ARBA MINCH UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

FINANCIAL INSTITUTIONS AND INVESTMENT MANAGEMENT

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PREFACE

The principal objectives of this module on Financial Institutions and Investment Management is to help students acquainted with the concepts of both financial institutions as part of the financial systems and investment management of portfolio in a good manner. Firms of different nature use basic concepts and theories of portfolio to select the sound portfolio among the alternatives in the market.

This course comprises the concept of two courses that can be covered with in a single semester. These are Financial Institutions and the other course is Investment management that considered as independent courses. So the course is designed for business students to have a general concept from both disciplines. This is clearly depicted in the curriculum of Management department of Arba Minch University. Accordingly, this module is concentrated on relevant concepts and theories related to both discipline and it discusses as well as illustrates each component in most comprehensive and explanatory manner.

Under the module, there are seven chapters which are presumed important to achieve the intended learning objectives. The Introduction to Financial Institutions, The Banking Systems, the overview of Investment, the Security Market and Trading, Security Analysis, Introduction to Derivative Markets and finally Portfolio Selection, Management and Evaluation are the chapters encompassed in the module.

After completion of the course Financial Institutions and Investment Management, learners will be able to:

- Understand the concept and types of financial institutions.
- Know the Central and Commercial banking systems.
- Have general overview of the investment management.
- Identify the security market at global standard.
- Give detail analysis of financial securities.
- Equipped with overview of derivative markets and
- Identify the mechanism of portfolio selection, management and its evaluation.

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CHAPTER ONE

INTRODUCTION TO FINANCIAL INSTITUTIONS

Learning Objectives:

After completing this chapter, you will be able to:

- Define financial system.
- Explain the meaning and nature of financial institutions
- Identify the types of financial institutions
- Elaborate the functions of financial institutions
- Describe the role of financial institutions
- Explain money market and characteristics of a developed money market

1.1 Introduction

Dear learners! This chapter introduces you about financial institutions. Financial system is a system which provides a mechanism whereby surplus spending units may conveniently make funds available to deficit spending units.

Financial Institutions are entities of the financial system which operate within or outside financial markets and play an intermediate role between savers and borrowers. Though there is no generally accepted method of classification, financial institutions can be classified as Deposit Taking Institution (DTI) and Non Deposit Taking Institution (NDIT). Financial institutions, as part of the financial system, facilitate the flow of funds from savers to borrowers in the most efficient manner. The money market is a market for short-term instruments that are close substitutes for money. The short-term instruments are highly liquid, easily marketable, with little chance of loss or low default risk and low cost of executing transactions. It provides for the quick and dependable transfer of short-term debt instruments maturing in one year or less, which are used to finance the needs of consumers, business agriculture and the government.

1.2 Financial System

The financial system is complex, comprising many different types of private sector financial institutions, including banks, insurance companies, mutual funds, finance companies, and investment banks, all of which are heavily regulated by the government.

Financial systems, i.e. financial intermediaries and financial markets, are important for economic growth. They can lead to a more efficient allocation of resources because they

1) Reduce the costs of moving funds between borrowers and lenders, and
2) Help to overcome information asymmetry between borrowers and lenders.

Financial institution do not function well the economy cannot operate efficiently and economic growth will be negatively affected. Information asymmetry arises because borrowers generally know more about their investment projects than lenders. Imperfect information can lead to a lack of market coordination.

The economic development of a nation is reflected by the progress of the various economic units, broadly classified into corporate sector, government and household sector; while performing their activities these units will be placed in surplus/deficit/balanced budgetary situations.

There are areas or people with surplus funds and there are those with a deficit. A financial system or financial sector functions as an intermediary and facilitates the flow of funds from the areas of surplus to the areas of deficit.

In strict terms, financial system consists of financial markets and financial institutions. In a broader view, financial assets and instruments, economic agents (individuals, households, and firms), governments and central banks are also parts of the financial system. A financial system is a composition of various institutions, markets, regulations and laws, practices, money manager, analysts, transactions and claims and liabilities.

In financial economics, a financial institution acts as an agent that provides financial services for its clients. Financial institutions generally fall under financial regulation from a government authority.

QUICK CHECK

1. What financial system mean?
2. What are the functions of financial system?

1.2.1 Meaning and Nature of Financial Institutions

Financial Institutions are entities of the financial system which operate within or outside financial markets and play an intermediate role between savers and borrowers. They are institutions which collect funds from the public and place them in financial assets, such as deposits, loans, and bonds, rather than tangible property.

Financial institutions are establishment that focuses on dealing with financial transactions, such as investments, loans and deposits. Conventionally, financial institutions are composed of organizations such as banks, trust companies, insurance companies and investment dealers. Almost everyone has deal with a financial institution on a regular basis. Everything from depositing money to taking out loans and exchange currencies must be done through financial institutions.

They are Private (shareholder-owned) or public (government-owned) organizations that act as a channel between savers and borrowers of funds (suppliers and consumers of funds). Financial institutions are intermediary that channels the savings of individuals, businesses, and governments into loans or investments.

1.2.2 Types of Financial Institutions

Financial institutions include banks, credit unions, asset management firms, building societies, and stock brokerages, among others. These institutions are responsible for distributing financial resources in a planned way to the potential users.

There are a number of institutions that collect and provide funds for the necessary sector or individual. On the other hand, there are several institutions that act as the middleman and join the deficit and surplus units. Investing money on behalf of the client is another of the variety of functions of financial institutions. Various financial institutions generally act as the intermediaries between the capital market and debt market. But the service provided by financial institution depends on its type. Financial institutions are also responsible to transfer funds from investors to the companies. Two main types of financial institutions (with increasingly blurred dividing line) are:

1. Depository Institutions and
2. Non –depository Institutions

1. Depository Institutions:

Depository institutions accept deposits from surplus units and provide credit to deficit units through loans and purchases of securities. They are institutions which pay interest on deposits from the interest earned on the loans. These institutions are empowered to accept and hold moneys from the public. Traditionally, they take in deposits from surplus unit and grant loans (provides to deficit unit). As a result, they play a key role in the transmission of monetary policy to the financial markets, to borrowers and depositors as they hold a large share of the nation's money stock in various types of deposits.

They are popular financial institutions for the following reasons.

- ✓ They offer deposit accounts that can accommodate the amount and liquidity characteristics desired by most surplus units.
- ✓ They repackage funds received from deposits to provide loans of the size and maturity desired by deficit units.
- ✓ They accept the risk on loans provided.
- ✓ They have more expertise than individual surplus units in evaluating the creditworthiness of deficit units.
- ✓ They diversify their loans among numerous deficit units and therefore can absorb defaulted loans better than individual surplus units could.

Depository financial institution includes commercial banks, credit unions, saving and loan associations and micro finance institutions.

i. Commercial Banks: In aggregate, commercial banks are the most dominant depository institution. They serve surplus units by offering a wide variety of deposit accounts, and they transfer deposited funds to deficit units by providing direct loans or purchasing debt securities. Commercial bank operations are exposed to risk because their loans and many of their investments in debt securities are subject to the risk of default by the borrowers. Commercial banks serve both the private and public sectors; their deposit and lending services are utilized by

households, businesses, and government agencies. Typically, commercial banks' current operations are granting loans and receiving deposits from economic agents.

The main banking operations are:

- Liquidity and payment services
- Asset transformation
- Risk management
- Processing information and monitoring borrowers

Not every single bank performs all the above tasks. Large, universal banks usually do, but smaller banks rather not.

ii. Credit Unions: The credit union is a co-operative financial institution, which is usually controlled by the members of the union. The major difference between the credit unions and banks is that the credit unions are owned by the members having accounts in it. A Credit Union (CU) has the following characteristics:

- ✓ it is member-owned,
- ✓ it is not-for-profit institution, and
- ✓ it is independent in the sense that it is accountable only to its members.

The members deposit funds in the credit unions and determine its lending and investment policies. Like savings institutions, they are sometimes classified as thrift institutions in order to distinguish them from commercial banks. Because of the "common bond" characteristic, credit unions tend to be much smaller than other depository institutions. They use most of their funds to provide loans to their members.

iii. Saving and Loan Associations (S&LA): they are self-financed service to the public. They acquired funds by offering the following:

a) Savings accounts in which the depositor must wait for 30 days before withdrawing funds.

b) Certificate of Deposits (CDs).

c) Checking accounts known as Negotiable Order of Withdrawal (NOW) and

d) Brokered deposits, which are raised by paying a broker a fee and higher interest to the depositor. Given that, S&LA must pay higher interest on deposits to attract depositors, they engaged in riskier projects that promised higher returns.

iv. Micro Finance Institutions: A type of banking service that is provided to unemployed or low-income individuals or groups who would otherwise have no other means of gaining financial services. Ultimately, the goal of microfinance is to give low income people an opportunity to become self-sufficient by providing a means of saving money, borrowing money and insurance.

Microfinance can be a critical element of an effective poverty reduction strategy especially for developing countries. The services provided by microfinance institutions can enable the poor to:

- ✓ smoothen their consumption,
- ✓ manage their risks better,
- ✓ build their assets gradually,
- ✓ develop their micro enterprises,
- ✓ enhance their income earning capacity, and
- ✓ enjoy an improved quality of life.

2. Non-depository Institutions/Non-Bank Financial Institutions:

Evidently, these institutions are not funded by deposits of any type. They rather involved with other types of assets. They are institutions which collect funds by selling their policies or shares (units) to the public and provide returns in the form of periodic benefits and profit payouts. Examples are contractual savings institutions (life insurance companies, property & casualty insurance companies, pension funds, etc.), mutual funds, finance companies, investment banks, Government Sponsored Enterprises (GSEs), etc.

i. Insurance Companies: Insurance companies provide individuals and firms with insurance policies that reduce the financial burden associated with death, illness, and damage to property. These companies charge premiums in exchange for the insurance that they provide. They invest the funds received in the form of premiums until the funds are needed to cover insurance claims. Insurance companies commonly invest these funds in stocks or bonds issued by

corporations or in bonds issued by the government. In this way, they finance the needs of deficit units and thus serve as important financial intermediaries. Their overall performance is linked to the performance of the stocks and bonds in which they invest. The insurance companies offer - insurance services, securities, buying or selling service of the real estates, and mortgage loans.

ii. **Pension Funds:** Many corporations and government agencies offer pension plans to their employees. The employees and their employers (or both) periodically contribute funds to the plan. Pension funds provide an efficient way for individuals to save for their retirement. Pension funds manage the money until the individuals withdraw the funds from their retirement accounts. The money that is contributed to individual retirement accounts is commonly invested by the pension funds in stocks or bonds issued by corporations or in bonds issued by the government. Thus pension funds are important financial intermediaries that finance the needs of deficit units.

iii. **Mutual Funds:** They manage a pool of money that has been placed with the fund by investors and the money is invested in a specified variety of assets, mostly securities. The mutual fund's value changes over time depending on changes in the value of fund's assets.

Mutual funds are investment companies that pool money from investors at large and offer to sell and buy back its shares on a continuous basis and use the capital thus raised to invest in securities of different companies.

Mutual Fund is Investment Company that issues shares to the public. The money it receives from shareholders is pooled and invested in financial assets, both long-term and money market securities. Mutual fund is professionally managed type of collective investment scheme. Typically, mutual funds purchase securities in minimum denominations that are larger than the savings of an individual surplus unit. By purchasing shares of mutual funds and money market mutual funds, small savers are able to invest in a diversified portfolio of securities with a relatively small amount of funds. *In mutual fund, each investor shares proportionately in the income and investment gains and losses that the fund's investment produces.*

Structure of Mutual Fund

- Open-end Mutual fund
- Closed-end Mutual Funds

a) Open-end Mutual fund:

- ✓ Free entry and Withdrawal
- ✓ New investors can join the funds at any time
- ✓ The fund manager buys and sells units constantly on demand by investors.
- ✓ It is always open for the investors to sell or buy their share units at net asset value (NAV).
- ✓ Each day the fund net assets value (NAV) is computed
- ✓ All shares bought and sold that day are traded at the same net asset value.
- ✓ NAV is the per-share value of a mutual fund's stocks, bonds, and cash reserve value holdings.

$$NAV = \frac{\text{Market Value of Assets- Portfolio liabilities}}{\text{No of shares outstanding}}$$

b) Closed-end Mutual Funds

- ✓ The shares are similar to the shares of common stock of corporations.
- ✓ The new shares of closed-end funds are initially issued by an underwriter for the fund.
- ✓ After the new issue, the numbers of shares remain constant.
- ✓ After the initial issue, no sale or purchase of fund shares are made by the fund company. Instead the shares are traded on the stock market, either in the exchange or in the over-the counter market
- ✓ NAV is calculated the same way as for open-end funds.
- ✓ The price of the shares in the closed –end fund is determined by supply and demand. When the demand of for the shares is low, the value of the closed-end fund's shares can fall to less than the NAV of its assets. In this case, its shares are said to be trading at a discount.
- ✓ When demand for the investment company's shares is high, because the supply of shares in the fund is fixed, the shares can trade for more than the NAV of the

securities held in the fund's asset portfolio. In this case, the fund is said to be trading at a premium.

iv. **Investment Banks:** They perform a variety of services. This includes underwriting, acting as an intermediary between an issuer of securities and the investing public, facilitating mergers and other corporate reorganizations, and also acting as a broker for institutional clients.

An investment bank helps an organization, which may be a company, or a government or one of its agencies, in the issuance and sale of new securities. Investment banks are experts at calculating what a business is worth: to price a securities offering or to set the value of a merger or acquisition. Investment banking also offers advice for a wide range of transactions a company might engage in.

Core activities of investment banking firms are:

- Public offering (underwriting) of securities
- Trading of securities
- Private placement
- Merger and acquisitions

Difference between Commercial Banks and Investment Banks

- Commercial banks make loans to borrowers from the funds provided by the other side of their business—taking deposits from individuals and firms.
- An investment bank does not have an inventory of cash deposits to lend as a commercial bank does.
- Investment banks raise funds for borrowers by acting as intermediaries for them in the financial markets
- Note, however, that companies use investment banks toward the same end as they use commercial banks.
- If a company needs capital, it may get a loan from a bank, or it may ask an investment bank to sell equity or debt (stocks or bonds).

QUICK CHECK

1. Discuss the types of financial institution?
2. List and discuss the types of financial institutions.

1.2.3 Functions of Financial Institutions

The financial system consists of financial markets and institutions. A financial institution is an institution whose primary source of profits is through financial asset transactions.

Financial institutions, as part of the financial system, facilitate the flow of funds from savers to borrowers in the most efficient manner. They are institutions such as banks that collect the savings of individuals and corporations and funnel them to firms that use the money to finance their investments in plant, equipment, research and development, and so forth. They perform two main types of financial service that reduce the costs of moving funds between borrowers and lenders, leading to a more efficient allocation of resources and faster economic growth. These are the provision of liquidity and the transformation of the risk characteristics of assets.

The great importance of the financial system in our daily lives can be illustrated by reviewing different functions that it performs. The global financial system has seven basic economic functions that create a need for money and capital market.

i. **Savings Function:** The global system of financial markets and institutions provide a conduit for the public's savings. Bonds, stocks, and other financial claims sold in the money and capital markets, provide a profitable, relatively low risk outlet for the public's savings, which flow through the financial markets into investment so that, more goods and services can be produced (i.e., productivity will rise), increasing the worlds standard of living. When savings decline, investment and living standards begin to fall in those nations where savings are in short supply.

ii. **Wealth Function:** While current savings represent a flow of funds, accumulated savings built up over time represent a stock of assets that we often refer to as wealth. For those businesses and individuals choosing to save, the financial instruments sold in the money and capital markets provide an excellent way to store wealth (i.e., preserve the value of assets we hold) until funds are needed for spending.

Although we might choose to store our wealth in "things" (e.g., automobiles), such items are subject to depreciation and often carry great risk of loss. However, bonds, stocks, and other financial instruments do not wear out over time and usually generate income; moreover, their risk of loss often is much less than for many other forms of stored wealth.

iii. Liquidity Function: The link between liquidity and economic performance arises because many high return investment projects require long-term commitments of capital. But risk adverse lenders (savers) are generally unwilling to delegate control over their savings to borrowers (investors) for long periods. Financial systems mobilize savings by agglomerating and pooling funds from disparate sources and creating small denomination instruments. These instruments provide opportunities for individuals to hold diversified portfolios. Without pooling individuals and households would have to buy and sell entire firms.

Financial markets can also transform illiquid assets (long-term capital investments in illiquid production processes) into liquid liabilities (financial instrument). With liquid financial markets savers/lenders can hold assets like equity or bonds, which can be quickly and easily converted into purchasing power, if they need to access their savings.

For lenders, the services performed by financial markets and intermediaries are substitutable around the desired risk, return and liquidity provided by particular investments. Financial intermediaries and markets make longer-term investments more attractive and facilitate investment in higher return, longer gestation investment and technologies. They provide different forms of finance to borrowers. Financial markets provide arms length debt or equity finance (to those firms able to access markets), often at a lower cost than finance from financial intermediaries.

For wealth stored in financial instruments, the global financial market place provides a means of converting those instruments into cash with little risk of loss. The world's financial markets provide liquidity (immediately spendable cash) for savers who hold financial instruments but in need of money. In modern societies, money consists mainly of currency and a deposit held in banks, credit unions, and other depository institutions and is the only financial instrument possessing perfect liquidity.

iv. Credit Function: In addition to providing liquidity and facilitating the flow of savings into investment to build wealth, the global financial markets furnish credit to finance consumption and investment spending. Credit consists of a loan of funds in return for promise of future payment.

v. **Payments Function:** The global financial system also provides a mechanism for making payments for purchases of goods and services. Certain financial assets-including currency, non-interest bearing checking accounts (referred to as demand deposits), and interest bearing checking accounts (referred to as negotiable order of withdrawal or NOW accounts)-still serve as a popular medium of exchange in making payments all over the globe. Also high on the payments list are plastic debt and credit cards issued by banks, credit unions, and retail stores. Indeed, electronic means of payments are growing rapidly today, while checks and other paper-based means of payment are declining in volume.

vi. **Risk Protection Function:** The financial markets offer businesses, consumers, and governments' protection against life, health, property, and income risks. This is accomplished, first of all, by the sale of insurance policies. The financial system permits individuals and institutions to engage in both risk sharing and risk reduction. Risk sharing occurs when an individual or institution transfers risk exposure to someone willing to accept that risk (such as an insurance company). Risk reduction usually takes place when we diversify our wealth across a wide variety of different assets so that our overall losses are likely to be more limited.

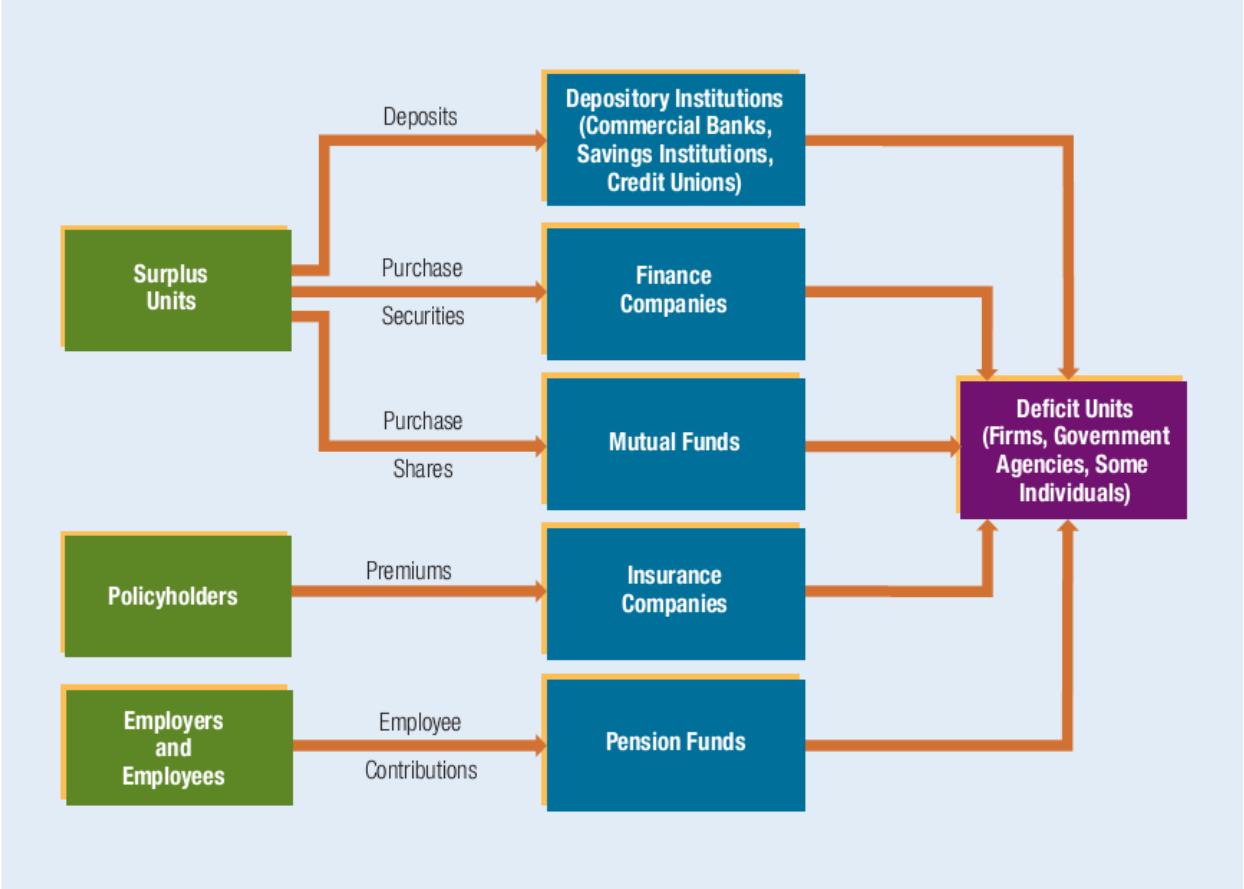
vii. **Policy Function:** In recent decades, the financial markets have been the principal channel through which government has carried out its policy of attempting to stabilize the economy and avoid inflation. By manipulating interest rates and the availability of credit, government can affect the borrowing and spending plans of the public, impacting the growth of jobs, production, and prices. This task of economic stabilization has been given largely to central banks.

1.2.4 Role of Financial Institutions

Because financial markets are imperfect, security buyers and sellers do not have full access to information. Individuals with available funds are not normally capable of identifying creditworthy borrowers to whom they could lend those funds. In addition, they do not have the expertise to assess the creditworthiness of potential borrowers. Financial institutions are needed to resolve the limitations caused by market imperfections. They accept funds from surplus units and channel the funds to deficit units.

In general, the main purpose of a financial institution is to reduce transactions costs by specialization in some particular financial instrument. These firms also reduce information costs by having efficient methods of monitoring and screening potential borrowers. Financial institutions streamline many things which individual would find costly or impossible to do. This is because of that without financial institutions, the information and transaction costs of financial market transactions would be excessive.

Exhibit 1.1: Comparison of Roles among Financial Institutions



The role of financial institutions in facilitating the flow of funds from surplus units (investors) to deficit units is illustrated in Exhibit 1.1. Surplus units are shown on the left side of the exhibit, and deficit units are shown on the right side. **Three different flows of funds from surplus units to deficit units are shown in the exhibit**. One set of flows represents deposits from surplus units that are transformed by depository institutions into loans for deficit units. A second set of flows represents purchases of securities (commercial paper) issued by finance companies that are transformed into finance company loans for deficit units. A third set of flows reflects the

purchases of shares issued by mutual funds, which are used by the mutual funds to purchase debt and equity securities of deficit units.

The deficit units also receive fund from insurance companies and pension funds. Because insurance companies and pension funds purchase massive amounts of stocks and bonds, they finance much of the expenditures made by large deficit units, such as corporations and government agencies. Financial institutions such as commercial banks, insurance companies, mutual funds, and pension funds serve the role of investing funds that they have received from surplus units, so they are often referred to as institutional investors.

QUICK CHECK

1. Elaborate Functions and roles of Financial Institutions

1.3 Money Market and Characteristics of Developed Money Market

1.3.1 Money Market

Money market is a financial market that facilitates the flow of short-term funds (with maturities of 1 year or less). The securities that are traded in money markets are called **money market securities**.

Money markets are markets in which commercial banks and other businesses adjust their liquidity position by borrowing, lending or investing for short periods of time. In the money market, businesses, governments, and, sometimes, individuals borrow or lend funds for short periods of time – usually 1 to 120 days. Commercial paper, repurchase agreements, federal funds, promissory notes, treasury bills, certificates of deposits, bill of exchange call and notice money and banker's acceptances are important money market instruments.

The money markets are also distinct from other financial market in that they are wholesale markets because of the large transactions involved. Money market transactions are called open market transactions because of their impersonal and competitive nature. There are no established customer relationships.

Firms commonly issue money market securities for purchase by investors in order to obtain funds for a short period of time. Firms may also consider purchasing money market securities with cash that is available temporarily. Likewise, investors purchase money market securities with funds that they may soon need for other (more profitable) investments in the near future. These generally have a relatively high degree of liquidity, not only because of their short-term maturity but also because they commonly have an active secondary market. Money market securities tend to have a low expected return but also a low degree of risk. Money market securities are like treasury bills, commercial paper, negotiable certificates of deposits (CDs), etc.

