analysis I
Course Developer/Writer	Dr. J. N. Obi National Open University of Nigeria
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ENT 332 **COURSE GUIDE**

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INTRODUCTION

ENT 332: Investment Management Analysis II, This is a one semester course work having two credit units. It is available to students on undergraduate programme at 300 level 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 Investment Management Analysis. It also treated in detail investment in common stocks, bonds and preferred stock and discussed the risks and returns inherent in them. In addition, it treated Financial statements analysis and financial reporting. The course concluded with portfolio management objectives and practices with critical look at investment portfolio management in banks.

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 "Investment management Analysis 1" is to introduce you to the subject of investment in securities and to teach you how to analyze and manage your investments. The course contains core investment topics such as securities trading, how to measure risks and returns on your investment instruments, and how to manage investment portfolios.

Investment is a daily affair in human life. Sometimes we carry out an investment activity without even being aware that what we are doing is investment. Whenever we put money in any undertaking with a view to making profit out of it in future, what we are doing is investment.

We can also look at investment in its traditional and modern methods. For instance, a farmer buys a head of corn and sows the seeds in the soil around his farmland. Within that same annual farming season, each seed of corn germinates, grows to full maturity and produces one

or two heads of corn. That is farming investment in traditional agriculture. However, the course discussed investment in modern commerce and industry which involves the purchase of stocks and bonds in the exchange markets and holding them to maturity to make interest profits. Investors can also sell their securities when prices rise to make capital gains.

COURSE AIMS

The course aims to groom the student in the process of investment which prepares him for investment journey through life. Sooner or later, the student, after his studies, will be involved in making one investment or another to make gains to sustain himself and his family. Also, knowledge of investment and the understanding of the tricks and intricacies of risks and returns will be useful to the student in other areas of human endeavour, especially where he has to weigh possible gains and losses in any business he wants to undertake.

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 objectives to be achieved by that unit. 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:

* Define what is meant by “Investment.”
* Distinguish between Real Assets and Financial Assets
* Know the securities traded in both money markets and capital markets
* Understand what is meant by “Over-the-Counter Market
* Explain the role of stockbrokers in security transactions
* Know the investment objectives of individual and institutional investors
* Use the data of past performance of stocks to predict future trends
* Understand the process of asset allocation across risky and risk-free securities
* Know how to compute a bond’s price given its yield to maturity
* Know how securities market respond to new information
* Know the usefulness of financial statements/financial reports to investors
* Know how to manage variable income and fixed-income investments
* Know the techniques of managing investment portfolio in financial institutions

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. The units 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 and to score you for the purpose of graduation.

COURSE MATERIALS

Major components and **study units** in the study materials are:

ENT 332 INVESTMENT MANAGEMENT ANAL.YSIS

CONTENTS

MODULE 1

MODULE 2

MODULE 3

MODULE 4

Unit 1	Portfolio Management Objectives and Practices
Unit 2	Managing Fixed-Income Investments
Unit 3	Managing Working Capital
Unit 4	Managing Investment Portfolio in Financial Institutions

TEXTBOOKS AND REFERENCES

You should use the prepared text for the course made available to you by NOUN. However, in your own interest, do not limit yourself to this study text. Make effort to read other recommended texts to broaden your horizon on the course.

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. Where pen-on-paper continuous assessment test is not applicable, you will be required to do online Tutor-Marked Assignment.

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 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 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 (where applicable). Pay attention to the comments and corrections given by your tutor and implement his directives as you make progress in your work.

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 to 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

Investment is something everybody does. Some do it locally or traditionally and others do it in a sophisticated way, that is, investing in corporate stocks and bonds. As we have earlier noted, the ultimate purpose of any investment move is to make profit. You put the money you have today in an investment instrument with the hope of earning profit on your investment. If you put money in a bank's fixed deposit, the bank will pay you the agreed interest at maturity. If you buy common stock in a corporate body, the organization will pay you dividend at the end of each trading year, so long as the firm is making profit.