A. Economic Role of the money market

The most important economic function of the money market is to provide an efficient means for economic units to adjust their liquidity positions. Money markets help governments, businesses, and individuals to manage their liquidity by temporarily bridging the gap between cash receipts and cash expenditures. If a firm is temporarily short of cash, it can borrow in the money market; or if it has temporary excess cash, it can invest in short-term money market instruments. In doing so a money market performs a number of functions in an economy.

- It provides funds
- It helps to use surplus funds
- It eliminates the need to borrow from banks
- It helps government to borrow money at a lower interest rate
- It helps the implementation of the monetary policies of the central bank
- It facilitates the financial mobility from one sector to the other
- It promotes liquidity and safety of financial institutions
- It brings equilibrium between demand and supply of funds
- It economizes the use of cash.

1.3.2 Characteristics of Developed Money Market

The main characteristics of developed money markets are the following:

a. **Existence of central bank:** In the developed money market, the role of central bank is notable. It controls the entire money market operations by making the availability of funds depending upon the economic cycles. It can be done through its open market operations.

b. Highly organized commercial banking system: As they are the main dealers in short-term funds, the commercial banks are considered as nervous system of the money market. Therefore, a well developed money market will have a highly organized and developed commercial banking system.

c. Existence of sub-markets: In developed money market the various sub-markets existed and functioning smoothly. Such as:

1. ***The call loan market:*** It is a market for marginal funds, for temporarily unemployed or unemployable funds. For instance, commercial banks advance loans to bill brokers and dealers in stock exchange so as to use the fund to discount or purchase bills or stocks for a short period of time, one night, a week or not more than 14 days. The same thing is true that central banks advance loans to commercial banks for a short period. The central bank applies a rate called "call rate", which is usually less than the normal rate but sometimes it may be even greater than the normal rate.
2. ***The bill market:*** It is the short period loan market. In these market Commercial banks, discount houses and brokers lend to businesspersons. The commercial banks discount bills of exchange, lend against promissory notes or through advances or overdrafts to the businessperson and lend to government through purchase of treasury bills. The discount houses and bill brokers lend to business persons by discounting their bills of exchange before they mature.
3. ***The collateral loan market:*** the commercial banks lend the discount houses and bill brokers against collateral bonds, stocks; securities, etc. The commercial banks borrow from big/large/ banks and the central bank on the basis of collateral securities.
4. ***The acceptance market:*** The merchant bankers accept bills drawn on domestic and foreign traders whose financial standing is not known. Commercial banks have started the acceptance business.

It can be said that the larger the number of sub-markets, the broader and more developed will be the structure of the money market.

d. Prevalence of healthy competition: In each sub-market there should be a reasonable and healthy competition. That is, in a developed money market, there are a large number of

borrowers, lenders and dealers. Then only each market will be active enough to achieve the purpose of its existence.

e. **Integration of sub-markets:** In the developed money market there will be a perfect integration among various sub-markets of the money market. Their functioning is inter-dependent. The funds flow from one sub-market to another and the activities of one sub-market should create effects in the other markets also.

f. **Availability of proper credit instruments:** The developed money market should have the necessary credit instruments such as treasury bills, promissory notes, bills of exchange, etc.

g. **Flexibility and adequacy of funds:** In a developed money market, there must be ample resources. The flow of funds into the money market should also be flexible enough, i.e., the flow of funds can be increased or decreased depending upon the demand for funds.

h. **International attraction:** The developed money markets attract funds from foreign countries also. The dealers, borrowers and lenders of foreign countries are eagerly coming forward to participate in the activities of developed money market.

i. **Uniformity of interest rates:** Prevalence of uniformity in interest rates in different parts of the country is the characteristic feature of a developed money market.

j. **Stability of prices:** Stability of prices all over the country will be an outcome of the effective functioning of a developed money market.

k. **Highly developed industrial system:** The money market will function smoothly and can achieve the basic purpose of its existence only when there is a highly developed industrial system. Developed money market demands for such a system.

l. **Number of Dealers:** There should be a number of dealers and brokers in developed money market that should buy and sell the credit instruments. An underdeveloped money market, on the other hand, is characterized by the absence of adequate credit instruments and dealers to deal in them.

m. **Responsive:** A developed money market is highly responsive to domestic and international events. Any event that takes place in the economic or political field anywhere in the world affects the money market.

n. **Other factors:** In addition to the above mentioned important characteristics of developed money market, there are other contributory factors such as large volume of trade, stable political conditions, etc.

London Money Market is the best example of a highly developed money market as all the characteristics of a developed money market are found there. The lack of any of the above characteristics produces a less developed money market and when these are totally absent, the money market will be an underdeveloped money market.

1.3.3 Instruments of Money Market

The common money market instruments include:

- Treasury bills
- Certificate of deposit
- Commercial paper
- Repurchase agreements (Repos)
- Bankers acceptance
- Federal funds (fed funds)
- Euro dollar deposits
- Municipal Notes
- Foreign Exchange notes

1. Treasury Bills:

Treasury bills are Short-term debt obligations of a national government issued to cover current government budget shortfalls (deficit) and to refinance maturing government's debt. T-bills are sold through an auction process. T-Bills are generally regarded to be risk free instruments since the government guarantees to pay their face value upon maturity. They are highly liquid instruments which mean that holders can easily convert their bills into cash if the need arises.

A treasury bill is a discount security, that is, upon issue the security is sold at a discount to its face value. Since a bill makes no coupon payments, the holder expects to gain from capital appreciation (capital Gain), rather than a conventional interest rate.

The current yield or true return rate of interest Treasury bill is calculated as follows:

$$Y = D/P \times 365/t \times 100$$

Where:

Y = the annualized yield (interest rate)

D = discount to face value (D= face value less price)

P = current market price or selling price

t = the number of days remaining to maturity.

365= days in a year

Example: The interest rate or yield on issue of a six month (180 days) Treasury bill with the face value $1000, sold at $900 can be calculated as:

Solution

$$Y = 100/900 \times 365/180 = \underline{22.53\%}$$

Some time you may want to know the price of a Treasury bills given the yield on a bank discount basis. Thus, the price of a T-bill is found by first solving the formula for Y for the dollar (Birr) discount (D).

Example: If a 100-day T-bill with a face value of $100,000 is sold (quoted) on a bank discount basis of 12%.

Required: Find the selling price of the T-bills.

Solution

$$Y = \frac{FV - SP}{FV} * \frac{365}{100}$$

$$12\% = \frac{\$100{,}000 - SP}{\$100{,}000} * 365/100$$

SP = $56,200

Mechanisms of Selling T-Bills

1. **Public Issue: A central** bank offers stock at a fixed price and hopes that financial institutions will purchase sufficient stock that there is little unsold stock left over.
2. **Tender issue:** the central bank sets a minimum tender price and then invites at or above this minimum price. Financial institutions and investors bid for the stock, and on these bids the minimum price at which the issue can be sold is calculated
3. **Auction issue**: where the central bank invites bids and sets no minimum price. The issue is then sold to those that bid the highest price at the price at which they bid until all the stock is sold.

4. **Direct placement**: where the central bank negotiates directly with financial institutions to sell stock at an agreed price.

2. Certificate of Deposit (CDs)

Certificate of deposit is a time deposit with banks. Certificate of deposit is a bank-issued, fixed maturity, interest- bearing time deposit that specifies an interest rate and maturity date. A certificate of deposit is issued by a deposit taking institution, usually a bank, to acknowledge that a specified sum of money has been deposited with the institution.

They have a specified maturity date and attract a specified rate of interest. Time deposit may not be withdrawn on demand. The bank pays interest and principal to the depositor only at the end of the fixed term of the CDs. CDs come in two forms: ***negotiable (transferable) and non-negotiable. (Non transferable)***

Advantage of CDs to depositors

- Depositors have tradable (negotiable) deposit (assets).
- Depositors get guaranteed rate of interest (usually equivalent to market interest rate but greater than the banks interest rate when the bank interest rate is subject to ceiling by government regulation), and
- ready market or liquidity for their assets should they require funds at short notice
- The bank has attracted a deposit for guaranteed fixed period.

3. Commercial Papers (CPs)

Commercial papers are unsecured promissory notes issued by companies with strong credit rating to raise short-term cash often to finance working capital requirement. Issuance of CPs is an alternative to bank borrowing for large corporations. CPs generally issued in denominations of $100,000. Therefore,

- small investors can invest in CPs
- has a fixed maturity;
- They are liability to the issuing company
- usually sold at a discount from face;
- Issuer pays the face value to holders of the security at maturity.

- Difference between the face value and selling price is an implicit interest to the holder.

Y= D/P x 365/t x100

Yield = [D/Par X 360/t] X100

Where; D= discount to face value (D= face value less price)

Par= Par value of CP

Y= Yield

Example: Suppose an investor purchases 95-day commercial paper with a par value of $1,000,000 for a price of $999,854. The discount yield is:

Y = $1,000,000-$994,854/$1,000,000x360/95= 1.95%.

i. Risks to investors on Commercial Papers

To pay off holders of maturing paper, issuers generally use the proceeds obtained by selling new commercial paper. The risk the investor in commercial paper faces is that the issuer may be unable to sell new paper at maturity.

ii. Safeguard to risk on Commercial Papers

As a safeguard against this risk, commercial paper is typically backed by unused bank credit line- by the corporation's access to bank credit facilities. Issuers of commercial paper are also given credit rating by credit-rating agencies.

4. **Repurchase Agreement (Repo or Rp)**

Repurchase is an agreement involving the sale of securities by one party to another with a promise to repurchase the securities at a specified price and on a specific date in the future. Individuals or firms with temporary idle or excess capital buy short term securities (e.g. T-bills) from their banks in order to earn small return until the money is needed**.** The bank then agrees to repurchase the T-bills in the future at a higher price.

In effect, a repurchase agreement is a collateralized loan with the seller handing over the security as collateral- the security is collateral. If the specified day is the following day, it is known as an ***overnight repo***; any longer time horizon is known as a term repo.

Many commercial firms, with idle funds in their deposit account at bank, use repos as a way to earn a small return until these funds are needed. In this case, the firm uses its idle fund to buy T-bill from its bank. The bank then agrees to repurchase the T-bills in the future at a higher piece. The securities most often in repos are US T-bills, and government agency securities etc.

Parties

- Selling bank/entity and Purchasing bank/entity
  - Bank/entity with excess cash (Selling bank)→ Lends cash = Sells Fed fund
  - Bank/entity with short of cash (Purchasing bank)→ Borrows funds= Buys Fed Funds

The purchasing bank returns the fed funds plus one day's interest.

There is a credit risk exposure to the selling bank in that the purchasing bank may be unable to repay the fed funds the rest day. For this purpose the fund selling bank receives government securities as collateral from the funds- purchasing bank. That is the fund purchasing bank temporally exchanges securities for cash. The next day, the transaction is reversed, with the funds-purchasing bank sending back the fed funds borrowed plus interest (repo rate); it receives in return, or repurchases, its securities used as collateral.

The agreement will specify both the sale price and the repurchase price from which the interest cost can be derived. The difference between the purchase (repurchase) price and the sale price is the dollar (birr) interest cost of the loan

Interest = Repurchase Price- Selling Price

A reverse repurchase agreement: A given transaction is a repo from the point of view of the security seller and a reverse repo from the point of view of the security's buyer.

5. Bankers Acceptance (BA)

Bankers acceptance is a vehicle created to facilitate trade transaction. Bankers' acceptance is a time draft payable to the seller of goods with payment guaranteed by bank.

The transaction in which BA are created include:

- The import of goods into a country
- The export of goods from a given country
- The storing and shipping of goods between two foreign countries
- The storing and shipment of goods between two entities of the same country (e.g between two Ethiopians in different regions).

Bankers Acceptance is sold on a discount basis just as T-bills and commercial bills.

6. Federal funds (Fed funds)

Fed Funds are short-term funds transferred between financial institutions usually for no more than a day. For example, one commercial bank with short of reserves, may borrow from another bank that has a surplus.

Fed funds are deposits held by banks and other depository institutions at the Federal Reserve; these are immediately available funds that institutions borrow or lend, usually on an overnight basis. They are lent for the federal funds rate. Commercial banks trade fed funds on the form of excess reserves held at their local Federal Reserve Bank. That is, one commercial bank may be short of reserves, requiring it to borrow excess reserves from another bank that has a surplus.

7. Eurodollar Deposit

A **Eurodollar deposit** is a US dollar deposit placed with a bank outside the United States. This article discusses money market deposits generally with a focus on Eurodollar deposits and other related Eurocurrency deposits. US dollar denominated deposits at foreign banks or foreign branches of American banks. By locating outside of the United States, Eurodollars escape regulation by the Federal Reserve Board.

Originally, dollar-denominated deposits not subject to U.S. banking regulations were held almost exclusively in Europe; hence the name Eurodollars. Since the Eurodollar market is relatively free of regulation, banks in the Eurodollar market can operate on narrower margins than banks in the United States. Thus, the Eurodollar market has expanded largely as a means of avoiding the regulatory costs involved in dollar-denominated financial intermediation.

8. Municipal Note

A short-term debt security is issued by a local or state government. Generally speaking, a municipal note has a maturity from three months to three years. Municipal notes are usually used to raise capital for improvements in infrastructure or other aspects of the municipality. For example, a city or school district may issue a note to build a new park or a new playground. Municipal notes are exempt from federal income taxes and sometimes from state and local taxes as well.

Municipal notes usually pay lower coupons than corporate notes with similar maturities, but because the yield is tax-free, the after-tax basis may be higher for a municipal bond. Risk varies with the municipality and the particular type of municipal note.

1.4 Capital Markets

Capital markets facilitate the sale of long-term securities by deficit units to surplus units. The securities traded in this market are referred to as capital market securities. Capital market securities are commonly issued to finance the purchase of capital assets, such as buildings, equipment, or machinery. Three common types of capital market securities are bonds, mortgages, and stocks, which are described in turn.

QUICK CHECK

1. Define money market mean.
2. How money markets differ from capital market?
3. What are money market instruments?

Chapter summary

The financial system consists of financial markets and institutions. A financial institution is an institution whose primary source of profits is through financial asset transactions. Financial institutions, as part of the financial system, facilitate the flow of funds from savers to borrowers in the most efficient manner. They are institutions such as banks that collect the savings of individuals and corporations and funnel them to firms that use the money to finance their investments in plant, equipment, research and development, and so forth. They perform two main types of financial service that reduce the costs of moving funds between borrowers and lenders, leading to a more efficient allocation of resources and faster economic growth.

Financial markets are effective at financing industries where relatively little information or few data are available or where a diversity of opinion is persistent. This is because markets allow investors with similar views to form coalitions to finance a particular investment project. New investment financed by financial intermediaries or markets is a channel for the diffusion of new technology and productivity gains.

Review Questions

Part- I- Multiple Choices: Choose the correct Answer from the given Alternatives

1. Of the following one is **not** the composition of financial system. Identify:
   A. Financial institutions,
   B. Financial markets
   C. Regulations
   D. analysts
   E. None
2. Which one is odd?
   A. Commercial banks
   B. Insurance companies
   C. Saving and loan Associations
   D. Microfinance Institution
   E. None
3. The following are the main banking operations **except:**
   A. Liquidity services
   B. Payment services.
   C. Risk management.
   D. Asset management
   E. None
4. Which one is/are function of financial institution?
   A. Savings Function:
   B. Wealth Function
   C. Credit Function
   D. Policy Function
   E. All
   F. None
5. Which one is/are the characteristic of developed money market?
   A. Highly disorganized commercial banking system
   B. Unhealthy competition in sub-markets
   C. Availability of proper credit instruments.
   D. Variety of interest rates
   E. All

Part-II: TRUE OR FALSE

Write "TRUE" if the statement is correct otherwise "FALSE"

1. The credit unions are co-operative financial institutions which are usually controlled by the members of the union.

2. Based on issuance status, market is classified as money markets and capital markets.

3. Unlike the closed ended mutual fund there is no free movement in open ended mutual funds.
4. Financial institutions are entities of the financial system which play an intermediate role between savers and borrowers.
5. Non-depository institutions accept deposits from surplus units and provide credit to deficit units.
6. Financial institutions do not accept the risk on loans provided.
7. Financial institutions diversify their loans among numerous deficit units.
8. Microfinance institutions are established to give low income people an opportunity to become self-sufficient.
9. Pension fund is depository financial institution.
10. In open-ended mutual funds new investors can join the funds at any time.
11. Microfinance institutions can enhance the income earning capacity of the society.
12. Saving and Loan Associations are self-financed service to the public.

Part III- Case Sudy

Assume Ato Abraham, an Ethiopian business man who owns Shewit Business Group, wants to import 10 vehicles with estimated price of USD $5 million from an American Car Manufacturer, General Motors. General Motors conducts its foreign trade with the help of its bank, Citigroup, while Shewit's payment of foreign trade is facilitated through Commercial Bank of Ethiopia.

Required: *Explain how these two businesses could undertake the exchange using the banker's acceptance or letter of credit. Show the steps clearly.*

CHAPTER TWO

BANKING SYSTEM

Learning Objectives:

After completing this chapter, you will be able to:

- Define Central banking system
- Explain evolution, functions of central banking
- Describe credit control methods of central bank
- Explain Commercial banking system

2.1 Introduction

Dear learners! This chapter introduces you about banking system. A central bank is the apex bank in a country. A central bank, reserve bank or monetary authority, is an entity responsible for the monetary policy of its country. Credit control is one of the most important responsibilities of a central bank. The main role of the NBE is to maintain price stability including exchange rate stability. You will learn in detail about banking system throughout the chapter.

QUICK CHECK

What is banking and banking system?

2.2 Central Banking System

A **central bank**, **reserve bank**, or **monetary authority** is a banking institution granted the exclusive privilege to lend a government its currency. A central bank is the apex bank in a country. It is called by different names in different countries:

- Reserve bank of India,
- The bank of England
- The federal Reserve System in America
- The Bank of France in France
- National Bank of Ethiopia in Ethiopia
- Risk bank in Sweden etc

A central bank, reserve bank or monetary authority, is an entity responsible for the monetary policy of its country or of a group of member states, such as the European Central Bank (ECB) in the European Union, the Federal Reserve System in the United States of America, State Bank in Pakistan.

Its primary responsibility is to maintain the stability of the national currency and money supply, but more active duties include controlling subsidized-loan interest rates, and acting as a "bailout" lender of last resort to the banking sector during times of financial crisis (private banks often being integral to the national financial system).

It may also have supervisory powers, to ensure that banks and other financial institutions do not behave recklessly or fraudulently. A central bank is usually headed by a governor, but the titles are president, chief executive, and managing director respectively for the European Central Bank, the Hong Kong Monetary Authority and the Monetary Authority of Singapore.

In most countries the central bank is state owned and has a minimal degree of autonomy, which allows for the possibility of government intervening in monetary policy. An "Independent central bank" is one which operates under rules designed to prevent political interference; examples include the US Federal Reserve, the Bank of England (since 1997), and the Bank of Canada, the Reserve Bank of Australia, the Banco de la República de Colombia, and the European Central Bank.

2.2.1 Evolution of Central Bank

Today central bank is the central arch-pillar of the monetary and fiscal framework in every country of the world and its activities are essential for the proper functioning of the economy and are indispensable for the fiscal operation of the government.

Although some central banks were established more than two centuries ago, central banking is mostly a recent development being essentially a product of the nineteenth century. Among the existing central banks the Riks Bank of Sweden is the oldest and was established in 1668, the bank of England was established in 1694. It was the first to function as the true central bank in 1844.

Central banking originated in England almost by chance as the commercial banks found it convenient to settle their clearing balances by cheques on the bank of England. The bank of France which was organized in 1800 was closely connected with the state ever since its establishment. The Richs bank in Germany was established in 1876 after the formation of the empire. The bank of Netherlands was founded in 1814 on the ruins of the old bank of Amsterdam. The national bank of Austria, which was reorganized as the bank of Austria hungry in 1877, was established in 1817 to restore order in the national monetary system which had deteriorated due to the over issue of paper currency. The bank of Norway, the national bank of Denmark, the national bank of Belgium and the bank of Spain were established in 1817, 1818 and 1856 respectively. The bank of Russia was established in 1860 to consolidate money circulation and to float debt for the Russian empire. The bank of Japan was established in 1882 to restore order in the currency system of the country. The United States of America established its central banking in 1914. Thus the nineteenth century was the century par excellence of the establishment of central banks in many countries of the world, particularly in Europe where almost every country had established a central bank empowered to issue –note and vested with special privileges and powers. In due course of time those banks became the bankers and advisers to their respective government.

QUICK CHECK

1. What is central banking?
2. Explain the evolution of banking system

2.2.2 Functions of Central Bank

1. Regulator of currency

2. Banker, Fiscal Agent and Advisor to the Government

3. Custodian of Cash reserve of Commercial Banks

4. Custody and Management of Foreign Exchange Reserves

5. Lender of Last resort

6. Clearing House for transfer and settlement

7. Controller of Credit

8. Other function

i. Regulation of currency

It is the bank of issue. It has monopoly of notes (legal tender money) issue. The currency notes printed and issued by the central bank become unlimited legal tender throughout the country. The main advantages of giving the monopoly right of note issue to the central bank are given below:

- It brings uniformity in the monitory system and currency circulation or notes issued helps in facilitating exchange and trade.
- The central bank can exercise better control over the money supply in the country. Enhances stability in the monetary system and creates confidence among the public.
- The central bank can restrict or expand the supply of cash according to the requirement of the economy.
- The central bank also earns profit from the issue of paper currency.
- Avoids the political interference in the matter of note issue.
- It enables the central bank to exercise control over the creation of credit by the commercial banks.

ii. Banker, Fiscal Agent and Advisor to the Government

- ***As banker to the government, the central bank:***

As a banker to government, the central bank performs the same functions for the government as a commercial bank performs for its customers.

- ✓ keeps the deposits of the government and makes payment on behalf of the government (state and/or central). But it does not pay interest on government deposits
- ✓ buys and sells foreign currency on behalf of the government
- ✓ keeps the stock of gold of the government
- ✓ is the custodian of government money and wealth.
- ✓ maintains the accounts of the central as well as state government;
- ✓ it makes short-term advances to the government;

- ✓ it collects cheques and drafts deposited in the government account;
- ✓ it provides foreign exchange resources to the government for repaying external debt or purchasing foreign goods or making other payments,

- ***As fiscal agent of the government, central bank:***
  - ❖ makes short term loans or advances to the government
  - ❖ raises loans from the public, pays interest on them, and finally repays them on behalf of the government
  - ❖ manages the entire public debt
  - ❖ It also represents the government in the international financial institutions and conferences,
- **As a financial adviser to the government:**

The central bank gives advice to the government on economic, monetary, financial and fiscal matters such as deficit financing, devaluation, trade policy, foreign exchange policy, etc.

iii. Custodian of Cash Reserve Requirement of Commercial Banks

Commercial Banks are required to keep reserve equal to a certain percentage of both time and demand deposits with the central bank. It is on the basis of these reserves that central bank transfers funds from one bank to another to facilitate clearing of checks. The central bank acts as the custodian of the cash reserve requirement of commercial banks and helps in facilitating their transactions.

The centralization of cash reserves in the central bank has the following advantages:

- It inspires confidence of the public in the banking system of the country.
- It provide the basis of a larger and more elastic credit structure than if these amounts were scattered among the individual banks.
- It can be used to the fullest possible extent and in the most effective manner during the periods of seasonal strains and financial emergencies.
- It enables the central bank to provide financial accommodation to the commercial banks which are in temporary difficulties. In fact the central bank functions as the lender of the last resort on the basis of the centralized cash reserves.

- The system of centralized cash reserves enables the central bank to influence the creation of credit by the commercial banks by increasing or decreasing the cash reserves through the technique of variable cash-reserve ratio.
- The cash reserves with the central bank can be used to promote national welfare.

iv. Custody and Management of Foreign Exchange

- It keeps and manages the foreign exchange reserve of the country
- It sells gold at fixed price to the monetary authority of other countries
- It buys and sells foreign currencies at international prices
- It fixes the exchange rates within narrow limits in keeping its obligation as a member of IMF.
- It manages exchange control operations by supplying foreign currencies to importers and persons visiting foreign countries on business, studies, etc in keeping with the rules laid down by the government.

v. Lender of Last Resort

As lender of last resort, the central bank grants accommodations in the form of re-discounts and collateral advances to commercial banks, bill brokers, dealers, or other financial institutions. These facilities help such institutions in order to help them in times of stress so as to save financial structure of the country from collapse.

vi. Clearing House for Transfer and Settlement

It acts as a clearing house for transfer and settlement of mutual claims of commercial banks.

vii. Controller of Credit

This is the most important function of the bank in order to control inflation and deflation. Credit control policy or monetary policy may be defined as "that branch of economic policy which is concerned with the regulation of the availability or supply, the costs and the directions of credit."

Methods of Credit Control

Credit control is one of the most important responsibilities of a central bank. Central bank of a country can control credit by following two methods.

a. Qualitative controls
b. Quantitative controls

a. Quantitative Controls

Quantitative controls are used to expand or contract the total quantity (overall size) of credit. These controls are of the following kinds:

i. Bank rate policy
ii. Open market operations .
iii. Variable reserve ratios
iv. Liquidity ratio
v. Credit rationing

i. Bank Rate (Discount Rate) Policy

Bank rate is the rate at which central bank rediscounts bill of exchange or provides credit to commercial banks. For controlling credit central bank may increase or decrease bank rate. When bank rate is raised, other bank's interest rates on advances also move up. When bank rate is decreased, other banks' interest rates on advances also go down. Borrowing from banks is discouraged or encouraged and, as a result, the rate of monetary expansion decreases or increases.

ii. Open Market Operation

Buying and selling of government securities by the central bank with a view to influencing money supply is called open market operations. When the central bank sells securities, the buyers make payment for these to the central bank through commercial banks. A portion of commercial banks' cash flows to the central bank. As a result, the lending and financing power of banks decreases which leads to reduction in the rate of credit expansion. The purchase of securities by the central bank has the reverse effects.

iii. Variable Reserve Ratios

The amount of money which the banks are legally required to keep with the central bank is termed *legal cash reserve ratio or requirement.* It is a certain percentage of deposits. If the cash

reserve ratio is raised, say from 5% to 7% of total deposits, the lending and financing power of banks will contract accordingly. This will cause fall in the rate of money expansion. A decrease in ratio has an opposite effect.

iv. Liquidity Ratio

Liquidity ratio refers to the amount of assets which banks are legally required to hold in the forms of ***(i)*** **cash in hand, (ii) balances with SBP/NBP and** ***(iii)*** **approved securities.** *At present it is 35% of total deposit liabilities*. The effects of varying liquidity ratio are similar to those of varying cash reserve ratio. The increases in it cause a fall and decrease in it a rise in the rate of credit expansion.

v. Credit Rationing

In order to keep the total credit expansion within desirable limits, the central bank may recommend ceilings (an upper limit) on the overall credit extended by each commercial bank.

b. Qualitative Controls

These include:

i. Moral suasion.
ii. Method of Publicity.
iii. Direct Action
iv. Selective controls are mainly, aimed at influencing the direction or distribution of credit.

i. **Moral Suasion:** By virtue of its special position, the central bank can persuade commercial banks to follow a specific credit policy. In this connection the central bank can employ oral or written appeals or warnings.
ii. **Publicity:** The central bank through its different publications may give publicity to desirable credit policy in the form of a few broad principles. The banks may take guidance from this in respect of their lending and financing operations.
iii. **Direct Action:** If commercial banks do not follow the credit guidelines of central bank then central bank can impose a penalty or refuse to discount bill of exchanges of commercial banks.

Limitations of Credit Control Policy or Difficulties in Controlling Credit

Credit control or monetary policy has many limitations. In other words, there are several difficulties in the way of the central bank to control credit.

1. ***Absence of developed money markets:*** In underdeveloped countries, central bank control over bank credit is rendered very difficult by the absence of well-developed money markets.
2. ***Existence of non-monetized sector:*** In less developed countries there exists a large non-monetized and rural subsistence sector. Thus a big section of the community is quite unaffected by monetary policy.
3. ***Large-scale deficit financing:*** A large-scale deficit financing by the government may make the central bank powerless in controlling the amount of credit and inflationary pressures. Thus, unless it is prevented, the credit control measures will have little value.
4. ***Cooperation of banks:*** It is very difficult for a central bank to control credit if commercial banks do not extend their full cooperation.
5. ***Conflicting objectives:*** The greatest difficulty in the way of the central bank in controlling credit is the simultaneous achievement of conflicting objectives. For example controlling inflation and increasing employment opportunities are conflicting objects.

Objectives of Credit Control

The objectives of credit control of monetary policy have been different at different times in different countries according to the economic situations and problems faced by them. In the modern times economic development with monetary stability is accepted as the most important goal of credit control. The main objective of this credit-control function is to save economy from inflation and deflation and to stabilize the economy and prices.

Credit control is the means to control the lending policy of commercial banks by the central bank to achieve the following objectives.

- To stabilize the internal price level
- To stabilize the rate of foreign exchange
    - When local prices fall→ export increase and import decrease→ Demand (DD) for home currency increases (HC) → Exchange rate of HC increases

- It is the credit money that affects prices
- Then the CB can stabilize rate of foreign exchange by controlling bank credit

- To protect the outflow of gold.
    - Expansion of credit leads to rise in prices
    - This reduces export and increases import→ UF BP→ export of gold to other countries to import payables.
    - Then the CB has to control credit to prevent outflow of gold
- To control business cycles
- To meet business needs
- To have growth with stability

viii. Other Functions

Additional controlling functions of Central banks include the supervising and controlling of commercial banks:

- Issue of licences
- The regulation of branch expansion
- To see that every bank maintains the minimum paid up capital and reserve as provided by law
- Inspection or auditing the accounts of banks
- To approve the appointment of chairpersons and directors of such banks in accordance with the rules and qualifications
- To control and recommend merger of weak banks in order to avoid their failures and to protect interest of depositors
- To recommend nationalization of certain banks to the government in public interest
- To publish periodical reports relating to different aspects of monetary and economic policies

2.2.3 Monetary Policy and Its Objectives

Monitory Policy refers to credit control measures adopted by central banks of a country. Monitory Policy is a policy employing central bank's control of the supply of money as an

instrument for achieving the objective of general economic policy. Monitory Policy is any conscious action undertaken by the monetary authorities to change the quantity, availability, or cost of money.

2.2.3.1 Types of Monetary Policy

1. Restrictive Monetary policy
2. Expansionary Monetary policy

1. Restrictive (Dear) Monetary Policy

Restrictive MP used to overcome inflation or to curtail aggregate demand. Inflation results due to rising consumer DD for goods and services. It can be done by:

- Sale of government securities
- Raise reserve requirement
- Raise discount rate
- Controlling consumer and business credit

2. Expansionary (Easy) Monetary Policy

Expansionary MP used to overcome recession or dispersion/deflation. Deflation is a fall in consumer DD for goods and services. Expansionary actions are as follows:

- Government purchases securities
- Encourage consumer and business credit
- Lower discount rate

These all result into decrease in the cost of credit and increase the availability of credit.

2.2.3.2 Objectives of Monetary Policy

The following are the principal objectives of monetary policy:

1. Price stability
2. Economic growth
3. Balance of payment
4. Full employment
5. Stability of financial markets

6. Interest rate stability
7. Stability in foreign exchange

1. **Price Stability:** is means of relative controlling of inflation or deflation. The goal of price stabilization implies that average price level should not be allowed to vary beyond narrow margins.

   Inflation is a galloping rise in prices as a result of the excess increase in the quantity of money. It is caused when aggregate Demand DD exceeds the aggregate Supply (SS) of goods and services. Thus, inflation arises due Demand (DD) factors and Supply (SS) factors.

Factors affecting Demand (DD):

- Increase in money supply
- increase in disposable income
- Increase in public expenditure
- Increase in consumer spending
- Cheap monetary policy (too much credit in the market leads to excess money in hands of borrowers→ raises demand (DD) relative to Supply (SS)→ inflation.
- Deficit financing:
  - In order to meet its expenses government resorts to deficit financing by borrowing and even by printing more notes→ increases money Supply (SS) →increases Demand (DD relative to Supply (SS) of goods→ inflation.
- Expansion of the private sector
- Increase in export

Factors that affect Supply (SS) (that bring Inflation)

- Shortage of factors of production (labor, raw material, power supply, capital)
- Industrial dispute (eg strike by credit union)
- National climate (eg flood, drought, etc)
- Artificial scarcities (eg Hoarding, speculation)
- Increase in export (more goods for export than for domestic market→ shortage of goods in local market → more Demand but less Supplies →inflation
- International factors

Measures to Control Inflation

A. Monetary measures (like credit control)

B. Fiscal measures

- Reduce unnecessary expenditure
- Increase in taxes
- Encourage saving and reduce disposable income
- Surplus budgets: collect more in revenue and spend less
- Public debt: Government should stop repayment of public debt and postpone it, and borrow more.

Other measures to reduce inflation

- Increase production
- Rational wage policy (freeze wage)
- Price control
- Rationing

By such measures, the central bank increases the cost and availability on credit in the money market and thereby controls inflationary pressures.

The national bank controls deflation by taking the following measures**:**

- purchasing government securities in the open market,
- lowers the reserve requirement of member banks, lowers the discount rate, and
- Encourages the consumers' credit through selective credit measures.

By such measures, it decreases the cost and availability of credit in the money market and improves the economy.

2. Economic Growth

Economic growth is an increase in the real per capita income of a country increases over a long period of time. It is measured by the increase in the amount of goods and services produced in a country.

***How Monetary Policy contribute to Economic Growth? Through**:*

a. Management of Aggregate Demand
b. Encouragement to saving and Investment

a. Management of Aggregate Demand for economic growth:

The monetary authority should keep the aggregate monetary demand in balance with the aggregate supply of goods and services. For this, a flexible monetary policy is called for.

- If inflation applies restrictive money to control excess DD threatens to raise prices.
- An expansionary credit policy is to be applied when there is a deficiency of aggregate demand and supply is in excess causing a fall in prices.

b. Encouragement to Saving and Investment

This can be done by creating a favorable environment for saving and investment. For example, by following easy credit policy and lowering interest rates, the cost and availability of credit in the money market will be reduced. This in turn increases saving. As saving is the main sources of capital formation, capital formation increases; increase in capital enhances investment, increase in investment brings increase in productivity and ultimately increase in economic growth.

3. Balance of Payment

A balance of payment deficit is the excess of money supply through domestic credit creation. Balance of payment deficit reflects excess money supply in the economy. As the result, people exchange their excess holdings for foreign goods and services (increased in import over export; and outflow of currency will be more than the inflow of currency). Under this situation, the monetary authority will have to sell foreign exchange reserves and buy the domestic currency for eliminating excess supply of domestic currency until equilibrium is maintained.

Reductions in domestic demand holds down the rate of inflation or reduce prices which makes imported articles less attractive and makes deficit country's export more attractive to foreigners. Thus, import is curtailed and the export is expanded. Under dear monitory policy, higher interest rates make it less attractive for foreign countries to borrow from deficit country and induce them to invest there.

4. Full Employment

Full employment is a situation in which everybody who wants to get work.

2.2.4 Regulation of the Financial System

Most important function of financial institution is to assist in the transfer of funds from surplus agents to deficit agents. In assisting this process, a financial intermediary undertakes several economic functions:

- the provisions of a payments mechanism;
- maturity transformations;
- risk transformations;
- liquidity provisions; and
- Reduction of transaction, information and search costs.

The financial sector plays the following role in the economy:

- Financial institutions are responsible for enormous amount of investors' money.
- They run the payment system upon which a modern economy is crucially dependent.
- The financial sector is the major employer and can be a significant foreign exchange earner for the country.
- The financial sector is in charge with the crucial role of allocating financial capital to its most productive use.

The government, as agent of the public has major interest in the operations of the financial institutions. For these reasons, the government has consistently intervened to regulate and control the activities of financial institutions.

2.2.4.1 The Nature of the Financial System

- ✓ **Risk and uncertainty:** Financial operations are concerned with the future, and hence, are characterized by risk and uncertainty. Expectations play a major role in the pricing of financial assets. *For this reason, financial markets are highly volatile and instable.*
- ✓ **Asymmetric information:** Asymmetric information problems arise when market parties have different information. One party may not have enough information

about the other party to make accurate decisions. For example an investor knows more about the riskiness of his investment than the money lender**.**

Asymmetric **creates problems of:**

a. adverse selection and

b. moral hazard

a. Adverse selection:

It is an asymmetric information problem that occurs before the transaction occurs. It arises *due to incomplete information the lender cannot accurately distinguish good risk applicants from bad-risk applicants before making an investment.*

In adverse selection, the ignorant party lacks information while negotiating an agreed understanding or contract to the transaction. For example, banks decide not to lend money although the borrower could get the loan had the bank had adequate background information about the borrower.

How can the lender (the principal) make sure that the agent (the financial intermediary) acts in his interest? *For example, depositors lack information regarding the riskiness of the bank's portfolio. For these reason financial institutions should be subject to regulation.*

b. Moral hazard problem:

Moral hazard is the problem created by asymmetric information after the transaction occurs. Moral hazard in financial markets is the risk (hazard) that the borrower might engage in activities that are undesirable (immoral) from lender's point of view because, they make it less likely that the loan still be paid back.

- ✓ **Interdependence of financial Institutions:** Financial markets and financial institutions are interdependent than for other sectors of the economy. Events in one financial market/institutions may have important external effects on the rest of the financial system and on the whole economy. Problems in financial market/institution may create the occurrence of so-called **system risks**.

2.2.4.2 Objective of Regulation

What outcome the regulation is trying to secure?

i. Consumer Protection objective

Consumers have to be protected from excessive prices and opportunistic behavior by the suppliers of financial services**.** To prevent banks from assuming unacceptably high risks which may endanger the interests of creditors, that is, depositors and savers in general.

ii. Financial stability objective

Lending to socially and economically beneficial sectors to subsidize or guarantee lending for industry, agriculture, housing and other activities that are regarded as beneficial to the economy. ***External effects of banking failure*** imply that bankruptcy of one institution may easily spill over to others and endanger the whole financial system.

Bank runs (Bank Panic)

A series of unexpected cash withdrawals caused by a sudden decline in depositor confidence or fear that the bank will be closed by the chartering agency, i.e. many depositors withdraw cash almost simultaneously. Since the cash reserve a bank keeps on hand is only a small fraction of its deposits, a large number of withdrawals in a short period of time can deplete available cash and force the bank to close and possibly go out of business.

Bank Run is an event in which many account holders at a bank withdraw all of their funds at the same time because they do not believe the bank is solvent. Ironically, the pressure of a bank run itself can cause the bank to become insolvent. In the United States, bank runs were fairly common before the creation of the FDIC, which insures bank deposits up to a certain amount.

A **banking panic** or **bank panic** is a financial crisis that occurs when many banks suffer runs at the same time, as people suddenly try to convert their threatened deposits into cash or try to get out of their domestic banking system altogether.

A **bank run** (also known as a **run on the bank**) occurs in a fractional reserve banking system when a large number of customers withdraw their deposits from a financial institution at the same time and either demand cash or transfer those funds into government bonds or precious metals or a safer institution because they believe that the financial institution is, or might become, insolvent.

2.2.4.3 Rationale for Regulation

Why regulation is necessary if the objectives are to be achieved?

The economic rationale for regulation and supervision includes:

- **i.** The need to correct *market imperfections and failures*
- **ii.** The need for financial stability

i. **Market Imperfection**: Due to information-asymmetries, financial markets do not operate perfectly. Asymmetric information problems create risks of fraud, negligence, incompetence, and so on.

For example, there are (were) financial failures everywhere: In 1990s crises in financial institutions have rocked Chile, Hong Kong, Malaysia, and many other economies. The world has not yet recovered from the financial crises of 2008/2009. These crises resulted into the slowdown of world economy and were result of poor government regulations and failure of financial markets. The financial institutions lent money on projects that could not generate adequate return-negative returns were extremely high. This shows that financial institutions failed to allocate resource to the activities of highest return.

The main motive for regulatory intervention is then:

- ✓ to protect the consumer against information related failures,
- ✓ lenders are required to disclose timely and accurate information and
- ✓ Supervision is needed to provide additional ways to reduce the costs of moral hazard to individual savers.

2.2.4.4 Regulatory Instruments

The regulatory instruments are classified in to two. These are:

- **a.** Protective regulations/measures and
- **b.** Preventive Regulations

a. Protective regulations/measures

- ✓ Deposit Insurance
- ✓ Government Safety Nets
- ✓ Lender of last resort

b. Preventive Regulations

- ✓ Chartering
- ✓ Product line restrictions
- ✓ Geographic restriction
- ✓ Regulation of interest rates
- ✓ Capital adequacy standards
- ✓ Asset restriction and diversification rules
- ✓ Disclosure and standard reporting requirements
- ✓ Inspection and bank examination

1. **Deposit Insurance:** The government can insure people's deposits, so that they do not suffer great financial loss if the financial intermediaries that hold these deposits should fail. *The main purpose is to build public confidence.*

Example: Federal Deposit Insurance Corporation (FDIC) in USA was established in 1933 in the wake of the banking panics of 1930-1933 to maintain the stability and public confidence in the US financial system. Then, the FDIC:

- *Insures the deposits of commercial banks.*
- *It levies insurance premiums on banks.*
- *The premium is used to pay off depositors if an institution fails.*

Cost of deposit insurance: If investors know that their funds are protected, they tend to place their funds with institutions that offer the highest interest rate. It tempts financial institutions to pursue high risk investment strategies at the expense of the government.

2. **The Government Safety Net:** There are three reasons for government intervention in the financial system: to protect investors, especially small investors unable to judge the soundness of financial institutions, to protect consumers from monopolies in the provision of financial services and to promote the stability of the financial system.
3. **Lender of last resort:** Governments often provide support to domestic banks when they face runs even in the absence of explicit deposit insurance. This support provided by lending from the central bank to troubled institutions called the *lender of last resort role of the central bank.*

Costs of lender of last resort

If banks expect that the Fed will provide it with discount loan when it gets into trouble, it will be willing to take on more risk knowing that the Fed will come to the rescue. *The Fed's lender of last resort role has thus created a moral hazard problem similar to the one created by deposit insurance.*

FDIC policies make the moral hazard/adverse selection problems even worse. When handling a failed bank, the FDIC frequently gives preferential treatment to larger banks, **bailing out** all depositors beyond the $100,000 limit. This is because the failure and resulting losses from a large bank could seriously damage the financial system and the economy. This **"too big to fail"** policy increases moral hazard and adverse selection at large banks since depositors and bank officers know that a complete bailout would be likely.

4. Chartering:

Chartering refers to the obligation to file an application for a charter. It is a method for preventing adverse selection problem; **through *proposal for new banks*** are screened to prevent undesirable people from controlling them. To obtain a charter (license), the people planning to organize the bank must submit an application that show how they plan to operate the bank. Then **regulators evaluate** the proposal, whether the bank is likely to be *sound by examining:*

- ✓ *the quality of the bank's intended management,*
- ✓ *the likely earning of the bank* and
- ✓ *The amount of the bank's initial capital.*

5. Product line restrictions:

- ❖ ***Restrictions on entry and on business activities.*** One type of restriction designed to control risk-taking is restrictions on holding certain types of assets. Banks face restrictions on the quality of bonds held as well as minimum diversification requirements in lending and securities holdings. In the US, *separation of the banking and securities* industries was legislated in the well-known Glass-Steagall Act. Restrict bank from investing in industrial firms, real estate, & insurance. Ownership of financial institutions and non-financial firms must be separated**.**

The case of Ethiopia:

Directive No. SBB/12/1996: Limitation on Investment of Banks

1. *No bank shall engage in insurance business but may hold up to 20% in an insurance company and up to a total of 10% of the bank's equity capital in such business.*
2. *Banks are prohibited from engaging directly in non-banking businesses such as agriculture, industry, and commerce.*

Directive No. SBB/12/1996

1. *A bank may hold shares in a non-banking business only up to 20% of the company's share capital and total holdings in such business shall not exceed10% of the bank's net worth.*
2. *A bank's equity participation in another bank shall be subject to prior authorization by National Bank of Ethiopia.* ***Others?***

6. **Regulation of interest rates:** Impose ceilings on the maximum interest rate that could be paid by banks on deposits other than demand accounts. No interest payable on demand account.

7. **Capital adequacy standards/*Minimum Capital Requirement:*** Financial institutions are required to satisfy a minimum level of stockholder capital or equity funds. It provides the necessary cushion against losses. The higher the protection of capital contributed by owners, the greater the protection against insolvency risk for liability claimholders such as depositor. Banks are also required to keep the ratio of capital-to-assets above some minimum level. Capital provides a safety net in case some of the bank's assets fall in value, so the bank can still meet its obligations to the depositors and creditors. Given the moral hazard problems created with deposit insurance, capital requirements are one way to discourage banks from taking on too much risk. Requiring banks to hold a certain amount of capital (as a % of assets and for off-balance-sheet activities). If the bank fails, that equity capital is lost, so requiring a large amount of capital reduces the risk-taking incentives created by deposit insurance. Because of this, well-capitalized banks face less government supervision and lower deposit insurance premiums than poorly capitalized banks.

8. **Asset restriction and diversification rules:** Bank regulations also promote diversifications, which reduce risk by limiting the amount of loans in particular categories or individual borrowers.

   Example: Banks in USA are *prohibited from making loans exceeding 10% of their equity capital funds to any one company or borrower.*

9. **Cash reserve Requirements and Liquidity requirements:** Banks are required to keep certain percentage of their deposit as reserve requirements.

10. **Disclosure and standard reporting requirements:** Financial institutions must provide relevant information that helps the market to assess the quality of a bank's portfolio and the amount of the bank's exposure to risk. Stockholders, bondholders and depositors need reliable and timely information to assess the health of a bank. Banks must file detailed financial statements with regulators, and then available to the public. Consumers likely have inferior information about the terms of credit and thus, are at risk for fraud or deception. Several laws require full disclosure to consumers about the terms of credit.

11. **Inspection & bank examination:** Regular on-site bank examination helps to monitor whether the bank is complying with capital requirements and restrictions on asset holdings function to limit moral hazard. Bank examiners give banks a so called **CAMEL rating** (Capital adequacy, Asset quality, Management, Earning, and Liquidity).

12. **Credit allocation regulation:** Credit allocation regulation supports the commercial banks' lending to socially important sectors such as housing and farming.

13. **Regulation of foreign participants:** Such regulation limits the role foreigner firms that can play in domestic markets and their ownership or control of financial institution.

    - ***What about the case of foreign investors in investing in Ethiopian financial institutions? (Students should discuss on it).***

2.3 Central Banking System in Ethiopia

February 15, 1906 marked the beginning of banking in Ethiopia when the first Bank of Abyssinia was inaugurated by Emperor Menelik II. It was a private bank whose shares were sold in Addis Ababa, New York, Paris, London, and Vienna. One of the first projects financed by the bank was the Franco-Ethiopian Railway which reached Addis Ababa in 1917. In 1931, Emperor Haile

Selassie introduced reforms into the banking system. The Bank of Abyssinia was liquidated the newly established Bank of Ethiopia, a fully government-owned bank, taking over management, staff and premises of the ceased bank. The Bank of Ethiopia provided central and commercial banking services to the country. The Italian invasion in 1935 brought the demise of one of the earliest initiatives in African banking. During the Italian occupation, Italian banks were active in Ethiopia. On April 15, 1943, the *State Bank of Ethiopia* became the central bank and was active until 1963.

The National Bank of Ethiopia was established in 1963 by proclamation 206 of 1963 and began operation in January 1964. Prior to this proclamation, the Bank used to carry out dual activities, i.e. commercial banking and central banking. The proclamation raised the Bank's capital to Ethiopian dollars 10.0 million and granted broad administrative autonomy and juridical personality. Following the proclamation the National Bank of Ethiopia was entrusted with the following responsibilities.

- To regulate the supply, availability and cost of money and credit.
- To manage and administer the country's international reserves.
- To license and supervise banks and hold commercial banks reserves and lend money to them.
- To supervise loans of commercial banks and regulate interest rates.
- To issue paper money and coins.
- To act as an agent of the Government.
- To fix and control the foreign exchange rates.

However, monetary and banking proclamation No. 99 of 1976 came into force on September 1976 to shape the Bank's role adoring to the socialist economic principle that the country adopted. Hence, the Bank was allowed to participate actively in national planning, specifically financial planning, in cooperation with the concerned state organs. The Bank's supervisory area was also increased to include other financial institutions such as insurance institutions, credit cooperatives and investment-oriented banks.

The proclamation revised the Bank's relationship with government. It initially raised the legal limits of outstanding government domestic borrowing to 25% of the actual ordinary revenue of the government during the preceding three budget years as against the proclamation 206/1963, which set it to be 15%.

This proclamation was in force till the new proclamation issued in 1994 to reorganize the Bank according to the market-based economic policy so that it could foster monetary stability, a sound financial system and such other credit and exchange conditions as are conducive to the balanced growth of the economy of the country. Accordingly, the following are some of the powers and duties vested in the Bank by proclamation 83/1994.

- Regulate the supply and availability of money & credit and applicable interest and other changes.
- Set limits on gold and foreign exchange assets which banks and other financial institutions authorized to deal in foreign exchange and hold in deposits.
- Set limits on the net foreign exchange position and on the terms and amount of external indebtedness of banks and other financial institutions.
- Make short and long-term refinancing facilities available to banks and other financial institutions.

Moreover, the proclamation has also raised the paid-up capital of the bank from Birr 30.0 million to Birr 50.0 million, then 75mill and currently to 500 million.

2.3.1 Functions of National Bank of Ethiopia

As stipulated in the monetary and banking proclamation No. 83/1994, the primary duties and responsibilities of the NBE include conducting and implementation of monetary policy and exchange rate policy, regulation and supervision of banks and other financial institutions, issuance of currency, maintaining and managing of gold and foreign exchange reserves, precision of refinancing facilities to banks and other financial institutions, as well as banking services and financial advice to the government.

In its conduct of monetary policy, the bank works to maintain monetary stability with the view of achieving macroeconomic stability, and sustainable economic growth and development. The bank implements exchange rate policy with the objective of enhancing the country's competitiveness in the global economy, fostering macro-economic stability and avoiding the detrimental effect of wide fluctuations in the foreign exchange rates.

The bank manages and administers the country's international reserves required for the payments of imports and services as well as for meeting external debt servicing and other payment

obligations. In its functions, the bank endeavor to maintain, at all times, sufficient international service fund, while considering the risk and return factors associated with the management of these reserves.

In its conduct of monetary and foreign exchange policies' design and implementation, the bank collects stores and processes statistical data from various sources to provide the necessary information on macroeconomic indicators, produces policy oriented research outputs, prepares periodic reports and disseminates them to various users, both domestically and internationally.

2.3.2 Role of National Bank of Ethiopia

The main role of the NBE is to maintain price stability including exchange rate stability, ensuring fair competitiveness and soundness of the financial system and enhancing the economic progress of the country in pursuit of its mission. Since early 1990s, which marks a period of transition from a command economy to a market-based economy, the NBE has been at the forefront in formulating and implementing policies that enhance macroeconomic and financial stability.

The coordination of fiscal and monetary policies, over the past 10 years, has resulted in the achievement of remarkable economic progress with price stability. The NBE directed its efforts to enact a series of regulations that would allow the establishment of financial institutions and strengthen the regulatory and supervisory capacity of the Bank. The main roles of NBE:

- Improve service delivery of the Bank.
- Strength IT service and enhance computerization process of the Bank.
- Enhance the capacity of the Bank.
- Contain annual core inflation (non-food inflation) within a single digit.
- Maintain the exchange rate of Birr close to the equilibrium exchange rate.
- Contain the premium between the official and parallel market exchange rate to the level below 1.5%.
- Maintain the premium of respective buying and selling rates of the USD between the NBE and commercial banks below 2%.

- Ensure that the international reserves of the country are not less than three and half month of imports of goods and non-factor services.
- Manage the country's foreign exchange reserve efficiently and effectively.
- Ensure and manage the effective use of the country's foreign exchange.
- Ensure the average level of NPL (Non-Performing Loans) of commercial banks is reduced to below 15%.
- Conduct effective on-site inspection.
- Ensure systematic risk management framework for each bank.
- Finalize the Ethiopian macroeconomic model and start its application.
- Strengthen the Bank's research and policy advisory capabilities and the dissemination of its finding in terms published research papers and policy discussion forums.
- Create a national payment framework.
- Conduct structural reforms on the existing payment system.
- Ensure the availability and distribution of the Birr notes and coins.

  Ensure the automatic provision of Birr notes exchange services.

2.4 Commercial Banking System

Commercial banking is also known as business banking. It is a bank that provides checking accounts, savings accounts, and money market accounts and that accepts time deposits.

2.4.1 Commercial Banking Services

To have clear idea about the economic significance of commercial banks, it is essential to analyze the various functions performed by them. Generally, these functions may be classified under the two headings:

a. Primary function
b. Secondary function

a. Primary Function

The primary functions of a bank can be further classified as:

i) Accepting Deposits
ii) Lending Money

i) **Accepting Deposits: -** accepting deposits is an important function of a commercial bank. A major portion of the deposits accepted is repayable on demand. Generally, the following three (3) types of deposits are accepted:

   1. Current Deposits or Demand Deposits

   2. Savings Deposits

   3. Fixed Deposits or Time Deposits

1. ***Current Deposits or Demand Deposits:*** these deposits are repayable on demand. These deposits are usually opened with minimum balance prescribed by the bank and any amount can be deposited in the account. These deposits can be withdrawn by the issue of cheque. Generally, no interest is allowed on the current account. These accounts are normally opened by business houses.

2. ***Savings Deposits:*** savings deposit accounts are maintained by the commercial banks to pool the small savings of low and middle income groups. Certain restrictions are imposed on the opening and operation of savings deposit accounts. These restrictions may vary from bank to bank. Usually all banks restrict the maximum amount that can be deposited in or withdrawn from the savings accounts. The number of cheques that can be drawn against the account within a specified period is also restricted.

3. ***Fixed Deposits or Time Deposits:*** these are deposits for a fixed period. Fixed deposits are advantageous to both the banker and the depositor. The depositors prefer this type of deposit as they earn a higher rate of interest. The banker is interested in such deposits because they get the money for a fixed period. As the date of repayment is certain, the depositors are able to invest the money for long periods and, thus, earn a higher return on the investment. Cheque system is not allowed against fixed deposits.

By accepting deposits, the banks provide many services to the community. First, they protect the funds of depositors from loss or theft; secondly, they provide an easy and convenient means of transferring funds through cheques; and thirdly, they help the depositors to earn a regular income in the form of interest.

ii) **Lending Money: -** Commercial banks, besides accepting deposits, also lend the deposited money to those who want it. They provide a channel through which the individual savings

can be lent to commerce and industry. The banks lend money in different forms. They can be either secured or unsecured. The most popular forms of lending are:

- ✓ Over drafts
- ✓ Cash credits
- ✓ Loans and advances
- ✓ Discounting of bills of exchange

By accepting deposits and lending money, the banks not only act as intermediary between the depositors and the borrowing business man, but they also create additional purchasing power. Therefore, creation of credit is an important function of commercial banks

b. Secondary Function

The modern commercial banks perform a large number of other functions just to provide additional facilities to its customers. They are classified under two heads:

- **i.** Agency Services
- **ii.** General Utility Services

i. Agency Services: In many cases, the banks act as agents of their customers. As an agent, the banker renders the following services:

1. Collection of cheques, drafts, and bills for their customers.
2. The execution of standing orders, e.g. payment of commercial bills, collection of dividend warrants and interest coupons, payment of insurance premiums, rents, and periodic subscription to clubs and societies.
3. Conduct of stock exchange transactions.
4. Acting as executors and trustees.
5. Providing income tax services.
6. Conduct of foreign exchange business.

In all these cases, the banker acts only as an agent of the customer and charges some commission for the services rendered.

ii. General Utility Services: In countries where the banking has developed considerably, banks render many services just to provide more facilities to their customers, which include *safe*

keeping of valuables, issue of commercial letters of credit and travelers' cheques, collecting trade information from foreign countries for their customers, arranging business tours, and providing suitable investment advice. Sometimes, they even secure admissions for the children of their customers in foreign universities.

Usually all these services are rendered free or at nominal charge. This way, the banks are able to attract more and more new customers.

2.4.2 Services of Banks in Modern Times

The modern banks provide their customers with a variety of new facilities in addition to their traditional functions. Some of the additional facilities provided are:

- Teller System
- Credit Cards
- Debt Cards
- ATM Cards

- ***Teller System:*** under this system, a separate counter is opened through which transactions involving amounts not exceeding certain limit are settled.
- ***Credit Cards:*** credit cards are the cards made of plastic which carry a specimen of the holder's signature. They have certain information embossed/printed on them. When they are put in to a press, the information will be recorded on an invoice or other documents.

Credit cards are designed to avoid use of either cash or cheques and to give some measure of credit to the card holders. They are used in place of making cash payment for goods or services only in those establishments which have agreed to accept them. The credit card organizer makes payment to the establishment concerned and once a month sends an invoice to the credit card holder for all his purchases in the previous month.

- ***Debt Cards:*** debt card is more advanced than ATM and credit cards as it can be used at specified retail or departmental stores in addition to specified bank branches. It functions as both ATM card and, sometimes, credit cards. This system requires a terminal known as the ***point of sale terminal*** at every place of purchase.
- ***ATM Cards:*** under this system, banks issue ATM cards to the customers for transacting on the network. This card would contain some important data such as the name of the card holder, bank code, branch code, and personal identification number (PIN).

2.4.3 Role of Commercial Banks

Commercial banks engage in the following activities:

- Processing of payments by way of telegraphic transfer, internet banking, or other means.
- Issuing bank drafts and bank cheques.
- Accepting money on term of deposit.
- Lending money by overdraft, installment loan, or other means.
- Providing documentary and standby letter of credit, guarantees, performance bonds, securities underwriting commitments and other forms of off balance sheet exposures.
- Safe keeping of documents & other items in safe deposit boxes.
- Sales, distribution or brokerage, with or without advice, of: insurance, unit trusts and similar financial products as a "financial supermarket."
- Cash management and treasury.
- merchant banking and private equity financing
- Traditionally, large commercial banks also underwrite bonds, and make markets in currency, interest rates, and credit-related securities, but today large commercial banks usually have an investment bank arm that is involved in the mentioned activities.

Chapter Summary

A central bank, reserve bank, or monetary authority is a banking institution granted the exclusive privilege to lend a government its currency. A central bank is the apex bank in a country. It is called by different names in different countries reserve bank of India, The bank of England**,** The Federal Reserve System in America**,** Bank of France in France**,** National Bank of Ethiopia in Ethiopia**,** Risk bank in Sweden, etc.

Its primary responsibility is to maintain the stability of the national currency and money supply, but more active duties include controlling subsidized-loan interest rates, and acting as a "bailout" lender of last resort to the banking sector during times of financial crisis (private banks often being integral to the national financial system).

Functions of Central Bank include: Regulator of currency, Banker, Fiscal Agent and Advisor to the Government, Custodian of Cash reserve of Commercial Banks, Custody and Management of Foreign Exchange Reserves, Lender of Last resort, Clearing House for transfer and settlement, Controller of Credit and Other function

Monetary Policy refers to credit control measures adopted by central banks of a country. Monetary Policy is a policy employing central bank's control of the supply of money as an instrument for achieving the objective of general economic policy. Monitory Policy is any conscious action undertaken by the monetary authorities to change the quantity, availability, or cost of money.

Restrictive (Dear) Monetary Policy is used to overcome inflation or to curtail aggregate demand. Inflation results due to rising consumer demand for goods and services. It can be done by Sale of government securities, raise reserve requirement, raise discount rate and controlling consumer and business credit. Expansionary (Easy) Monitory Policy is used to overcome recession or dispersion/deflation. Deflation is a fall in consumer demand for goods and services. Expansionary actions are as follows: government purchases securities, encourage consumer and business credit and lower discount rate

Review Questions

Part –I- Multiple Choices: Choose the correct Answer from the given Alternatives

1. Of the following alternatives which one is **not** correct about central bank?
   A. It act as a bailout to the banking sector during times of financial crisis
   B. Central bank is the bank of issue**.**
   C. It controls the loan interest rates.
   D. All E. None
2. Identify the factor/s affect demand to bring inflation:
   A. Increase in disposable income of individuals
   B. Increase in money supply
   C. Expansion of the private sector
   D. Cheap monitory policy
   E. All
   F. F. None
3. The following are the main advantages of giving the monopoly right of note issue to the central bank, **but one:**
   A. It brings uniformity in the monitory system and currency circulation.
   B. Enhances instability in the monetary system and creates confidence among the public.
   C. It encourages political interference in the matter of note issue.
   D. The central bank can restrict or expand the supply of cash according to the requirement of the economy.
   E. A & B F. B & C
4. Identify the **incorrect** statement about the advantages of centralization of cash reserves in the central banks:
   A. It provides the basis of a larger and more elastic credit structure.
   B. It inspires confidence of the public in the banking system of the country.
   C. It enables the Central bank to provide financial accommodation to the commercial banks which are in temporary difficulties.
   D. The cash reserve with the central bank deteriorates the national welfare due to its idleness.

E. All but C F. None but B

5. Which one is unfamiliar with the remaining?
   A. Moral suasion
   B. Method of publicity
   C. Credit rationing
   D. Direct action
   E. Selective controls
6. Identify the difficulties in credit control policy of central bank:
   A. Existence of non-monetized sector
   B. Absence of developed money markets
   C. Large-scale government deficit financing
   D. Conflicting objectives
   E. All F. None
7. The following are objectives of credit control by central bank but one is **not**.
   A. To stabilize the internal price level
   B. To stabilize the rate of foreign exchange
   C. To protect the outflow of gold
   D. To have growth with stability
   E. None F. All
8. As a banker to the government, central bank performs _____ to the government **except**:
   A. Keeping of the deposits of the government and makes payment on behalf of the government.
   B. Buying and selling of foreign currency on behalf of the government.
   C. Payment of interest on government deposits.
   D. Maintenance of the accounts of the central as well as state government.
   E. All of the above

Part-II- Discussion Question

1. Explain information asymmetry and problems resulted from it.
2. List and briefly explain quantitative methods of credit control.
3. Discuss types of monitory policies and action that can be applied in both cases.
4. List and briefly discuss protective regulations of financial system.
5. Discuss functions of commercial banks.

CHAPTER THREE

OVERVIEW OF INVESTMENT

Learning Objectives:

After completing this chapter, you will be able to:

- Define investment and explain their features.
- Elaborate Investment Decision Process.
- Describe Investment Alternatives: Money market, fixed income, equity, and derivative
- Explain Indirect investment through different types of investment companies
- Analyzes Return and risks from investment
- Explain Asset Pricing Models Analysis

3.1 Introduction

Dear learners! This chapter introduces you about investment in General. Investment is the employment of funds on assets with aim of earning income or capital appreciation. Investment is putting money into something with the expectation of profit.

- Investment is the commitment of money or capital to purchase financial instruments or other assets in order to gain profitable returns in the form of interest, income, or appreciation of the value of the instrument.
- Investment is related to saving or deferring consumption.
- Investment is the current commitment of dollars for a period of time in order to derive future payments that will compensate the investor for:
    1. The time that funds are committed
    2. The expected rate of inflation and
    3. The uncertainty of the future payments
- An investment involves the choice by an individual or an organization such as a pension fund, after some analysis or thought, to place or lend money in a vehicle, instrument or asset, such as property, commodity, stock, bond, financial derivatives (e.g. futures or options), or the foreign asset denominated in foreign currency, that has certain level of risk and provides the possibility of generating returns over a period of time.

When an asset is bought or a given amount of money is invested in the bank, there is anticipation that some return will be received from the investment in the future. People invest to earn a return from savings due to their ***deferred consumption***. They want a rate of return that compensates them for the time, the expected rate of inflation, and the uncertainty of the return. This return, the investor's **required rate of return**.

3.2 Economic investment and financial investment

When a person invests his funds for the acquisition of some physical assets, say a building or equipment, such types of investments are called economic investments. Economic investment can be defined as the investment that contributes to the net additions to the capital stock of society. Capital stock refers to the goods and service that are used in the production of other goods and services. Hence, in short, it can be said that economic investments help to create physical assets directly.

When a person invests his funds for the acquisition of some financial assets like shares, debentures, insurance policies, mutual fund units etc, and such investments are known as financial investments. Financial investments also help in creating physical assets, but indirectly. Hence, economic investment and financial investment are inter-related. Increase in financial investment leads to increase in capital stock. When an investor invests in a financial asset, he indirectly invests in an underlying physical asset, since the financial investments are ultimately used in creation of physical assets.

3.3 Investment Decision Process: Important Consideration

The investment process involves a series of activities leading to the purchase of securities or other investment alternatives. The investment process can be divided into the following stages.

i. Setting of investment policy.
ii. Analysis and evaluation of investment vehicles.
iii. Formation of diversified investment portfolio.
iv. Portfolio revision

v. Measurement and evaluation of portfolio performance.

- ***Setting of investment policy***

It is the first and very important step in investment management process. *Investment policy* includes setting of investment objectives. The investment policy should have the specific objectives regarding the investment return requirement and risk tolerance of the investor. For example, the investment policy may define that the target of the investment average return should be 15 % and should avoid more than 10 % losses.

Identifying investor's tolerance for risk is the most important objective, because it is obvious that every investor would like to earn the highest return possible. But, because there is a positive relationship between risk and return, it is not appropriate for an investor to set his/her investment objectives as just "to make a lot of money". Investment objectives should be stated in terms of both risk and return.

The investment policy should also state other important constrains which could influence the investment management. Constrains can include any liquidity needs for the investor, projected investment horizon, as well as other unique needs and preferences of investor. The *investment horizon* is the period of time for investments. Projected time horizon may be short, long or even indefinite. Setting of investment objectives for individual investors is based on the assessment of their current and future financial objectives.

The required rate of return for investment depends on what sum today can be invested and how much investor needs to have at the end of the investment horizon. Wishing to earn higher income on his/her investments investor must assess the level of risk he/she should take and to decide if it is relevant for him or not. The investment policy can include the tax status of the investor. This stage of investment management concludes with the identification of the potential categories of financial assets for inclusion in the investment portfolio. The identification of the potential categories is based on the investment objectives, amount of investable funds, investment horizon, and tax status of the investor.

ii. Analysis and evaluation of investment vehicles

When the investment policy is set up, investor's objectives defined and the potential categories of financial assets for inclusion in the investment portfolio identified, the available investment

types can be analyzed. This step involves examining several relevant types of investment vehicles and the individual vehicles inside these groups. For example, if the common stock was identified as investment vehicle relevant for investor, the analysis will be concentrated to the common stock as an investment. The one purpose of such analysis and evaluation is to identify those investment vehicles that currently appear to be mispriced.

There are many different approaches how to make such analysis. Most frequently two forms of analysis are used:

- Technical analysis and
- Fundamental analysis.

Technical analysis involves the analysis of market prices in an attempt to predict future price movements for the particular financial asset traded on the market. This analysis examines the trends of historical prices and is based on the assumption that these trends or patterns repeat themselves in the future.

Fundamental analysis in its simplest form is focused on the evaluation of intrinsic value of the financial asset. This valuation is based on the assumption that intrinsic value is the present value of future flows from particular investment. By comparison of the intrinsic value and market value of the financial assets those which are under priced or overpriced can be identified. This step involves identifying those specific financial assets in which to invest and determining the proportions of these financial assets in the investment portfolio.

iii. *Formation of diversified investment portfolio: Investment portfolio*

It is the set of investment vehicles, formed by the investor seeking to realize its' defined investment objectives. In the stage of portfolio formation the issues of selectivity, timing and diversification need to be addressed by the investor. *Selectivity* refers to micro forecasting and focuses on forecasting price movements of individual assets. *Timing* involves macro forecasting of price movements of particular type of financial asset relative to fixed-income securities in general. *Diversification* involves forming the investor's portfolio for decreasing or limiting risk of investment.

Two techniques of diversification:

- ***Random diversification****:* when several available financial assets are put to the portfolio at random;
- ***Objective diversification:*** when financial assets are selected to the portfolio following investment objectives and using appropriate techniques for analysis and evaluation of each financial asset.

Investment management theory is focused on issues of objective portfolio diversification and professional investors follow settled investment objectives then constructing and managing their portfolios.

iv. *Portfolio revision:*

This step of the investment management process concerns the periodic revision of the three previous stages. This is necessary, because over time investor with long-term investment horizon may change his/her investment objectives and this, in turn means that currently held investor's portfolio may no longer be optimal and even contradict with the new settled investment objectives.

Investor should form the new portfolio by selling some assets in his portfolio and buying the others that are not currently held. It could be the other reasons for revising a given portfolio: over time the prices of the assets change, meaning that some assets that were attractive at one time may be no longer be so. Thus investor should sell one asset and buy the other more attractive in this time according to his/ her evaluation. The decisions to perform changes in revising portfolio depend, upon other things, in the transaction costs incurred in making these changes.

For institutional investors portfolio revision is continuing and very important part of their activity. But individual investor managing portfolio must perform portfolio revision periodically as well. Periodic reevaluation of the investment objectives and portfolios based on them is necessary, because financial markets change, tax laws and security regulations change, and other events alter stated investment goals.

v. Measurement and evaluation of portfolio performance

This is the last step in investment management process involves determining periodically how the portfolio performed, in terms of not only the return earned, but also the risk of the portfolio. For evaluation of portfolio performance appropriate measures of return and risk and benchmarks are needed. *A benchmark* is the performance of predetermined set of assets, obtained for comparison purposes. The benchmark may be a popular index of appropriate assets – stock index, bond index. The benchmarks are widely used by institutional investors evaluating the performance of their portfolios.

It is important to point out that investment management process is continuous process influenced by changes in investment environment and changes in investor's attitudes as well. Market globalization offers investors new possibilities, but at the same time investment management become more and more complicated with growing uncertainty.

3.4 Investment Alternatives/Avenues

There are different investment alternatives. Those are:

i. Money Market

Money markets include short - term, highly liquid, relatively low risk debt instruments sold by governments, financial institutions, and corporations to investors with temporary excess funds to invest. This market is dominated by financial institutions, particularly banks, and governments. The maturities of money market instruments range from one day to one year and are often less than 90 days.

The money market is a subsector of the fixed-income market. It consists of very short-term debt securities that usually are highly marketable. Many of these securities trade in large denominations, and so are out of the reach of individual investors.

ii. Debentures/Bonds/Fixed-Income Investments

Fixed-Income Investments have a contractually mandated payment schedule. Their investment Contracts promise specific payments at predetermined times, although the legal force behind the promise varies and this affects their risks and required returns. At one extreme, if the issuing firm does not make its payment at the appointed time, creditors can declare the issuing firm bankrupt. In other cases (for example, income bonds), the issuing firm must make payments only if it earns

profits. In yet other instances (for example, preferred stock), the issuing firm does not have to make payments unless its board of directors votes to do so.

Investors who acquire fixed-income securities (except preferred stock) are really lenders to the issuers. Specifically, you lend some amount of money, the *principal*, to the borrower. In return, the borrower promises to make periodic interest payments and to pay back the principal at the maturity of the loan.

In most cases, such as with a traditional bond, the amount and date of each payment are known in advance. Some of these securities deviate from the traditional - bond format, but all fixed - income securities have a specified payment or repayment schedule — they must mature at some future date.

Technically, fixed income securities include: *Treasury bonds, Agency bonds, municipal bonds, corporate bonds, asset - backed securities, mortgage - related bond.*

iii. Equity Securities

Unlike fixed income securities, equity securities represent an ownership interest in a corporation. These securities provide a residual claim after payment of all obligations to fixed -income claims on the income and assets of a corporation. There are two forms of equities: preferred stock and common stock. Investors are primarily interested in common stocks.

A. Preferred Stock: Although preferred stock 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 corporate bankruptcy. Instead, the dividends owed simply cumulate, and the common stockholders may not receive any dividends until the preferred stockholders have been paid in full.

In the event of bankruptcy, preferred stockholders claims to the firm's assets have lower priority than those of bondholders, but higher priority than those of common stockholders. Most preferred stock pays a fixed dividend. Therefore, it is in effect perpetuity, providing a level cash flow indefinitely.

Although technically an equity security, preferred stock is known as a hybrid security because it resembles both equity and fixed - income instruments. As an equity security, preferred stock has an infinite life and pays dividends. Preferred stock resembles fixed – income securities in that the dividend is fixed in amount and known in advance, providing a stream of income very similar to that of a bond. The difference is that the stream continues forever, unless the issue is called or otherwise retired (most preferred is callable). The price fluctuations in preferred often exceed those in bonds.

B. Common Stock: *Common stocks,* also known as *equity securities* or **equities,** represent ownership shares in a corporation. **Common stock** represents the ownership interest of corporations, or the equity of the stockholders, and we can use the term *equity securities* interchangeably.

Characteristics of Common Stock

The two most important characteristics of common stock as an investment are its **residual Claim** and **limited liability** features.

a. Residual claim means that stockholders are the last in line of all those who have a claim on the assets and income of the corporation. In a liquidation of the firm's assets the shareholders have a claim to what is left after all other claimants such as the tax authorities, employees, suppliers, bondholders, and other creditors have been paid. For a firm not in liquidation, shareholders have claim to the part of operating income left over after interest and taxes have been paid. Management can either pay this residual as cash dividends.

b. Limited liability means that the most shareholders can lose in the event of failure of the corporation is their original investment. Unlike owners of unincorporated businesses, whose creditors can lay claim to the personal assets of the owner (house, car, furniture), corporate shareholders may at worst have worthless stock. They are not personally liable for the firm's obligations.

iv. Derivative Markets

Derivatives mean indirect investments in the assets. Derivatives market is growing at a tremendous speed. The important benefit of investing through derivatives is that it

leverages the investment, manages the risk and helps in doing speculation. Derivatives include:

- Forwards
- Futures
- Options
- Swaps etc

One of the most significant developments in financial markets in recent years has been the growth of futures, options, and related derivatives markets. These instruments provide payoffs that depend on the values of other assets such as commodity prices, bond and stock prices, or market index values. For this reason these instruments sometimes are called **derivative assets,** or **contingent claims.** Their values derive from or are contingent on the values of other assets.

v. Mutual Funds:

Mutual funds are an easy and tension free way of investment and it automatically diversifies the investments. Mutual fund is an investment mix of debts and equity and ratio depending on the scheme. They provide with benefits such as professional approach, benefits of scale and convenience. In mutual funds also, we can select among the following types of portfolios:

- Equity Schemes
- Debt Schemes
- Balanced Schemes
- Sector Specific Schemes etc.

vi. Real Estate:

Every investor has some part of their portfolio invested in real assets. Almost every individual and corporate investor invests in residential and office buildings respectively. Apart from these, others include:

- Agricultural Land
- Semi-Urban Land
- Commercial Property
- Raw House
- Farm House etc

vii. Precious Objects:

Precious objects include gold, silver and other precious stones like diamond. Some artistic people invest in art objects like paintings, ancient coins etc.

viii. Non Marketable Securities:

Non marketable securities are those securities which cannot be liquidated in the financial markets. Such securities include:

- ✓ Bank Deposits
- ✓ Post Office Deposits
- ✓ Company Deposits
- ✓ Provident Fund Deposits

3.5 Indirect investment through different types of Investment Companies

Investment companies are financial intermediaries that collect funds from individual investors and invest those funds in a potentially wide range of securities or other assets. Pooling of assets is the key idea behind investment companies. Each investor has a claim to the portfolio established by the investment company in proportion to the amount invested. These companies thus provide a mechanism for small investors to "team up" to obtain the benefits of large-scale investing.

The investment alternatives described so far are individual securities that can be acquired from a government entity, a corporation, or another individual. However, rather than directly buying an individual stock or bond issued by one of these sources, you may choose to acquire these investments indirectly by buying shares in an investment company, also called a mutual fund, that owns a portfolio of individual stocks, bonds, or a combination of the two. Specifically, an investment company sells shares itself and uses the proceeds of this sale to acquire bonds, stocks, or other investment instruments. As a result, an investor who acquires shares in an investment company is a partial owner of the investment company's portfolio of stocks or bonds.

Investment companies perform several important functions for their investors. Some of these functions are:

i. *Record keeping and administration.* Investment companies issue periodic status reports, keeping track of capital gains distributions, dividends, investments, and redemptions, and they may reinvest dividend and interest income for shareholders.
ii. *Diversification and divisibility.* By pooling their money, investment companies enable investors to hold fractional shares of many different securities. They can act as large investors even if any individual shareholder cannot.
iii. *Professional management.* Many, but not all, investment companies have full-time staffs of security analysts and portfolio managers who attempt to achieve superior investment results for their investors.
iv. *Lower transaction costs.* Because they trade large blocks of securities, investment companies can achieve substantial savings on brokerage fees and commissions.

3.6 Direct Versus Indirect Investing

Investors can use direct or indirect type of investing. *Direct investing* is realized using financial markets and *indirect investing* involves financial intermediaries.

The primary difference between these two types of investing is that applying direct investing, investors buy and sell financial assets and manage individual investment portfolio themselves. Consequently, investing directly through financial markets, investors take all the risk and their successful investing depends on their understanding of financial markets, its fluctuations and on their abilities to analyze and to evaluate the investments and to manage their investment portfolio.

Contrary, using indirect type of investing investors are buying or selling financial instruments of financial intermediaries (financial institutions) which invest large pools of funds in the financial markets and hold portfolios. Indirect investing relieves investors from making decisions about their portfolio. As shareholders with the ownership interest in the portfolios managed by financial institutions (investment companies, pension funds, insurance companies, commercial banks) the investors are entitled to their share of dividends, interest and capital gains generated and pay their share of the institution's expenses and portfolio management fee. The risk for investor using indirect investing is related more with the credibility of chosen institution and the professionalism of portfolio managers.

3.7 Measures of Return and Risk of Investment

Investment decisions are influenced by various motives. Most investors, however, are largely guided by the pecuniary motive of earning a return on their investment. For earning returns investors have to almost invariably bear some risk. In general, risk and return go hand in hand. These are the two sides of investment coin.

Investment decisions, therefore, involve a tradeoff between risk and return. Since risk and return are central to investment decisions, we must clearly understand what risk and return are and how they should be measured.

Investment return

Return is the primary motivating force that drives investment. It represents the reward for undertaking investment. Since the game if investing is about returns (after allowing for risk), measuring of realized (historical) returns is necessary to assess how well the investment manager has done. In addition, historical returns are often used as an important input in establishing future returns. The return of an investment consists of two components.

- **Current return:** Current return is measured as the periodic income in relation to the beginning price of the investment. Ex: Dividend or interest.
- **Capital return:** The return which is reflected on the price change called the capital return. It is simply the price appreciation or deprecation divided by the beginning price of the asset. For assets like equity stocks, the capital return predominates. Thus, the total return is defined as,

Total return = Current return + Capital return

Note: *The current return can be zero or positive, whereas the capital return can be negative, zero or positive.*

Investment risk

Any investor, before investing his investable wealth in the stock, analyses the risk associated with the particular stock. The actual return he receives from a stock may vary from his expected return and the risk is expected in terms of variability of return.

The dictionary meaning of risk is the possibility of loss or injury. In risk, the probable outcomes of all possible events are listed. Once the events are listed subjectively, the derived probabilities can be assigned to the entire possible events. Risk consists of two components:

Systematic risk: A systematic risk is one that influences a large number of assets, each to a greater or lesser extent. Because systematic risks have market wide effects, they are sometimes called *market risks.* it is caused by the factors external to the particular company and uncontrollable by the company. The systematic risk affects the entire market. Ex: - stock market volatility, economic conditions, political situations and sociological changes, Uncertainties about general economic conditions, such as GDP, interest rates, or inflation, are examples of systematic risks. These conditions affect nearly all companies to some degree. An unanticipated increase, or surprise, in inflation, for example, affects wages and the costs of the supplies that companies buy; it affects the value of the assets that companies own; and it affects the prices at which companies sell their products. Forces such as these, to which all companies are susceptible, are the essence of systematic risk.

Unsystematic risk: An unsystematic risk is one that affects a single asset or a small group of assets. Because these risks are unique to individual companies or assets, they are sometimes called *unique* or *asset-specific risks.* We will use these terms interchangeably. It is unique and peculiar to a firm or an industry. Unsystematic risk stems from managerial inefficiency, technological change in the production process, availability of raw material, changes in the consumer preference and labor problems.

Total Risk = Systematic Risk + Non-Systematic Risk

Measuring Expected (ex ante) Investment Return and Risk

Expected rate of return: Investors estimate future rate of return based on historical return and by assigning probability to each year rate of return. The expected rate of return is the weighted average of all possible returns multiplied by their respective probabilities. In symbols,

$$\mathbf{E(R) = \sum_{i=1}^{n} RiPi}$$

Where: E(R) = expected return R_i = return from the stock at year i

P_i = probability of return at year i n = number of possible year

Expected risk: Risk refers to the dispersion of a variable. It is commonly measured by the variance or the standard deviation. The variance of the probability distribution is the sum of the squares of the deviations of the actual returns from the expected return, weighed by the associated probabilities. In symbols,

$$\mathbf{\sigma^2 = \sum P_i (R_i - E(R))^2}$$

Where: σ^2 =variance

R_i =return for the i^{th} possible outcome

P_i =probability associated with the i^{th} possible outcome

E(R) = expected return

Since variance is expressed as squared returns, it is somewhat difficult to grasp. So its square root, the standard deviation, is employed as an equivalent measure.

$\sigma = (\sigma 2)^{1/2}$

Where: σ = standard deviation

Example 1: The table below provides a probability distribution for the returns on stocks **A** and **B**. compute expected return and expected risk by using variance and standard deviation.

Year	Probability	Return on Stock A	Return on Stock B
1	20%	5%	50%
2	30%	10%	30%
3	30%	15%	10%
4	20%	20%	-10%

Required: Compute expected return and risk

Solution: Expected return for stock A and B calculated as follows:

- $E[R]_A = .2(5\%) + .3(10\%) + .3(15\%) + .2(20\%) = 12.5\%$
- $E[R]_B = .2(50\%) + .3(30\%) + .3(10\%) + .2(-10\%) = 20\%,$

Based on expected return stock B will perform well than stock A, so investment manager select and invest on stock B to get future better return.

Variance and Standard deviation on Stocks A and B:

Stock A =>

$$\sigma_A^2 = .20(.05 - .125)^2 + .30(.10 - .125)^2 + .30(.15 - .125)^2 + .20(.20 - .125)^2 = .00263$$

$$\sigma_A = \sqrt{.00263} = .0512 = 5.12\%$$

Stock B =>

$$\sigma_B^2 = .20(.50 - .20)^2 + .30(.30 - .20)^2 + .30(.10 - .20)^2 + .20(-.10 - .20)^2 = .04200$$

$$\sigma_B = \sqrt{.04200} = .2049 = 20.49\%$$

Based on expected risk, investor may select the second stock to minimize risk. Generally, the above result shows that as return increase risk also increase and investors select security based on their risk tolerance.

Example 2: The Probability distributions of rate of return on ABC foods stocks and XYZ shipping stocks and rate of return is given on table below. Compute expected rate of return and risk (variance and standard deviation) on ABC foods stocks and XYZ shipping stocks. Which asset is best based on return and risk?

State of the economy	probability of occurrence	ABC foods Rate of return (%)	XYZ shipping Rate of return (%)
Boom	0.30	16	40
Normal	0.50	11	10
Recession	0.20	6	-20

3.8 Capital Asset Pricing Model (CAPM) Analysis

The CAPM predicts the expected return of a security given:

- The expected return on the market
- The security's beta, and
- The risk free rate.

- The introduction of a risk free asset changes the risk of a portfolio because risk free securities have zero covariance and zero correlation with risky assets. Risk is normally reduced when risk-free securities are introduced. It is directly related to the weight allocation in risky assets and inversely related to the weight allocation in risk-free assets.
- Each investor will allocate to the market portfolio and the risk free asset in accordance with own risk tolerance. All investors, however, are assumed to be rational and therefore will all hold the identical market portfolio, but in different weights. The CAPM model also implies that no other risky portfolio other than the market portfolio will produce greater utility.

Because systematic risk is the crucial determinant of an asset's expected return, we need some way of measuring the level of systematic risk for different investments. The specific measure we will use is called the **beta coefficient**, for which we will use the Greek symbol. A beta coefficient, or beta for short, tells us how much systematic risk a particular asset has relative to an average asset. By definition, an average asset has a beta of 1.0 relative to itself. An asset with a beta of .50, therefore, has half as much systematic risk as an average asset; an asset with a beta of 2.0 has twice as much.

The CAPM predicts the expected return of a security given the expected return on the market, the security's beta, and the risk free rate. The basic idea behind the capital asset pricing model is that investors expect a reward for both waiting and worrying. The greater the worry, the greater the expected return. If you invest in a risk-free Treasury bill, you just receive the rate of interest. That's the reward for waiting. When you invest in risky stocks, you can expect an extra return or risk premium for worrying. The capital asset pricing model states that this risk premium is equal to the stock's beta times the market risk premium. Therefore,

Expected return on stock = risk-free interest rate + beta (market risk premium)

$$E(R) = Rf + \beta\,(Rm - Rf)$$

How well does the CAPM work in practice?

Example: The risk-free rate is 7% and the expected return on the market is 15%. If Oliver Company has a beta of 1.2 calculates the expected return on Oliver Company's stock.

$$E(R) = Rf + \beta(\,Rm - Rf\,)$$

$$E(R) = .07+1.2(.15-.07) = .166 \text{ or } 16.6\%$$

Portfolio Beta Calculation

A portfolio's beta is the weighted average of the individual betas of the securities in the portfolio.

Example: Suppose a portfolio contains three securities with weights of 50%, 25% and 25% respectively. The beta of security A is 1.25. Security B's beta is 0.95 and security C's beta is 1.05. Calculate the beta of the portfolio.

Portfolio Beta = (0.5*1.25) + (0.25*0.95) + (0.25*1.05) = 1.125

Chapter Summary

Investment is the employment of funds on assets with aim of earning income or capital appreciation. Investment is putting money into something with the expectation of profit. Investment is the commitment of money or capital to purchase financial instruments or other assets in order to gain profitable returns in the form of interest, income, or appreciation of the value of the instrument. Investment is related to saving or deferring consumption.

When a person invests his funds for the acquisition of some physical assets, say a building or equipment, such types of investments are called economic investments. Economic investment can be defined as the investment that contributes to the net additions to the capital stock of society. When a person invests his funds for the acquisition of some financial assets like shares, debentures, insurance policies, mutual fund units etc, and such investments are known as financial investments. Financial investments also help in creating physical assets, but indirectly. Hence, economic investment and financial investment are inter-related. Increase in financial investment leads to increase in capital stock. When an investor invests in a financial asset, he indirectly invests in an underlying physical asset, since the financial investments are ultimately used in creation of physical assets. The investment process involves a series of activities leading to the purchase of securities or other investment alternatives. The investment process can be divided into the following stages: setting of investment policy, analysis and evaluation of investment vehicles, formation of diversified investment portfolio, Portfolio revision and measurement and evaluation of portfolio performance.

Investment companies are financial intermediaries that collect funds from individual investors and invest those funds in a potentially wide range of securities or other assets. Pooling of assets is the key idea behind investment companies. Each investor has a claim to the portfolio established by the investment company in proportion to the amount invested. These companies thus provide a mechanism for small investors to "team up" to obtain the benefits of large-scale investing. Investors can use direct or indirect type of investing. Direct investing is realized using financial markets and indirect investing involves financial intermediaries. The primary difference between these two types of investing is that applying direct investing, investors buy and sell financial assets and manage individual investment portfolio themselves.

Review Questions

Part-II- Multiple Choices: Choose the correct Answer from the given Alternatives

1. Of the following alternatives all are true about investment **except:**
   A) It is the current commitment of funds for a period of time to derive future payments.
   B) It is commitment of capital for the purchase of financial assets to generate profit.
   C) Investment is related to current consumption.
   D) It is employment of funds on assets with the aim of earning return.

2. Identify the return properly matched to its investment alternative/s:

   A) Interest income ⟶ Preferred stock, capital gain⟶ common stock, dividend⟶ bond
   B) Capital gain ⟶ bond, dividend⟶ preferred stock, interest income ⟶common stock
   C) Capital gain⟶ common stock & preferred stock, dividend⟶ preferred & common stock, interest income ⟶bond.
   D) Capital gain⟶ preferred stock, interest income ⟶common stock, dividend⟶ preferred stock & bond

3. Return from investment at least should compensate the investor for:

   A) The uncertainty of future payment.
   B) The expected rate of inflation.
   C) The time that funds are committed D. All E. Except A

4. The following is/are function/s of investment companies that they perform to their customers but one:

   A. Diversification and divisibility
   B. Professional management
   C. Inflated transaction cost
   D. Record keeping and administration

5. Of the following, one is not the element of systematic risk. Identify.

   A. Sociological changes
   B. Shortage of raw material supply
   C. Interest rate
   D. Change in gross domestic product.

Part- II-Discussion Question

1. List the investment decision phases and discuss each phase briefly**.**
2. Explain risk, return and their components
3. List at least three investment alternatives and discuss each briefly.

CHAPTER FOUR

SECURITY MARKET AND TRADING

Learning Objectives

At the end of this chapter, you will be able to:

- Define what security and security market mean
- Explain the concept of financial market
- Identify Secondary Market
- Explain stock exchange
- List the role of stock exchange
- Explain challenges of Least Developed Countries (LDCs) to develop stock exchange
- Describe the third and the fourth markets
- Discuss the concept foreign exchange market

4.1 Introduction

Dear readers! This chapter introduces you about security market and trading. In this chapter security market and their types, stock exchange and other issues related to capital market is discussed. Security is a financial instrument that represents an ownership position in a publicly-traded corporation (stock), a creditor relationship with governmental body or a corporation (bond), or rights to ownership as represented by an option. A security is a fungible, negotiable financial instrument that represents some type of financial value. The company or entity that issues the security is known as the issuer.

For example, the issuer of a bond issue may be a municipal government raising funds for a particular project. Investors of securities may be retail investors - those who buy and sell securities on their own behalf and not for an organization - and wholesale investors - financial institutions acting on behalf of clients or acting on their own account. Institutional investors include investment banks, pension funds, managed funds and insurance companies.

Securities are typically divided into debt securities and equities. A debt security is a type of security that represents money that is borrowed that must be repaid with terms that define the amount borrowed, interest rate and maturity/renewal date. Debt securities include government

and corporate bonds, certificates of deposit (CDs), and collateralized securities. Equities represent ownership interest held by shareholders in a corporation, such as a stock. Unlike holders of debt securities who generally receive only interest and the repayment of the principal, holders of equity securities are able to profit from capital gains.

In the United States, the U.S. Securities and Exchange Commission (SEC) and other self-regulatory organizations (such as the Financial Industry Regulatory Authority) regulate the public offer and sale of securities.

4.2 Security Market

Security market is an exchange where security trading is conducted by professional stockbrokers. It is an economic institute within which takes place the sale and purchase transactions of securities between subjects of the economy, on the basis of demand and supply. Also we can say that securities market is a system of interconnection between all participants (professional and nonprofessional) that provide effective conditions:

- To buy and sell securities,
- To attract new capital by means of issuance new security (securitization of debt),
  To transfer real asset into financial asset,
- To invest money for short or long term periods with the aim of deriving profitability.
- Commercial function (to derive profit from operation on this market)
- Price determination (demand and supply balancing, the continuous process of price movements guarantees to state correct price for each security so the market corrects mispriced securities).
- Informative function (market provides all participants with market information about participants and traded instruments).
- Regulation function (securities market creates the rules of trade, contention regulation, priorities determination)

4.2.1 Functions of the Security Markets

Transfer of ownership (securities markets transfer existing stocks and bonds from owners who no longer desire to maintain their investments to buyers who wish to increase those specific investments. There is no net change in the number of securities in existence, for there is only a transfer of ownership. The role of securities market is to facilitate this transfer of ownership.

This transfer of securities is extremely important, for securities holders know that a secondary market exists in which they may sell their securities holdings. The ease with which securities may be sold and converted into cash increases the willingness of people to hold stocks and bonds and thus, increases the ability of firms to issue securities). Insurance (hedging) of operations though securities market (options, futures, etc.)

QUICK CHECK

What are the effective conditions provided by the security market to both professional and non-professional participants of the market and the specific functions of security

4.3 Financial Market

Financial market is a market in which financial assets (securities) such as stocks and bonds can be purchased or sold. Funds are transferred in financial markets when one party purchases financial assets previously held by another party. Financial markets facilitate the flow of funds and thereby allow financing and investing by households, firms, and government agencies.

Financial markets are crucial for firms and investors, because first, they facilitate the transfer of funds between the investors who wish to invest and firms that need to obtain funds. Second, they can accommodate the needs of firms that temporarily have excess funds and wish to invest those funds. Third, they can accommodate the needs of investors who wish to liquidate their investments in order to spend the proceeds or invest them in alternative investments. Financial market includes primary market, secondary market, third market and fourth market.

4.3.1 Primary Market

Primary market is a financial market in which securities are initially issued and the only market in which the issuer is directly involved in the transaction. Primary market is part of the financial market that deals with the issuance of new securities (debt or equity). It is the market where the securities are sold for the first time. It is also called the new issue market (NIM). The process of selling new issues to investors is called underwriting.

4.3.1.1 Features of Primary Market

Securities are issued by the company directly to investors. Company receives the money and issues new security certificates to the investors. Primary issues are used by companies for the purpose of setting up new business or for expanding or modernizing the existing business. The primary market performs the crucial function of facilitating capital formation in the economy.

4.3.1.2. Methods of Issuing Securities in the Primary Market

There are three methods of issuing securities in the primary market. These are:

i. Initial public offering (IPO);
ii. Rights issue (for existing companies);
iii. Private Placement/Preferential issue.

i. Initial Public offering (IPO):

Initial public offering is the most common method of raising capital by new companies through sale of securities to the public. It is also referred to simply as a "public offering" or "flotation," is when a company issues common stock or shares to the public for the first time. An IPO is the process by which a private company transforms itself into a public company. The company that needs to issues securities has to seek approval from various regulators. It also has to issue a prospectus.

By law, public offerings of debt and equity must be registered with the Securities and Exchange Commission (SEC) in the case of U.S.A. Registration requires the firm to disclose a great deal of information before selling any securities. The accounting, legal, and selling costs of public offerings can be considerable.

Prospectus is a document that contains information relating to the various aspects of the issuing company. The general details of prospectus include**:**

- ✓ The company's name and address of its registered office,
- ✓ The name and address of the company's promoters, managing director, director, company secretary, legal adviser, auditors of the company, etc.
- ✓ The date of opening and closing subscription list.
- ✓ Contents of Articles,

- ✓ The name and address of underwriters,
- ✓ Material details regarding the project, i.e. location, plant and machinery, technology, performance guarantee, infrastructure, etc, nature of products, marketing set-up, past performance, future prospects

QUICK CHECK

Explain the procedures of how a new share company issues shares to the public for the first time in Ethiopia.

ii. Rights Issue (Preemptive Right)

Preemptive right is a right of existing shareholders in which new shares must be offered to existing shareholders first, in such a way that they can maintain proportional ownership in the corporation. When an existing company wants to raise capital, securities are first offered to the existing shareholders on a pre-emptive basis.

iii. Private Placement/Preferential Issue.

Private placement is a way of selling securities privately to a small group of investors. Partly to avoid the various regulatory requirements and the expense of public offerings, debt and equity are often sold privately to large financial institutions such as life insurance companies or mutual funds. Such private placements do not have to be registered with the SEC and do not require the involvement of underwriters (investment banks that specialize in selling securities to the public).

In private placement, the firm designs an issue and sells it to a small group of institutions. It allows firm to sell securities to a small group of institutional investors without extensive registration. Lower issuing costs than public offering. Presently, a large percent of high-yield bonds are issued in private placement ways.

4.3.2 Secondary market (After Market)

Secondary market is a financial market in which securities that are already owned (those that are not new issues) are traded. The secondary market, also known as the **aftermarket**, is the financial market where ***previously issued*** securities and financial instruments such as stock, bonds, options, and futures are bought and sold.

The secondary markets are those in which these securities are bought and sold after the original sale. A secondary market transaction involves one owner or creditor selling to another. It is therefore, the secondary markets that provide the means for transferring ownership of corporate securities. Although a corporation is only directly involved in a primary market transaction (when it sells securities to raise cash), the secondary markets are still critical to large corporations. The reason is that investors are much more willing to purchase securities in a primary market transaction when they know that those securities can later be resold if desired. Generally, such securities are quoted in the stock exchange and it provides a continuous and regular market for buying and selling of securities.

4.3.2.1 Functions of Secondary Markets

i. Benefit to the Issuers

- ✓ Provide regular information about the value of the security. For example, higher value of shares indicates- higher goodwill (public image) from the investors' point of view, good management of funds raised from earlier primary markets by the firm.
- ✓ It helps investors feel confidence that they can shift from one financial asset to another (liquidity). If investors lack confidence of transferring their financial asset to another, it would harm potential investors in the way that:
    - Issuers would be unable to sell securities at all, or
    - They have to pay a high rate of return b/s investors would demand greater compensation from the expected illiquidity of the securities

ii. Benefits to Investors (buyers) or Security Holders

- ✓ Secondary market offers them ***liquidity*** for their assets as well as information about their assets fair market values. They can sell their shares at a readily available market
- ✓ Secondary market brings together many interested parties and so can reduce the costs of searching for likely buyers and sellers of assets.
- ✓ By keeping the cost of both searching and transacting low, secondary market encourages investors to purchase financial assets.

4.3.2.2 Trading Locations of Secondary Market

a. **Physical locations:** Transactions are carried out on a trading floor, by a method known as ***open outcry***. This type of auction is used in ***stock exchanges*** and commodity exchanges where traders may enter "verbal" bids and offers simultaneously
b. **Over the counter trading (OTC):** The other type of stock exchange is a virtual kind, composed of a network of computers where trades are made electronically via traders.

QUICK CHECK

What is the concept of secondary market, its functions and the possible trading locations of secondary market?

4.3.2.3. Stock Exchange

Stock Exchange (also called *Stock Market* or *Share Market*) is one important constituent of capital market. Stock Exchange is an organized market for the purchase and sale of industrial and financial security. It is convenient place where trading in securities is conducted in systematic manner i.e. as per certain rules and regulations. It performs various functions and offers useful services to investors and borrowing companies. It is an investment intermediary and facilitates economic and industrial development of a country.

A stock exchange is a corporation or mutual organization which provides trading facilities for stock brokers to trade in stocks and other securities. Simply put, stock exchanges are open markets that trade in financial assets.

Stock exchange is an organized market for buying and selling corporate and other securities. Here, securities are purchased and sold out as per certain well-defined rules and regulations. It provides a convenient and secured mechanism or platform for transactions in different securities. Such securities include shares and debentures issued by public companies which are duly listed at the stock exchange and bonds and debentures issued by government, public corporations and municipal and port trust bodies.

Stock exchanges are indispensable for the smooth and orderly functioning of corporate sector in a free market economy. A stock exchange need not be treated as a place for speculation or a

gambling den. It should act as a place for safe and profitable investment, for this, effective control on the working of stock exchange is necessary. This will avoid misuse of this platform for excessive speculation, scams and other undesirable and anti-social activities.

Stocks that are traded on an exchange are said to be ***listed stocks***. That is, these stocks are individually approved for trading on the exchange by the exchange. To be listed, a company must apply and satisfy requirements established by the exchange.

❖ Listing Requirements:

These are the set of conditions imposed by a given stock exchange upon companies that want to be listed on that exchange. Such conditions sometimes include

- minimum number of shares outstanding,
- minimum market capitalization, and
- minimum annual income

Companies have to meet the requirements of the exchange in order to have their stocks and shares listed and traded there, but **requirements vary by stock exchange. For example:**

- **Bombay Stock Exchange:**

Bombay stock exchange (BSE) has requirements for:

- a minimum market capitalization of *Rs.250 Million and*
- *Minimum public float equivalent to Rs 100 million.*
- **Market capitalization/value of the total shares** equals to the share price times the number of shares outstanding of a public company. Capitalization could represent the public opinion of a company's net worth and is a determining factor in stock valuation.

- ***London Stock Exchange*:**

The main market of the London Stock Exchange has requirements for:

- a *minimum market capitalization or price of all shares of £700,000,*
- *three years of audited financial statements,*
- *Minimum public float (25 per cent) and sufficient working capital for at least 12 months from the date of listing*.

- **NASDAQ (National Association, Securities, Dealer, Automated, Quotation System) Stock Exchange:**

To be listed on the **NASDAQ** a company must:

- have issued at least 1.25 million shares of stock worth at least $70 million and,
- have earned more than $11 million over the last three years.

- **New York Stock Exchange:**

To be listed on the New York Stock Exchange (NYSE) a company must:

- have issued at least a million shares of stock worth $100 million and
- Have earned more than $10 million over the last three years.

4.3.2.3.1 Role of Stock Exchange

a. Effective Mobilization of savings

Stock exchanges provide organized market for individual as well as institutional investors. They regulate the trading transactions with proper rules and regulations in order to ensure investor's protection. This helps to consolidate the confidence of investors and small savers. Thus, stock exchanges attract small savings especially of large number of investors in the capital market.

b. Promoting Capital formation

The funds mobilized through capital market are provided to the industries engaged in the production of various goods and services useful for the society. This leads to capital formation and development of national assets. The savings mobilized are channelized into appropriate avenues of investment.

c. Wider Avenues of investment

Stock exchanges provide a wider avenue for the investment to the people and organizations with investible surplus. Companies from diverse industries like Information Technology, Steel, Chemicals, Fuels and Petroleum, Cement, Fertilizers, etc. offer various kinds of equity and debt securities to the investors. Online trading facility has brought the stock exchange at the doorsteps of investors through computer network. Diverse type of securities is made available in the stock exchanges to suit the varying objectives and notions of different classes of investor. Necessary information from stock exchanges available from different sources guides the investors in the effective management of their investment portfolios.

d. Liquidity of investment

Stock exchanges provide liquidity of investment to the investors. Investors can sell out any of their investments in securities at any time during trading days and trading hours on stock exchanges. Thus, stock exchanges provide liquidity of investment. The on-line trading and online settlement of demand securities facilitates the investors to sell out their investments and realize the proceeds within a day or two. Even investors can switch over their investment from one security to another according to the changing scenario of capital market.

e. Investment priorities

Stock exchanges facilitate the investors to decide his investment priorities by providing him the basket of different kinds of securities of different industries and companies. He can sell stock of one company and buy a stock of another company through stock exchange whenever he wants. He can manage his investment portfolio to maximize his wealth.

f. Investment safety

Stock exchanges through their by-laws, Securities and Exchange Board of India (SEBI) guidelines, transparent procedures try to provide safety to the investment in industrial securities. Government has established the National Stock Exchange (NSE) and Over the Counter Exchange of India (OTCEI) for investors' safety. Exchange authorities try to curb speculative practices and minimize the risk for common investor to preserve his confidence.

g. Wide Marketability to Securities

Online price quoting system and online buying and selling facility have changed the nature and working of stock exchanges. Formerly, the dealings on stock exchanges were restricted to its head quarters. The investors across the country were absolutely in dark about the price fluctuations on stock exchanges due to the lack of information. But today due to Internet, on line quoting facility is available at the computers of investors. As a result, they can keep track of price fluctuations taking place on stock exchange every second during the working hours. Certain T.V. Channels like CNBC are fully devoted to stock market information and corporate news. Even other channels display the on line quoting of stocks. Thus, modern stock exchanges backed up by internet and information technology provide wide marketability to securities of the industries. Demat facility has revolutionized the procedure of transfer of securities and facilitated marketing.

h. Financial resources for public and private sectors

Stock Exchanges make available the financial resources available to the industries in public and private sector through various kinds of securities. Due to the assurance of liquidity, marketing support, investment safety assured through stock exchanges, the public issues of securities by these industries receive strong public response (resulting in oversubscription of issue).

i. Funds for Development Purpose

Stock exchanges enable the government to mobilize the funds for public utilities and public undertakings which take up the developmental activities like power projects, shipping, railways, telecommunication, dams & roads constructions, etc. Stock exchanges provide liquidity, marketability, price continuity and constant evaluation of government securities.

j. Indicator of Industrial Development

Stock exchanges are the symbolic indicators of industrial development of a nation. Productivity, efficiency, economic-status, prospects of each industry and every unit in an industry is reflected through the price fluctuation of industrial securities on stock exchanges. Stock exchange sensex and price fluctuations of securities of various companies tell the entire story of changes in industrial sector.

k. Barometer of National Economy

Stock exchange is taken as a Barometer of the economy of a country. Each economy is economically symbolized (indicators) by its most significant stock exchange. New York Stock Exchange, London Stock Exchange, Tokyo Stock Exchange and Bombay Stock Exchange are considered as barometers of U.S.A, United Kingdom, Japan and India respectively. At both national and international level these stock exchanges represent the progress and conditions of their economies. Thus, stock exchange serves the nation in several ways through its diversified economic services which include imparting liquidity to investments, providing marketability, enabling evaluation and ensuring price continuity of securities.

QUICK CHECK

What is stock exchange? What is the benefit of stock exchange? Explain the listing requirements and the role of stock exchange. Identify by yourself the best known examples of the world stock exchange

4.3.2.3.2 Conditions or prerequisites to Develop Stock Exchange

1. ***Stable Political Environment:*** *Political uncertainty is detrimental to any investment*
2. ***Stable Macroeconomic Conditions***: Macro-economic stability requires a focus on:
   - ✓ reducing and controlled inflation,
   - ✓ Stability in prices,
   - ✓ Stability in exchange rate
   - ✓ Stable interest rates,
   - ✓ Prospect of economic growth
3. ***Economic Environment (Demand and Supply condition)***: The key environmental factor for the success for securities markets includes sufficient demand for and supply of securities

   3.1 ***Demand for Shares****: Demand for shares/ securities depend on the amount of surplus capital (saving) in hands of individuals and institutions. Lower savings means less amount of capital for investment in securities*

   3.2 ***Supply of Securities***: Supply of stock refers to the number and size of institutions and corporations that issue debt or equity securities to raise capital to finance their investment proposals. Thus, there must be critical mass of corporations and institutions to be licensed in the stock exchange whose shares/ stock could be traded
4. ***Level of professionalism and public Awareness***: *Securities market work most efficiently when such intermediaries as* ***brokers, dealers, underwriters****, and like are knowledgeable, professional, skilful, honest and have sufficient resources to perform such functions*

5. Regulatory Standards: ***Why regulation?***

The fact that market is highly exposed to ***fraudulent speculation and insider manipulations*** calls for institutional framework to ensure stability, smoothen the operation of the markets, protect shareholders and promote public confidence. Unlike manufacturing industries and agriculture, a failure of one bank or security market does not end in itself. It has a knock-on defect on all other banks and or securities markets and ultimately the economy at large. Some of the regulatory issues that need to be considered in establishing stock exchange, among others, are indicated below:

Duties and responsibilities: The rights and responsibilities for all parties involved in the market should be stated clearly. There must be minimum requirement/criteria that brokers, dealers, trader, specialists etc

should fulfilled in order to get the licence to trade in the stock exchange. Investors, for example have the following responsibilities:

- Dealing with authorized dealer
- Understand the company in which they want to invest. "You may end up putting your money at risk if you are not careful."
- Investors should make sure that they do not profit from any insider information

Law: Company law, contract law, commercial code, banking law, and bankruptcy law are essential for the availability of capital markets

Property right: An environment that enforces and recognizes property rights and supervisory framework to oversee capital market activities.

Disclosure of Information: Information to be disclosed include:

- Issuer's financial condition,
- Securities offered for public sale and
- What it plans to do with the funds raised etc.
- The existence of adequate disclosure helps investors and the market properly price the securities.

Listing of Companies: Companies that raise funds from the market should be listed upon fulfilment of certain requirements. Thus, the criteria required to register a company in the stock exchange must be stipulated clearly by authorized body (SEC in US, FSA in UK).

Incentives*:* Types of incentives and support expected from the government should be spelt out clearly. Should capital gain taxes be applicable to the share market? They need to be determined and their magnitude spelt out. Is dividend going to be taxed? How? What rate? Corporate tax on publicly listed companies and unlisted companies must be determined consciously. In Bangladesh, for example, corporate tax on publicly listed companies is 5% lower than unlisted companies.

Set accounting and auditing standard: Public offering of securities requires that the issuer discloses its financial statement. A company's financial statement should be verified by an independent auditor and should judge the financial position of the company independently and fairly. *Thus, there should be regulatory framework that indicates the standard of accounting and auditing to be followed by the issuing companies.*

System of setting Regulation: There are two levels where market regulations are issued, namely:

i. *Federal (national) Regulation*

ii. *Self Regulatory organizations*

Federal (national) Regulation: This is often organized as an autonomous agency accountable to a board of directors reporting to a **government ministry** such as the ministry of finance Securities Exchange Commission (SEC) of this type are very common these days in many countries.

Self Regulatory organizations-(self regulated): This is through the association of securities dealers, and brokers, having the responsibility of defining the conduct of the market through its own by-laws and managing the day-to-day operation of the market.

4.3.2.3.3 Challenges of LDCs to develop Stock Exchange

i. ***Low level of willingness***: Businesses dominated by small and medium-sized enterprises. Business owned by individuals, families or cohesive social groups. Such firms have been noticeably unwilling to adopt corporate from, issue equity and admit outsiders even as minority shareholders. ***Why?***

- for fear of dilution or even loss of control;
- fear that secret and valuable information may be disclosed to competitors;
- fear that the firm's financial position may be fully disclosed to authorities, thus leading to increased tax or even confiscation, etc.

ii. **Low level of private sector development and a low level of market orientation in the economy.**

iii. **Low level professionalism:** With low level of professionalism, market players (investors, broker-dealers, traders, investment specialists or advisors etc) become chance takers who could make business decisions only distinctly and run risk of being driven out of business very quickly.

iv. ***4. Low level of domestic savings***: individuals and institutional investors have insufficient size of capital to invest.

v. ***Poor accounting and disclosure standards and lack of an up-to-date legal framework***

vi. ***Market volatility*****:** Capital markets in LDCs can be characterized by limited raising of capital, excessive volatility, insider trading and an atmosphere of speculation and gambling rather than a serious means of mobilizing saving and financing long-term investment for development

vii. **Cost of regulation:** It is not easy in most LDCs to draft and adopt suitable securities laws and to find competent persons to administer them.

QUICK CHECK

1. Explain the conditions required for the development of stock exchange with its listing requirements.
2. Discuss the challenges of LDCs like Ethiopia to establish stock exchange

4.3.3 Third Market

Third markets are financial markets in which listed securities are traded over the counter (OTC) by investors who are not listed with a stock exchange. Typically, third-market transactions are large block trades involving securities firms and institutional investors, such as investment companies and pension funds. The third market developed in the 1960s when institutional investors became dissatisfied with the liquidity and brokerage commissions for large security trades on the exchanges.

Until the 1970s, members of the New York Stock Exchange (NYSE) were required to execute all their trades of NYSE-listed securities on the exchange and to charge commissions according to a fixed schedule. This schedule was disadvantageous to large traders, who were prevented from realizing economies of scale on large trades. The restriction led brokerage firms that were not members of the NYSE, and so not bound by its rules, to establish trading in the OTC market on large NYSE-listed firms. These trades took place at lower commissions than would have been charged on the NYSE. Unlike most exchange trading, buyers and sellers in the third market trade with each other for the benefit of their own portfolios rather than in an agency capacity on clients' behalf.

In general, the third market brings together large investors willing and able to purchase and sell their own securities holdings for cash and immediate delivery. Securities can be purchased at lower prices in the third market because of the absence of broker's commissions i.e. it avoids the commissions that must be paid to floor brokers.

4.3.4 Fourth Market

Fourth market refers to direct trading between investors in exchange-listed securities without benefit of a broker. The direct trading among investors that characterizes the fourth market has exploded in recent years due to the advent of the **electronic communication network (ECN).**

The ECN is an alternative to either formal stock exchange like the NYSE or dealer markets like NASDAQ for trading securities. These networks allow members to post buy or sell orders and to have those orders matched up or "crossed" with orders of other traders in the system. Both sides of the trade benefit because direct crossing eliminates the bid–ask spread that otherwise would be incurred. Traders pay a small price per trade or per share rather than incurring a bid–ask spread, which tends to be far more expensive.

Fourth market is trading of exchange-listed securities between institutions on a private over-the-counter computer network, rather than over a recognized stock exchange. Trade between institutions will often be made in large blocks and without a broker, allowing the institutions/both parties to avoid brokerage fees and exchange transaction fees. They also avoid the possibility of distorting the market price or the volume traded on an exchange.

The only difference between third and fourth market is that, fourth market uses specialized electronic network instead of normal communication method for trades between institutional investor. Third market activity is reported along with regular NYSE trading activity. The fourth market is the private trading of listed stocks between investors. The volume of trading in the fourth market is not totally reported.

4.4 Foreign exchange markets

The **foreign exchange market** is undoubtedly the world's largest financial market. It is the market where one country's currency is traded for others. Most of the trading takes place in a few currencies: the U.S. dollar ($), the German deutsche mark (DM), the British pound sterling (£), the Japanese yen, the Swiss franc (SF), and the French franc (FF).

Exchange Rates

An **exchange rate** is simply the price of one country's currency expressed in terms of another country's currency. In practice, almost all trading of currencies takes place in terms of the U.S. dollar. For example, both the Swiss franc and the Japanese yen are traded with their prices quoted in U.S. dollars. Exchange rates are constantly changing.

There are two methods of expressing Exchange Rate (ER). These are:

- ***Direct quotation*** **-**Domestic currency (DC) units are expressed per unit of Foreign Currency (FC)

For example: B***irr 16/$1= Birr 16 is required to buy one dollar***

- . **Indirect quotation:** Foreign currency units are stated in terms of a unit of domestic currency.

For example: ***$0.0625/1 Birr= to buy one Ethiopian Birr, one has to give $.0625 USD***

The second method is the reciprocal of the former. But it is necessary to be careful when talking about rise or fall in exchange rate because meaning will be very different up on which definition is used.

Example 1: rise from 12 Birr/1$ to 16 Birr/$1 means that more birr has to be given to obtain a dollar.

- ***Birr has depreciated in value and dollar has appreciated in value***

Example 2: If the second definition is employed, a rise in the exchange rate from $.0625/1 Birr to $.07/1Birr

- *Now more dollar (seven cents) are obtained per Birr than before (about 0.0625 or six cents per birr.*
- *Here dollar has depreciated and birr has appreciated*

❖ Participants of Foreign Exchange Market

1. *Retail clients*: business, international investors, MNCs, etc who need foreign exchange for the purpose of operating their business. They operate by placing buy/sell order with the commercial banks.
2. *Commercial Banks* carry out buy/sell orders
3. *Foreign exchange brokers*
4. *Central banks*-intervene in a bid to influence the rate at which their currency is traded (specially in fixed exchange rate system)

❖ Spot and Forward Exchange Rate

a. Spot rate:

Spot rate is exchange rate prevailing on contract date. When two parties agree to exchange currency and execute the deal ***immediately***, the transaction is referred to as a spot exchange.

b. Forward Exchange rate (FER):

It is an agreement in which the Exchange rate (price) will be undertaken in future. FER is an agreed-upon price at which two currencies will be exchanged at some future date (30 -360 days).

- Two parties agree on the price today, but actual exchange will be undertaken sometime in the future
- Today's agreement of parties to exchange currencies at some specified time in future.

Foreign Exchange Rate is used in order to hedge future payment/receipt that is expected to make or receive in foreign currency. This is to avoid risk due to fluctuation in exchange rate

Assume current (spot rate) = 18EB/US$ and an importer has import payable denominated in and dollar is to appreciate;

  - What is the risk to the importer
  - What he must do in order to mitigate such risk

- Risk to exporter due to exchange rate

Forward rate at Premium/Discount

Forward rates can be at premium or discount.

If Forward Exchange Rate >Spot rate (SR), the Forward ER is at premium.

- More amount of domestic currency is required to be paid in future to purchase a given amount of foreign currency.

If Forward Exchange Rate < Spot Rate, the Forward ER is at discount.

- Fewer amounts domestic is required in future to purchase a given amount of foreign currency.

Formula

1. Premium = FR-SR/SR x 12 months/N
2. Discount = SR-FR/SR x 12 months/N

Where: N refers to the number of months for which the forward contract has been made.

Example: Take the following rates of Birr/$1 and find discount/premium in percentage, for each Forward Rate, both in respect to bid price and ask price

- Spot Rate= Birr 16.2525/16.6025
- One month Forward Rate = Birr16.5190/16.8770
- Two months Forward Rate = birr 15.90/16.2325
- Six month Forward Rate = Birr 17.1533/17.445

Note: The first quote is the **bid price**, and the second quote (after the slash) is **the ask/offer/sell price**

Solution

1. ***Premium/discount with respect to Bid Price;***
   - Since one month Forward Rate and 6 month Forward Rate are higher than spot rate, Birr is at premium in these two periods, but it is at discount for two month Forward Rate.
   - *The premium or discount amount is determined separately both for bid price and ask price.*

a. Premium with respect to bid

- One Month: 16.5190-16.2525/16.2525x12/1= *0 .1968= 19.68%* = Forward Rate is at 19.68% premium or Forward Rate is 19.68 % higher than Spot Rate
- Six months: 17.1533-16.2525/16.2525x12/6 = *0.1111= 11.11%*.

b. *Discount with respect to bid*

- *two months: 16.2525-15.90/16.25x 12/2= 0.13013= 13.01%*

Forward Rate *is at discount of 13.01% or FR is 13.01% less than Spot Rate*

2. Premium/discount with respect to ask price

a. Premium;

One month: 16.8770-16.6025/16.6025 x12 = 19.84%

Six months: 17-16.6025-16.6025x12/6 =10.14%

b**. Discount**

Two month: 16.6025-16.2325/16.6025 x 12/2 = 13.37%.

Comments:

In the above example, the US dollar is at premium or appreciated for one month and six month forward exchange deals.

- It implies that the Ethiopian Birr is at discount (depreciated).
- Thus, when one currency (in the pair) is at forward premium, it is imperative that the other currency is at discount.

Chapter Summary

Security is a financial instrument that represents an ownership position in a publicly-traded corporation (stock), a creditor relationship with governmental body or a corporation (bond), or rights to ownership as represented by an option. A security is a fungible, negotiable financial instrument that represents some type of financial value.

Securities are typically divided into debt securities and equities. A debt security is a type of security that represents money that is borrowed that must be repaid with terms that define the amount borrowed, interest rate and maturity/renewal date. Equities represent ownership interest held by shareholders in a corporation, such as a stock. Unlike holders of debt securities who generally receive only interest and the repayment of the principal, holders of equity securities are able to profit from capital gains.

Security market is an exchange where security trading is conducted by professional stockbrokers. It is an economic institute within which takes place the sale and purchase transactions of securities between subjects of the economy, on the basis of demand and supply.

Financial market is a market in which financial assets (securities) such as stocks and bonds can be purchased or sold. Funds are transferred in financial markets when one party purchases financial assets previously held by another party. Financial markets facilitate the flow of funds and thereby allow financing and investing by households, firms, and government agencies.

Primary market is a financial market in which securities are initially issued and the only market in which the issuer is directly involved in the transaction. Primary market is part of the financial market that deals with the issuance of new securities (debt or equity). It is the market where the securities are sold for the first time. It is also called the new issue market (NIM). There are three methods of issuing securities in the primary market. These are Initial public offering (IPO), Rights issue (for existing companies), Private Placement/Preferential issue. Secondary market is a financial market in which securities that are already owned (those that are not new issues) are traded. The secondary market, also known as the **aftermarket**, is the financial market where ***previously issued*** securities and financial instruments such as stock, bonds, options, and futures are bought and sold.

Stock Exchange (also called *Stock Market* or *Share Market*) is one important constituent of capital market. Stock Exchange is an organized market for the purchase and sale of industrial and financial security. It is convenient place where trading in securities is conducted in systematic manner i.e. as per certain rules and regulations. It performs various functions and offers useful services to investors and borrowing companies. It is an investment intermediary and facilitates economic and industrial development of a country.

Third markets are financial markets in which listed securities are traded Over The Counter (OTC) by investors who are not listed with a stock exchange. Typically, third-market transactions are large block trades involving securities firms and institutional investors, such as investment companies and pension funds. Fourth market refers to direct trading between investors in exchange-listed securities without benefit of a broker. The direct trading among investors that characterizes the fourth market has exploded in recent years due to the advent of the Electronic Communication Network (ECN).

Review Questions:

Part-I: Multiple Choice Questions: Choose the correct Answer from the given Alternatives

1. Which one is/are role of stock exchange?
    A. Effective mobilization of savings
    B. Promoting capital formation
    C. Barometer of national economy
    D. Liquidity of investment
    E. All F. None
2. Identify the **false** statement about the primary market:
    A. It is a financial market in which securities are initially issued.
    B. It is the only market in which the issuer is indirectly involved in the transaction.
    C. Primary market deals with the issuance of new securities**.**
    D. It is the only market in which the issuer is directly involved in the transaction.
3. Identify **true** statement:
    A. Initial public offering is the process by which a private company transforms itself into a public company.
    B. Preemptive right is a right of new shareholders in which new shares must be offered to them first.
    C. Unlike initial public offering, private placements have to be registered with the Security Exchange Commission.
    D. Unlike private placements, initial public offerings do not have to be registered with the Security Exchange Commission.
    E. All F. None
4. Of the following statements one is **incorrect** about stock exchange:
    A. It is an organized market for the trading of financial security.
    B. It is an investment intermediary that facilitates economic and industrial development of a country.
    C. A stock exchange need be treated as a place for speculation or a gambling.
    D. It is convenient place where trading in securities is conducted in systematic manner

E. It is essential for the smooth and orderly functioning of corporate sector in a free market economy.

5. The following are prerequisites to develop Stock Exchange **except:**
   A. Stable political environment
   B. Stable macroeconomic conditions
   C. Level of Professionalism and public awareness
   D. Regulatory standards
   E. None
6. Identify the challenges of Least Developed Countries to develop Stock Exchange:
   A. Low level of willingness
   B. Well developed accounting and disclosure standards
   C. High level of private sector development
   D. An up-to-date legal framework
   E. The existence of high level of domestic savings
   F. All

Part II-Workout Question:

Solve for the following question:

Take the following currency exchange rates of Ethiopian Birr in relation to US dollar termed as Birr/$1. Both spot rate and forward rates are given below.

Spot Rate = Br. 19.3425/19.8025

Forward rates for:

Three months is Br.19.5190/19.9523

Six months is Br. 18.90/19.2325

Required: Based on the above data, calculate:

a. Premium from the contract for both bid and offer price.
b. Discount from the contract for both bid and offer price.

CHAPTER FIVE

SECURITY MARKET ANALYSIS

Learning Objectives

At the end of this chapter, you will be able to:

- Define the concept of market analysis
- Differentiate the types of market analysis
- Explain Fundamental and Technical analysis
- Discuss the assumptions of technical analysis
- Identify challenges to technical analysis

5.1. Introduction

Dear learners! This chapter is going to introduce you how to analyze security using different mechanisms before deciding for investment by global investors. This chapter coves the major concepts of fundamental and technical security analysis. The primary motive of buying a share is to sell it at a higher price and dividend expectation. Consequently, an investor would be interested to the dividends to be paid on the share in the future and also the future price of the share. These values can only be estimated and not predicted with certainty. These values are primarily determined by the performance of the industry to which the company belongs to the general economic condition and socio political scenario of the country. In addition, all securities are associated with risks. So, it becomes necessary for investor to analyze the securities from the view point of their prices, returns and risks. This analysis is useful in understanding the fluctuations of prices of securities and the behavioral pattern of the market before one decide to invest in securities.

5.2. Types of Security Analysis

There are two basic types for security analysis. These are:

1. Fundamental analysis
    - ✓ Economic analysis
    - ✓ Industry analysis
    - ✓ Company analysis
2. Technical analysis

5.2.1 Fundamental Analysis

In order to make a rational and scientific investment decision, an investor has to evaluate a lot of information about the past performance and the expected future performance of companies, industries and the economy as a whole before taking the investment decision. Such evaluation or analysis is called fundamental analysis.

It is based on the basic premises that security price is determined by a number of fundamental factors relating to the economy, industry and company. The purpose of fundamental analysis is to evaluate the present and future earning capacity of a security based on economy, industry and company fundamentals and then assess the intrinsic value of the security. Then, investor can compare the intrinsic value with market price to arrive at investment decision. If the Market Price is less than the intrinsic value, the security is underpriced and then investor would decide to buy a security. The price of such a security is expected to move up in the future to match with its intrinsic value. If the Market Price is greater than the intrinsic value, it is perceived to be over priced, and then the investor decides to sell such a security. This is because of that the market price of such a security is expected to come down in the future. Fundamental analysis thus, provides an analytical frame work (Economy, industry and company frame work) for rational investment decision making. There are two approaches of conducting fundamental analysis. These are:

- The Bottom-Up Approach and
- The Three Steps Top-Down Approach

a. The Bottom-Up Fundamental Analysis

The Bottom-up approach to fundamental analysis does not attempt to forecast the economic environment. It consists mainly of estimating the value of a stock and comparing it to its current market price. If a stock is significantly undervalued, it is considered a buying candidate independent of future market or macroeconomic conditions. The proponents of this approach try to find good companies that are selling at a low price in relation to their fundamentals. Mainly because academics feel uncomfortable ignoring some important available information, the bottom-up approach is less of a focus in textbooks and empirical research.

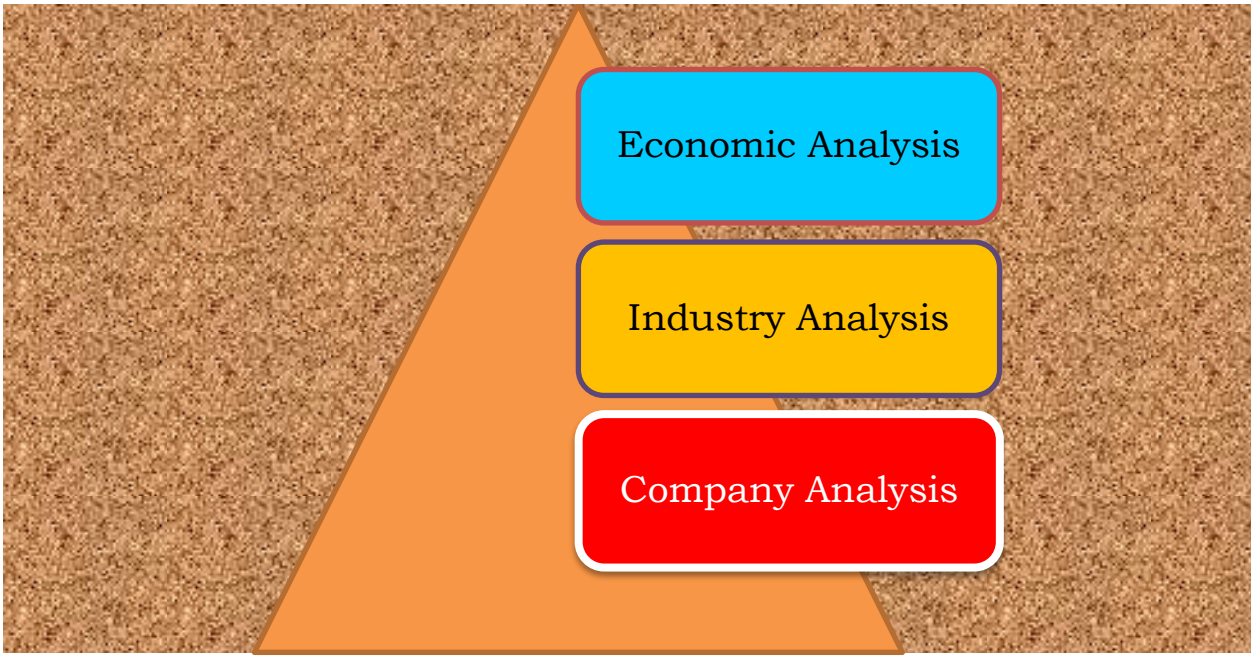
b. The Three Steps Top-Down Fundamental Analysis

The Top-Down Approach is a three-step, top-down valuation process in which you first examine the influence of the general economy on all firms and the security markets, then analyze the prospects for various global industries with the best outlooks in this economic environment, and finally turn to the analysis of individual firms in the preferred industries and to the common stock of these firms.

Table 5.1 Overview of the Investment Process

Top-Down Three Step Approach	Objectives
Analysis of Alternative Economies and Security Markets	Decide how to allocate investment funds among countries and within countries to bonds, stocks, and cash.
Analysis of Alternative Industries	Based upon the economic and market analysis, determine which industries will prosper and which industries will suffer on a global basis and within countries.
Analysis of Individual Companies and Stocks	Following the selection of the best industries, determine which companies within these industries will prosper and which stocks are undervalued.

The top-down fundamental analysis can also be interpreted by the figure below sequentially.



5.2.1.1 ECONOMIC ANALYSIS

It evaluates current economic environment and its effect on industry and company fundamentals, such as fiscal, monetary policy. The performance of a company depends much on the performance of the economy. If the economy is BOOM, the industries and companies in general said to be prosperous. On the other hand, if the economy is in RECESSION, the performance of companies will be generally poor. Investors are interested in studying those economic varieties, which affect the performance of the company in which they proposed to invest. An analysis of economic variable would give an idea about:

- ❖ future corporate earnings
- ❖ the payment of dividends and
- ❖ Interest to investors.

Key economic variables that can investor must monitor as part of this fundamental analysis are listed and explained as follows:

- Gross Domestic Product
- Savings and Investment
- Inflation
- Rates of Interest
- Government Revenue, Expenditure & Deficits
- Infrastructure
- Monsoon and Agriculture
- Political Stability

a. Gross Domestic Product

GDP indicates the rate of growth of the economy. It represents the aggregate value of goods and services produced in the economy. The growth rate of economy points out the prospects for the industrial sector and the return investors can expect from investment in shares. The higher growth rate is more favorable to the stock market.

b. Saving and Investment

Savings and investments represent that portion of Gross National Product (GNP) which is saved and invested. It is obvious that growth requires investment which in turn requires substantial amount to domestic savings. Stock market is a channel through which the savings of the

investors are made available to the corporate bodies. A higher level of savings and investments accelerates the pace of growth of the stock market.

c. Inflation

Inflation has considerable impact on the performance of companies. Higher rates of inflation upset business plan and reduce purchasing power in the hands of consumers. This will result in lower demand for products. Thus, high rates of inflation in an economy are likely to affect the performance of companies adversely. However, industries and companies prosper during periods of low inflation. Hence, an investor has to evaluate the inflation rates prevailing in the economy currently & the trend of inflation likely to prevail in the future.

d. Interest Rates

The cost and availability of credit for companies are determined by the rates of interest prevalent in an economy. A low interest rate stimulates investment by making credit available easily and cheaply. As a result, cost of finance for companies decreases, which assures higher profitability. On the other hand, higher interest rates result in higher cost of production, which may lead to lower profitability and lower demand. Hence, an investor has to consider the interest rates prevailing in the economy and evaluate their impact on the performance and profitability of the companies.

e. Government Revenue, Expenditure & Deficits

Government is the largest investor and spender of money. So, the trends in government revenue, expenditure & deficits have a significant impact on the performance of industries and companies. Therefore, the investor has to evaluate these carefully to assess their impact on his investments.

f. Infrastructure Facilities

The development of an economy depends very much on the availability of infrastructure. It includes electricity, roads and railways, communication channels, sound banking and financial sectors, etc. The availability of infrastructural facilities affects the performance of companies. While inadequate infrastructure leads to inefficiencies, lower productivity, wastage and delays and vice versa. Thus, an investor should assess the status of infrastructural facilities available in the economy before finalizing his investment avenues.

g. Monsoon and Agriculture

Agriculture is directly and indirectly linked with the industries. Example: Sugar, Cotton, Textile and Food processing industries depend upon agriculture for raw-material. A good monsoon leads to higher demand for input and results in bumper crop. This would lead to good spirit in the stock market. When the monsoon is bad, agricultural and power production would suffer. They cast a shadow on the share market.

h. Political Stability

A stable political environment is necessary for steady and balanced growth. No industry or company can grow and prosper when the country is passing through political instability. The long term economic policies are needed for industrial growth. Stable policies can be framed only by stable political systems.

QUICK CHECK

Explain the concept of market analysis and its types. What are the key economic variables to be considered for the analysis of investment at economy level in general?

5.2.1.2 Industry analysis

It evaluates the outlook for particular industries. Industry analysis indicates to an investor whether the industry is a growth industry or not. It gives an investor a choice of the industry in which the investments should be made. Industry analysis refers to an evaluation of the relative strength and weakness of particular industries which can be divided in to three parts:

- **a.** Life cycle of an industry
- **b.** Characteristics of an industry
- **c.** Profit potential of an industry

a. Life Cycle of an Industry

Marketing experts believe that each product has a life cycle (Initial stage, Growing stage, Maturity stage and Declining stage). In the same way industry is also said to have a life cycle. They are:

i. **Pioneering Stage:** Technology and product are newly introduced. There would be severe competition and only fittest companies survive this stage. The producers try to develop

brand name, differentiate the product and create a product image. The severe competition often leads to the change of position to the firms in terms of market shares and profit. In this situation, it is difficult to select companies for investment because the survival rate is unknown.

ii. Growth and Expansion Stage:

This stage stars with the appearance of surviving firms from the pioneering stage. Companies in this stage stabilize their prices, develop a market of their own and follow their own strategies. Ultimately, by showing their competitive strength, the firms are able to maintain their position in the market. This is the best time for the investor to make an investment in companies passing through the expansion stage. Investors can get high returns because demand exceeds supply of the product.

iii. Stagnation Stage:

In this stage the growth of the industries stabilizes. Moreover, sales increases at slower rate. The industry realizes that it cannot expand further. To keep going, technological innovations in the production process and products should be introduced. So, companies who have taken note of the arrival of stagnation stage have to change their course of action. Likewise, investors too should evaluate their investment in such industry on a continuous basis.

iv. Decay/Declining Stage:

In this stage, demand for the particular product and the earnings of the companies in the industry decline. The specific future of the declining stage is that even in the boom period; the growth of the industry would be low and decline at a higher rate during the recession. It is better to avoid investing in the shares of the low growth industry even in the boom period. Investment in the shares of these companies leads to erosion of capital.

b. Characteristics of an Industry

In an industry analysis, the analyst should consider a number of key characteristics:

- ✓ Relationship between Demand & supply
- ✓ Nature of the product
- ✓ Nature of the competition
- ✓ Growth of the industry

- ✓ Labor
- ✓ Government policy
- ✓ Availability of Raw Material
- ✓ Research and development

c. Profit Potential of an Industry

It depends on the following factors:

- **Threat new entrants:** New entrants inflate cost, push down the prices and reduce profitability. An industry which is well protected from the entry of new firms would be ideal for investment.
- **Competitions among existing firms:** The firm competes with each other on the basis of price, quality, promotion, service, warranties and so on. If the competition between the firms in an industry is strong average profitability of the industry may be discouraged.
- **Pressure from substitute products:** Each firm in an industry face competition from other firms in the same industry producing substitute products. Example Sony TV, Samsung T.V etc. Substitute products may affect the profit potential of the industry badly. The pressure from the substitute products is high when the price of the products is attractive, the cost for the prospective buyers to a substitute product is minimum and the substitute products are earning greater profits
- **Bargaining power of buyers:** Buyers can bargain for price reduction, asks for better quality and better service. The bargaining power of a buyer group is said to be high:
  - ➢ If its capacity to buy is more than the capacity of the seller to sell.
  - ➢ If the cost of the switch over to a substitute product is low.

QUICK CHECK

1. *Explain the concept of industry analysis and its life cycle.*
2. *What are the industry to be given due attention in fundamental analysis?*

5.2.1.3 Company Analysis

It examines the company's strengths and weaknesses within industry. It also involves a close investigation of the company's financial and non-financial aspects with a view to identify its strength, weaknesses and future business prospects. The financial and non-financial aspects are as follows:

- Marketing Success
- Accounting Policies
- Profitability
- Capital Structure
- Financial Analysis

i. **Marketing success**: The success of the market of the firm depends on:
   - ✓ The market share of annual sales
   - ✓ Growth of annual sales
   - ✓ The stability of annual sales.
   - ✓ Sales forecast

ii. **Accounting Policies**: While analyzing a company, the investor should carefully consider the accounting policies followed by the company.

a. Inventory Pricing

Generally, the prices of inventory change over a period of time. Due to changes in the prices of the inventory, the value of inventory changes during an accounting year. Hence, the value of inventory to be determined by using two valuations methods i.e FIFO and LIFO, differ from each other due to the change in inventory prices.

b. Depreciation Methods

The amount of depreciation varies depending upon the method employed. Higher amount of depreciation reduces profit while the lower amount of depreciation increases profit.

- ➢ Straight line method
- ➢ Declining balance method

c. Non operating income

Non-operating incomes are those items of incomes which are not earned in the routine business of the company like dividend and interest.

d. Carry Over

A company must take adequate provisions for payment of tax on its earnings. Further, excess tax paid in the previous year may be refunded in the current year and such refund may be adjusted against the tax due in the current year. The incidence of corporate tax and tax carryover are the factors which the investor should carefully take into consideration

iii. **Profitability**: When an investor buys a security, he is buying the right to the future earnings of the company. A prudent investor is always interested in stability and growth of the earnings from security.

- Gross profit Margin
- Net profit Margin
- Earning power
- Return on equity
- Earnings per share

iv. **Capital Structure**: Generally, companies raise long term funds through the issue of shares and other securities like bonds, debentures etc. The capital structure affects return on the equity shareholder's investment. Equity holders' return can be increased by using more debts than equity capital. So the investor should study the company's capital structure before take decision.

v. **Financial Analysis**: The financial statement of the Company provides the best possible information about the profitability and financial soundness of the company. This is the primary source of information for evaluating the prospects of the investment in company's stock. The statement gives the historical and current information about the company's operations.

- **Income statement Analysis**
- **Balance Sheet Analysis**

The analysis of financial statements reveals the nature of relationship between income and expenditure and the sources and application of funds. To know much about the profitability and the management's policy regarding the dividend, the investor can use the following simple analysis:

- ✓ Comparative statement analysis
- ✓ Trend analysis
- ✓ Common size statements
- ✓ Fund flow analysis
- ✓ Cash flow analysis
- ✓ ratio analysis

5.2.2 Technical Analysis

Technical analysts develop technical trading rules from observations of past price movements of the stock market and individual stocks. The philosophy behind technical analysis is in sharp contrast to the efficient market hypothesis, which contends that past performance has no influence on future performance or market values. It also differs from what we learned about fundamental analysis, which involves making investment decisions based on the examination of the economy, an industry, and company variables that lead to an estimate of value for an

investment, which is then compared to the prevailing market price of the investment. In contrast to the efficient market hypothesis or fundamental analysis, technical analysis involves the examination of past market data such as prices and the volume of trading, which leads to an estimate of future price trends and, therefore, an investment decision. Whereas fundamental analysts use economic data that are usually separate from the stock or bond market, the technical analyst believes that using data from the market itself is a good idea because "the market is its own best predictor." Therefore, technical analysis is an alternative method of making the investment decision and answering the questions:

- What securities should an investor buy or sell?
- When should these investments be made?

Technical analysts see no need to study the multitude of economic, industry, and company variables to arrive at an estimate of future value because they believe that past price movements will signal future price movements. Technicians also believe that a change in the price trend may predict a forthcoming change in the fundamental variables such as earnings and risk before the change is perceived by most fundamental analysts. Are technicians correct? Many investors using these techniques claim to have experienced superior rates of return on many investments. In addition, many newsletter writers base their recommendations on technical analysis. Finally, even the major investment firms that employ many fundamental analysts also employ technical analysts to provide investment advice. Numerous investment professionals and individual investors believe in and use technical trading rules to make their investment decisions. Therefore, whether you are a fan of technical analysis or an advocate of the efficient market hypothesis, you should still have an understanding of the basic philosophy and reasoning behind technical approaches.

5.2.2.1 Underlying Assumptions of Technical Analysis

Technical analysts base trading decisions on examinations of prior price and volume data to determine past market trends from which they predict future behavior for the market as a whole and for individual securities. Several assumptions lead to this view of price movements:

1. The market value of any good or service is determined solely by the interaction of supply and demand.

2. Supply and demand are governed by numerous rational and irrational factors. Included in these factors are those economic variables relied on by the fundamental analyst as well as opinions, moods, and guesses. The market weighs all these factors continually and automatically.
3. Disregarding minor fluctuations, the prices for individual securities and the overall value of the market tend to move in trends, which persist for appreciable lengths of time.
4. Prevailing trends change in reaction to shifts in supply and demand relationships. These shifts, no matter why they occur, can be detected sooner or later in the action of the market itself.

Certain aspects of these assumptions are controversial, leading fundamental analysts and advocates of efficient markets to question their validity. Those aspects are emphasized in the preceding list.

The first two assumptions are almost universally accepted by technicians and non-technicians alike. Almost anyone who has had a basic course in economics would agree that, at any point in time, the price of a security (or any good or service) is determined by the interaction of supply and demand. In addition, most observers would acknowledge that supply and demand are governed by many variables. The only difference in opinion might concern the influence of the irrational factors. Certainly, everyone would agree that the market continually weighs all these factors.

A stronger difference of opinion arises over the assumption about the speed of adjustment of stock prices to changes in supply and demand. Technical analysts expect stock prices to move in trends that persist for long periods because they believe that new information does not come to the market at one point in time but, rather, enter the market over a period of time. This pattern of information access occurs because of different sources of information or because certain investors receive the information or perceive fundamental changes earlier than others. As various groups ranging from insiders to well-informed professionals to the average investor receive the information and buy or sell a security accordingly, its price moves gradually toward the new equilibrium. Therefore, technicians do not expect the price adjustment to be as abrupt as fundamental analysts and efficient market supporters do, but expect a *gradual price adjustment* to reflect the gradual flow of information.

5.2.2.2 Advantages of Technical Analysis

Although technicians understand the logic of fundamental analysis, technical analysts see benefits in their approach compared to fundamental analysis. Most technical analysts admit that a fundamental analyst with good information, good analytical ability, and a keen sense of information's impact on the market should achieve above-average returns. However, this statement requires qualification. According to technical analysts, it is important to recognize that the fundamental analysts can experience superior returns *only* if they obtain new information before other investors and process it *correctly* and *quickly.* Technical analysts do not believe the vast majority of investors can consistently get new information before other investors and consistently process it correctly and quickly.

In addition, technical analysts claim that a major advantage of their method is that it is not heavily dependent on financial accounting statements—the major source of information about the past performance of a firm or industry. The fundamental analyst evaluates such statements to help project future return and risk characteristics for industries and individual securities. The technician points out several major problems with accounting statements:

1. They lack a great deal of information needed by security analysts, such as information related to sales, earnings, and capital utilized by product line and customers.
2. According to GAAP (generally accepted accounting principles), corporations may choose among several procedures for reporting expenses, assets, or liabilities. Notably, these alternative procedures can produce vastly different values for expenses, income, return on assets, and return on equity. As a result, an investor can have trouble comparing the statements of two firms in the same industry, much less firms in different industries.
3. Many psychological factors and other non-quantifiable variables do not appear in financial statements. Examples include employee training and loyalty, customer goodwill, and general investor attitude toward an industry. Investor attitudes could be important when investors become concerned about the risk from restrictions or taxes on products such as tobacco or alcohol or when firms do business in countries that have significant political risk.

Therefore, because technicians are suspicious of financial statements, they consider it advantageous not to depend on them. Most of the data used by technicians, such as security prices, volume of trading, and other trading information, is derived from the stock market itself.

Also, a fundamental analyst must process new information correctly and *quickly* to derive a new intrinsic value for the stock or bond before the other investors can. Technicians, on the other hand, only need to quickly recognize a movement to a new equilibrium value *for whatever reason*—that is, they do not need to know about an event and determine the effect of the event on the value of the firm and its stock.

Finally, assume a fundamental analyst determines that a given security is under- or overvalued a long time before other investors. He or she still must determine *when* to make the purchase or sale. Ideally, the highest rate of return would come from making the transaction just before the change in market value occurs. For example, assume that based on your analysis in February, you expect a firm to report substantially higher earnings in June. Although you could buy the stock in February, you would be better off waiting until about May to buy the stock so your funds would not be tied up for an extra three months, but you may be reticent to wait that long. Because most technicians do not invest until the move to the new equilibrium is underway, they contend that they are more likely to experience ideal timing compared to the fundamental analyst.

5.2.2.3 Challenges to Technical Analysis

Those who doubt the value of technical analysis for investment decisions question the usefulness of this technique in two areas. First, they challenge some of its basic assumptions. Second, they challenge some specific technical trading rules and their long-run usefulness. In this section, we consider both of these challenges.

5.2.2.3.1 Challenges to Technical Analysis Assumptions

The major challenge to technical analysis is based on the results of empirical tests of the efficient market hypothesis (EMH). For technical trading rules to generate superior risk-adjusted returns after taking account of transactions costs, the market would have to be slow to adjust prices to the arrival of new information, that is, it would have to be inefficient. (This is referred to as the

weak-form efficient market hypothesis.) The two sets of tests of the weak-form EMH are: (1) the statistical analysis of prices to determine if prices moved in trends or were a random walk, and (2) the analysis of specific trading rules to determine if their use could beat a buy-and-hold policy after considering transactions costs and risk. Almost all the studies testing the weak-form EMH using statistical analysis have found that prices do not move in trends based on statistical tests of autocorrelation and runs. These results support the Efficient Market Hypothesis.

Regarding the analysis of specific trading rules, numerous technical trading rules exist that have not been or cannot be tested. Still, the vast majority of the results for the trading rules tested support the Efficient Market Hypothesis.

5.2.3.3.2 Challenges to Technical Trading Rules

An obvious challenge to technical analysis is that the past price patterns or relationships between specific market variables and stock prices may not be repeated. As a result, a technique that previously worked might miss subsequent market turns. This possibility leads most technicians to follow several trading rules and to seek a consensus of all of them to predict the future market pattern.

Another problem with technical analysis is that the success of a particular trading rule will encourage many investors to adopt it. It is contended that this popularity and the resulting competition will eventually neutralize the technique. If numerous investors focus on a specific technical trading rule, some of them will attempt to anticipate the price pattern and either ruin the expected historical price pattern or eliminate profits for most traders by causing the price to change faster than expected. For example, suppose it becomes known that technicians who employ short selling data have been enjoying high rates of return. Based on this knowledge, other technicians will likely start using these data and thus accelerate the stock price pattern following changes in short selling. As a result, this profitable trading rule may no longer be profitable after the first few investors react.

Further, technical trading rules *require a great deal of subjective judgment.* Two technical analysts looking at the same price pattern may arrive at widely different interpretations of what has happened and, therefore, will come to different investment decisions. This implies that the use of various techniques is neither completely mechanical nor obvious. Finally, *the standard*

values that signal investment decisions can change over time. Therefore, technical analysts must adjust the specified values that trigger investment decisions over time to conform to the new environment. In other cases, trading rules are abandoned because it appears they no longer work.

QUICK CHECK

1. *Explain the concept of technical analysis of security and its assumptions.*
2. *What are the challenges to technical analysis?*

5.2.2.4 Technical Trading Rules and Indicators

There are numerous technical trading rules and a range of interpretations for each of them.

- Contrary-Opinion Rules
- Follow the Smart Money
- Other Market Environmental Indicators
- Stock Price and Volume Techniques
- Technical Analysis of Foreign Markets
- Technical Analysis of Bond Markets

Chapter Summary

The primary motive of buying a share is to sell it at a higher price and dividend expectation. Consequently, an investor would be interested to the dividends to be paid on the share in the future and also the future price of the share. These values can only be estimated and not predicted with certainty. These values are primarily determined by the performance of the industry to which the company belongs to the general economic condition and socio political scenario of the country. There are two basic types for security analysis. These are Fundamental analysis (Economic analysis, Industry analysis, Company analysis) and Technical analysis

Fundamental analysis is based on the basic premises that security price is determined by a number of fundamental factors relating to the economy, industry and company. The purpose of fundamental analysis is to evaluate the present and future earning capacity of a security based on economy, industry and company fundamentals and then assess the intrinsic value of the security. Then, investor can compare the intrinsic value with market price to arrive at investment decision. If the Market Price is less than the intrinsic value, the security is underpriced and then investor would decide to buy a security. The price of such a security is expected to move up in the future to match with its intrinsic value. If the Market Price is greater than the intrinsic value, it is perceived to be over priced, and then the investor decides to sell such a security. There are two approaches of conducting fundamental analysis. These are the Bottom-Up Approach and the Three Steps Top-Down Approach

Economic Analysis evaluates current economic environment and its effect on industry and company fundamentals, such as fiscal, monetary policy. The performance of a company depends much on the performance of the economy. If the economy is BOOM, the industries and companies in general said to be prosperous. Key economic variables that can investor must monitor as part of this fundamental analysis are Gross Domestic Product, Savings and Investment, Inflation, Rates of Interest, Government Revenue, Expenditure & Deficits, Infrastructure, Monsoon and Agriculture and Political Stability

Industry Analysis evaluates the outlook for particular industries. Industry analysis indicates to an investor whether the industry is a growth industry or not. It gives an investor a choice of the industry in which the investments should be made. Industry analysis refers to an evaluation of

the relative strength and weakness of particular industries which can be divided in to three parts: Life cycle of an industry, Characteristics of an industry and Profit potential of an industry.

Company Analysis examines the company's strengths and weaknesses within industry. It also involves a close investigation of the company's financial and non-financial aspects with a view to identify its strength, weaknesses and future business prospects. The financial and non-financial aspects are Marketing Success, Accounting Policies, Profitability, Capital Structure and Financial Analysis.

Technical analysts develop technical trading rules from observations of past price movements of the stock market and individual stocks. The philosophy behind technical analysis is in sharp contrast to the efficient market hypothesis, which contends that past performance has no influence on future performance or market values. It also differs from what we learned about fundamental analysis, which involves making investment decisions based on the examination of the economy, an industry, and company variables that lead to an estimate of value for an investment, which is then compared to the prevailing market price of the investment. There are numerous technical trading rules and a range of interpretations for each of them. These are Contrary-Opinion Rules; Follow the Smart Money, Other Market Environmental Indicators, Stock Price and Volume Techniques, Technical Analysis of Foreign Markets and Technical Analysis of Bond Markets.

Review Questions:

Part I: Multiple Choices: Choose the correct Answer from the given Alternatives

1. From the industry life cycle, at which stage is/ are more recommendable for investors to invest in as per fundamental approach?

A. At Pioneering and growth stage
B. At growth, stagnation and decay stage
C. At growth and maturity stage
D. At pioneering, growth, stagnation and decline stage.

2. The followings are the key economic variables that can investor must monitor as part of fundamental analysis **except**:

A. GDP
B. Inflation
C. Infrastructure
D. Political stability
E. None

3. The following are some of the factors need to be put in to consideration while performing company analysis:

A. The company's marketing success
B. Accounting policies of the company
C. The company's profitability
D. Capital structure of the company
E. None F. All

4. One is **not** element of technical trading rules and indicators:

A. Contrary-Opinion Rules
B. Follow the Smart Money
C. Other Market Environmental Indicators
D. Stock Price and Volume Techniques E. All F. None

5. One is **not** element of profitability:

A. Net profit Margin
B. Earning power
C. Return on equity
D. Earnings per share

Part- II –Discussion Questions

a. Discuss what technical analysis of securities in investment
b. Discuss the difference between technical and fundamental analysis
c. Explain assumptions and challenges of technical analysis
d. Discuss in detail about fundamental analysis

CHAPTER SIX

DERIVATIVE MARKET

Learning Objectives

At the end of this chapter, you will be able to:

- Define the concept of derivative markets
- Identify the categories of derivative instruments
- Explain the concept of elements of derivative markets

6.1 Introduction

Dear readers! This introduces you about derivative market instruments and their use. In this chapter concepts related to forward, futures, options and swaps are covered. Derivative is an instrument whose existence and value is contingent upon the existence of another instrument or security. These are securities whose prices are determined by, or "derive from," the prices of other securities.

6.2 Categories of Derivative Instruments

The major derivative instruments can be categorized as follows:

- Forwards
- Futures
- Options and
- Swaps

Each instrument has its own characteristics, which offer advantages in using them but bring with them disadvantages. The disadvantages may not always be apparent to the end user and these days it is crucial that end users are made aware of the risks associated with the derivative contracts they enter into and are made aware of the instrument's appropriateness for the purpose it is to perform.

Why should market participants seek to use derivatives? There are several answers to this question: derivatives may be used to:

1. speculate;
2. hedge a portfolio of shares, bonds, foreign currency, etc.;
3. undertake arbitrage – i.e. benefit from mispricing;
4. Engineer or structure desired positions.

Spot Contract: A spot contract is an agreement between a buyer and a seller at time zero. At this time the seller of the asset agrees to deliver it immediately for cash and the buyer agrees to pay in cash for that asset. Thus, the unique feature of a spot contract is the immediate and simultaneous exchange of cash for securities, or what is often called *delivery versus payment.*

6.2.1 Forward Contract

A forward contract is a contractual agreement between a buyer and a seller, at time zero, to exchange a pre specified asset for cash at some later date. Forward contract is an agreement between two counterparties that requires the exchange of a commodity or security at a fixed time in the future and a predetermined price. Once a party has agreed to a forward position, canceling the deal prior to expiration is generally difficult (although an offsetting forward contract can normally be arranged).

Forward contracts often involve underlying assets that are non-standardized (e.g., six month pure discount bonds). As a result, the buyer and seller involved in a forward contract must locate and deal directly with each other to set the terms of the contract rather than transacting the sale in a centralized market. Accordingly, once a party has agreed to a forward position, canceling the deal prior to expiration is generally difficult (although an offsetting forward contract can normally be arranged).

6.2.2 Futures Contract

A futures contract is usually arranged by an organized exchange. It is an agreement between a buyer and a seller at time zero, to exchange a standardized commodity/financial asset at pre specified price for cash at some later date. It is an agreement that provides for the future exchange of a particular asset at a specified delivery date for a specified payment at the time of delivery.

A futures contract is marked to market daily. This means that the contract's price and the future contract holder's account are adjusted each day as the futures price for the contract changes. Therefore, actual daily cash settlements occur between the buyer and seller in response to this marking-to-market process, i.e., gains and losses must be realized daily. This can be compared to

a forward contract for which cash payment from buyer to seller occurs only at the end of the contract period.

Similarities of Forward and Future Contract

The essential nature of future contract is the same as that of Forward contract. Both involve a contract to exchange some assets initiated at one time to be performed at subsequent time.

Differences between Forward and Future Contract

a. **Standardization:** In future contract, commodities or financial assets to be exchanged are standardized and exchanged on standardized/Known institution. Future contracts can be traded on commodity exchange/stock exchange through *open outcry* and currently via communication network or over the counter. In the case of Forward contract, assets to be exchanged are based on private mutual agreements and they cannot be exchanged on commodity exchange/stock exchange.

b. **Risk Exposure:** In case of **forward contract** it may be exposed to *default risk/credit risk* since the contracts depend on private agreement, but in the case of **future contract**, since it is standardized, it avoids such type of risk.

QUICK CHECK

1. Explain the concept of derivative market by your own word.
2. What are the similarities and difference between forward and future contract?

6.2.3 Options

Option contract is an agreement that grants the owner/the holder of the contract, the right, but not the obligation, to make a future transaction in an underlying commodity or security at a fixed price and within a predetermined time in the future.

Currency option provides its holder a right but not obligation to buy or sell a pre-specified amount of a foreign currency at a pre-determined rate in the future (on a fixed maturity date/up to a certain period).

A **call option** gives its holder the right to purchase an asset for a specified price, called the **exercise**, or **strike price**, on or before some specified expiration date. For example, a March call option on IBM stock with exercise price $110 entitles its owner to purchase IBM stock for a price of $110 at any time up to and including the expiration date in March.

The holder of the call is not required to exercise the option. The holder will choose to exercise only if the market value of the asset to be purchased exceeds the exercise price. When the market price does exceed the exercise price, the option holder may "call away" the asset for the exercise price. Otherwise, the option may be left unexercised. If it is not exercised before the expiration date of the contract, a call option simply expires and no longer has value. Therefore, if the stock price is greater than the exercise price on the expiration date, the value of the call option equals the difference between the stock price and the exercise price; but if the stock price is less than the exercise price at expiration, the call will be worthless. The *net profit* on the call is the value of the option minus the price originally paid to purchase it.

The purchase price of the option is called the *premium*. It represents the compensation the purchaser of the call must pay for the right to exercise the option if exercise becomes profitable. Sellers of call options, who are said to *write* calls, receive premium income now as payment against the possibility they will be required at some later date to deliver the asset in return for an exercise price lower than the market value of the asset.

If the option is left to expire worthless because the exercise price remains above the market price of the asset, then the writer of the call clears a profit equal to the premium income derived from the sale of the option. But if the call is exercised, the profit to the option writer is the premium income derived when the option was initially sold minus the difference between the value of the stock that must be delivered and the exercise price that is paid for those shares. If that difference is larger than the initial premium, the writer will incur a loss.

Basic Terms and Concepts

1. Parties to the contract: Writer/Seller of the contract grants the right to buy or sale an asset/currency. Buyer/holder of the contract receives the right, but not obligation, to buy or sale the specified asset.

2. Strike price is the price at which the transaction is to be carried out. There are two main types of options:

- ***a. Call option/call*** is the right of the holder, but not obligation, *to buy* the specified currency/asset or instrument at specified price**.**
- ***b. Put option/put*** is the right of the holder of the contract, but not obligation, *to sell* the specified currency, instrument/asset at specified price. The seller has a potential obligation to sell or buy the underlying asset at the strike price.

3. Option Premium

The seller or writer grants the right to the buyer in exchange for a certain sum of money called *option price or option premium.* Premium compensates the writer for giving such a right (profit of the writer).

i. *Currency option premiums*

An option said can be in-money, if its immediate exercise yields a positive value (profitable) to its holder. When option has negative value (loss) to its holder is said to be out-of-money. When the strike price of any call or put option equals the current spot rate, the option is said to be "at the money."

	Call option (to Buy)	***Put option(to Sell)***
In the money	Spot > strike (prefer strike price)	Spot < strike (prefer strike)
At the money	Spot = strike	Spot = strike
Out of the money	Spot < strike (prefer spot price)	Spot > strike (prefer spot)

Example 1: the given call option strike price is Rs 48/$. Then determine at which the call will be exercised.

Scenario	Spot Rate	Option Premium Rs/$	To be exercised at
1	47.25	0.52	Spot Price
2	47.90	0.52	Spot Price
3	48	0.52	Either of them (Strike price or Spot Price)
4	48.50	0.52	Strike price
5	48.90	0.52	Strike Price

In the above example 1, the first and the second scenario for call option is exercised at spot price. The main reason for this is that the spot price is less than the strike price i.e. $47.25 and $47.90 is less than $48. In such case the contract holder selects the less price to purchase and rejects the higher price. In the third scenario, the contract holder or the buyer can exercise at either of the two that is he/she has the right to buy at the spot price or the strike price. This is because of that the spot price and the strike price are the same ($48). Finally, in the fourth and fifth scenario, the contract holder or the buyer chooses to purchase at the strike price than the spot price because the spot price become increasing than the strike price. In such a way, the buyer again prefers the lower price to purchase ($ 48.50 and $48.90 exceeds $ 48).

Example 2: the given Put option strike price is Rs 48/$. Then determine at which the Put will be exercised.

Scenario	Spot Rate	Option Premium Rs/$	To be exercised at
1	47.25	0.52	Strike Price
2	47.90	0.52	Strike Price
3	48	0.52	Either of them (Strike price or Spot Price)
4	48.5	0.52	Spot Price
5	48.90	0.52	Spot Price

In the above example 2, the first and the second scenario for put option is exercised at strike price. The main reason for this is that the strike price is greater than the spot price i.e. $48 is greater than both $47.25 and $47.90 is. In such case the contract holder selects the higher price to sell and rejects the lower price. In the third scenario, the contract holder or the buyer can exercise at either of the two that is he/she has the right to buy at the Spot price or the strike price. This is because of that the spot price and the strike price are the same ($48). Finally, in the fourth and fifth scenario, the contract holder or the buyer chooses to sell at the spot price than the strike price because the spot price become increasing than the strike price. In such a way, the buyer again prefers the higher price to sell ($ 48.50 and $48.90 exceeds $ 48).

6.2.3.1 Currency Option Styles

a. American Options: An American option allows its holder to exercise the right to purchase (if a call) or sell (if a put) the underlying asset on or before the expiration date.

b. European Option: European options allow for exercise of the option only on the expiration date. American options, because they allow more flexibility than their European counterparts, generally will be more valuable.

c. Futures Options: Futures options give their holders the right to buy or sell a specified futures contract, using as a futures price the exercise price of the option. Although the delivery process is slightly complicated, the terms of futures options contracts are designed in effect to allow the option to be written on the futures price itself. The option holder receives upon exercise a net payoff equal to the difference between the current futures price on the specified asset and the exercise price of the option. Thus if the futures price is, say, $37, and the call has an exercise price of $35, the holder who exercises the call option on the futures gets a payoff of $2.

d. Foreign Currency Options: A currency option offers the right to buy or sell a quantity of foreign currency for a specified amount of domestic currency. Currency option contracts call for purchase or sale of the currency in exchange for a specified number of U.S. dollars. Contracts are quoted in cents or fractions of a cent per unit of foreign currency. There is an important difference between currency options and currency *futures* options. The former provide payoffs that depend on the difference between the exercise price and the exchange

rate at maturity. The latter are foreign exchange futures options that provide payoffs that depend on the difference between the exercise price and the exchange rate *futures price* at maturity.

e. **Interest Rate Options:** Options are traded on Treasury notes and bonds, Treasury bills, certificates of deposit, and yields on Treasury and Eurodollar securities of various maturities. Options on several interest rate futures also trade. Among these are contracts on Treasury bond, Treasury note, municipal bond, Eurodollar, and German euro-denominated government bond futures.

QUICK CHECK

1. Explain the concept of option contract.
2. What makes different option contract from forward and future contract?

6.2.4 Swaps

These instruments are based on an agreement between two counterparties to exchange a series of cash flows. The cash flows are almost always calculated by reference to the behavior of an index and are scaled by an agreed nominal principal. The five generic types of swaps, in order of their notional principal, are: interest rate swaps, like swaps of fixed and variable interest rate, currency swaps, credit risk swaps, commodity swaps, and equity swaps

6.2.4.1 Caps and Floors

Interest rate cap and floor agreements are equivalent to portfolios of interest rate option contracts, with each contract corresponding to a different settlement period.

A cap agreement is a series of cash settlement interest rate options, typically based on LIBOR. The seller of the cap, in return for the option premium that is usually paid at origination, is obliged to pay the difference between LIBOR and the exercise, or cap, rate (times the fraction of the year, times the notional principal) whenever that difference is positive. Cap agreement A contract that on each settlement date pays the holder the greater of the difference between the reference rate and the cap rate or zero; it is equivalent to a series of call options on the reference rate.

The seller of a floor agreement makes settlement payments only when LIBOR is below the floor rate. No payment is made if LIBOR is above the floor or below the cap rate. As with swaps, settlement can be either in advance or in arrears. Payment in arrears is more common because these contracts usually are used to hedge exposure to floating-rate bank loans and notes, which typically settle in arrears. Floor agreement is a contract that on each settlement date pays the holder the greater of the difference between the floor rate and the reference rate or zero; it is equivalent to a series of put options on the reference rate.

Chapter Summary

Derivative is an instrument whose existence and value is contingent upon the existence of another instrument or security. These are securities whose prices are determined by, or "derive from," the prices of other securities. The major derivative instruments can be categorized as Forwards, Futures, Options and Swaps

A forward contract is a contractual agreement between a buyer and a seller, at time zero, to exchange a pre specified asset for cash at some later date. A futures contract is usually arranged by an organized exchange. It is an agreement between a buyer and a seller at time zero, to exchange a standardized commodity/financial asset at pre specified price for cash at some later date. It is an agreement that provides for the future exchange of a particular asset at a specified delivery date for a specified payment at the time of delivery. The essential nature of future contract is the same as that of Forward contract. Both involve a contract to exchange some assets initiated at one time to be performed at subsequent time. Differences between Forward and Future Contract are the standardization and Risk Exposure.

Option contract is an agreement that grants the owner/the holder of the contract, the right, but not the obligation, to make a future transaction in an underlying commodity or security at a fixed price and within a predetermined time in the future. Currency Option Styles include American Options, European Option, Futures Options, Foreign Currency Options and Interest Rate Options. **Swaps** are instruments are based on an agreement between two counterparties to exchange a series of cash flows. The cash flows are almost always calculated by reference to the behavior of an index and are scaled by an agreed nominal principal. The five generic types of swaps are interest rate swaps, like swaps of fixed and variable interest rate, currency swaps, credit risk swaps, commodity swaps, and equity swaps.

Review Questions:

Part I: Discussion Questions

a. Discuss the similarities and differences between forward and future contract
b. Discuss Financial Derivative
c. Discuss Option contract, Swaps, floors and caps

Part II: Problem:

Assume that Ato Girum is planning to buy Saba Car from Mesfin Industrial Engineering and ordered the car to receive six months later after entering in to option contract with the company. The strike price of their agreement at the end of six months is Br. 680,000. In addition, Mesfin Industrial Engineering charged the buyer Br. 5,000 premium as compensation for option contract. But, due to market factors, the actual price/spot price of the car at the end of contract will be as follows in the table below. Based on the following question fill the proper answer in the table:

i. At what price should Ato Girum exercise to receive the car?
ii. Suppose Ato Girum being as a contract holder, want to sell the car for another person with option contract having the same data. At what price will Ato Girum exercise/sell the car?

Scenario	**Spot price**	**Option Premium**	**Call option**	**Put option**
1	Br. 625,000	Br. 5,000		
2	675,000	5,000		
3	680,000	5,000		
4	690,000	5,000		
5	699,000	5,000		

CHAPTER SEVEN

PORTFOLIO SELECTION, MANAGEMENT AND EVALUATION

Learning Objectives:

At the end of this chapter, you will be able to:

- Define the concept of portfolio
- Explain how a given portfolio can be selected
- Discuss the portfolio management and the need of portfolio management
- Identify types of portfolio management
- Explain portfolio management process
- Discuss portfolio theory
- Analyze portfolio return and risk

7.1 Introduction

Dear Readers! This topic introduces you some processes to be done first in selecting investments that are considered promising investments, how to manage the selected investments as per the investors' criteria to have good return and minimize risk and finally how to evaluate the performance of the firm in maximizing the shareholders' value through the selected investments. A portfolio refers to a collection of investment tools such as stocks, bonds, mutual funds, cash and so on, depending on the investor's income, budget and convenient time frame. Portfolio is the combination of different assets with different risk and return class.

7.2. Portfolio Selection

The objective of every rational investor is to maximize his returns and minimize the risk. Diversification is the method adopted for reducing risk. It essentially results in the construction of portfolios. The proper goal of portfolio construction would be to generate a portfolio that provides the highest return and the lowest risk. Such portfolio would be known as the optimal portfolio. The process of finding the optimal portfolio is described as portfolio selection.

Rational investors will obviously prefer to invest in the efficient portfolios. The particular portfolio that an individual investor will select will depend on that investor's degree of aversion to risk or risk tolerance.

7.3 Portfolio Management

What is Portfolio Management? It is the art of selecting the right investment policy for the individuals in terms of *minimum risk and maximum return.* It refers to managing an individual's investments in the form of **bonds, shares, cash, mutual funds** etc, so that he earns the maximum profits within the stipulated time frame. Again it shows managing money of an individual under the expert guidance of portfolio managers.

7.4 Need for Portfolio Management

- Portfolio management presents the best investment plan to the individuals as per their income, budget, age and ability to undertake risks.
- Portfolio management minimizes the risks involved in investing and also increases the chance of making profits.
- Portfolio managers understand the client's financial needs and suggest the best and unique investment policy for them with minimum risks involved.
- Portfolio management enables the portfolio managers to provide customized investment solutions to clients as per their needs and requirements.

7.5 Types of Portfolio Management

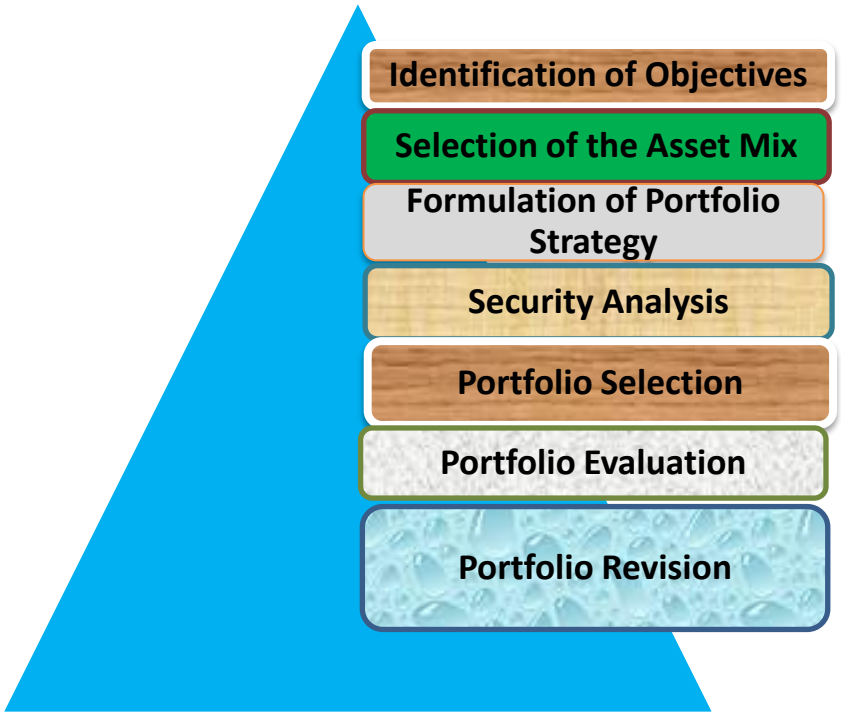
Portfolio Management is classified in to the following types.

1. **Active Portfolio Management**: As the name suggests, in an active portfolio management service, the portfolio managers are actively involved in buying and selling of securities to ensure maximum profits to individuals.
2. **Passive Portfolio Management**: In a passive portfolio management, the portfolio manager deals with a fixed portfolio designed to match the current market scenario.
3. **Discretionary Portfolio management services**: In this, an individual authorizes a portfolio manager to take care of his financial needs on his behalf. The individual issues money to the portfolio manager who in turn takes care of all his investment needs, paper work, documentation, filing and so on. In this type, the portfolio manager has full rights to take decisions on his client's behalf.
4. **Non-Discretionary Portfolio management services:** In this, the portfolio manager can merely advise the client on what is good and bad for him, but the client reserves full right to take his own decisions.

QUICK CHECK

1. Explain the portfolio by your own word.
2. State the need for portfolio management.
3. What the differences among the types of portfolio management?

7.6 PORTFOLIO MANAGEMENT PROCESS/PHASES



1. **Identification of Objectives:** The investors' objectives may be income, capital appreciation or a future provision such as marriage, college education etc.
2. **Selection of the Asset mix:** A **proper asset mix b/n** stock and bonds depends upon the risk tolerance and investment limit of the investors. Asset mix means a proportions of stocks (Example: Equity shares and preference shares) and bonds (fixed income securities) in the portfolio.
3. **Formulation of portfolio strategy:** Two choices are available for the formation of portfolio strategy.
    a. **An active portfolio strategy:** It attempts to earn a superior risk possible by market timings, security selection or some combination etc.
    b. **A passive portfolio strategy**: It involves holding a broadly diversified portfolio and maintaining a pre-determined level of risk exposure.

4. **Security Analysis:** This step consists of examining the risk-return characteristics' of individual securities. It depends on the sources of information. Securities are analyzed from the point of their prices, returns, and risks. During the security analysis fundamental analysis and technical analysis help in the selection of securities.
5. **Portfolio Selection:** The inputs from the portfolio analysis can be used to identify the set of efficient portfolios. From this efficient portfolio, the optimal portfolio has to be selected for investment.
6. **Portfolio Evaluation:** It is the process which is concerned with assessing the performance of the portfolio over a selected period of time in terms of return and risk. Portfolio evaluation is useful to identify the weaknesses in the investment process and for improving these deficient areas. It provides a feedback mechanism for improving the entire portfolio management process.
7. **Portfolio Revision:** A portfolio once constructed requires constant monitoring and revision. Changes in investor's financial status, his preferences and market conditions will also necessitate changes in portfolio composition. Such a revision generally involves a shift from one stock to another stock.

7.7 PORTFOLIO PERFORMANCE EVALUATION

For evaluating the performance of a portfolio it is necessary to consider both risk and return. Three popularly employed portfolio performance measures are the following:

- Sharpe measure
- Treynor measure
- Jensen measure

1. Sharpe's Portfolio Performance Measure

It is the ratio of reward or risk premium to the variability of return or risk as measured by the standard deviation of return. Sharpe's measure divides average portfolio excess return over the sample period by the standard deviation of returns over that period. It measures the reward to (total) volatility trade-off. The Sharpe measure of portfolio performance (designated *S*) is stated as follows:

$$\textbf{Sharpe ratio (SR)} = \frac{R_p - R_f}{\sigma_p}$$

Where:

Rp = Realized return on the Portfolio

Rf = Risk free rate

σ_p = standard deviation of portfolio return

This composite measure of portfolio performance clearly is similar to the Treynor measure; however, it seeks to measure the *total risk* of the portfolio by including the standard deviation of returns rather than considering only the systematic risk summarized by beta. Because the numerator is the portfolio's risk premium, this measure indicates the *risk premium return earned per unit of total risk.* In terms of capital market theory, this portfolio performance measure uses total risk to compare portfolios to the CML, whereas the Treynor measure examines portfolio performance in relation to the SML. Finally, notice that in practice the standard deviation can be calculated using either total portfolio returns or portfolio returns in excess of the risk-free rate.

Example: Assume that market return is 14% and risk free rate of return is 8%. Suppose you are told that the standard deviation of the annual rate of return for the market portfolio over the past 10 years was 20% ($\sigma_M = 0.20$). Additional information is given below:

Portfolio	Average annual rate of return	Standard deviation of return
D	0.13	0.18
E	0.17	0.22
F	0.16	0.23

$$\text{SRD (mkt)} = \frac{0.14 - 0.08}{0.2} = 0.30$$

$$\text{SRD} = \frac{0.13 - 0.08}{0.18} = 0.278$$

$$\text{SRE} = \frac{0.17 - 0.08}{0.22} = 0.409$$

$$\text{SRF} = \frac{0.16 - 0.08}{0.23} = 0.348$$

The portfolio D had the lowest risk premium return per unit of total risk, failing even to perform as well as the aggregate market portfolio. In contrast, Portfolios E and F performed better than the aggregate market Portfolio E did better than Portfolio F.

2. Tryon's Measure (TR)

It is the ratio of the reward or risk premium to the volatility of return as measured by the portfolio Beta. **Treynor** developed the first **composite measure** of portfolio performance that included risk. He postulated two components of risk: (1) risk produced by general market fluctuations and (2) risk resulting from unique fluctuations in the portfolio securities.

To identify risk due to market fluctuations, he introduced the *characteristic line,* which defines the relationship between the rates of return for a portfolio over time and the rates of return for an appropriate market portfolio. He noted that the characteristic line's slope measures the *relative volatility* of the portfolio's returns in relation to returns for the aggregate market the slope is the portfolio's beta coefficient. A higher slope (beta) characterizes a portfolio that is more sensitive to market returns and that has greater market risk.

Deviations from the characteristic line indicate unique returns for the portfolio relative to the market. These differences arise from the returns on individual stocks in the portfolio. In a completely diversified portfolio, these unique returns for individual stocks should cancel out. As the correlation of the portfolio with the market increases, unique risk declines and diversification improves. Because Treynor was not concerned about this aspect of portfolio performance, he gave no further consideration to the diversification measure.
The slope of this portfolio possibility line (designated *T*) is equal to:

$$\textbf{Treynor Ratio (TR)} = \frac{R_p - R_f}{B_p}$$

Where

Rp = Realized return on the Portfolio

Rf = Risk free rate of return

Bp = Beta portfolio

Example: Suppose that during the most recent 10-year period, the average annual total rate of return on an aggregate market portfolio was 14 % and the average nominal rate of return on government Treasury bills was **8%** having the **beta portfolio of 1**. Additionally the following are given:

Portfolio	Average annual rate of return	Beta
W	0.12	0.90
X	0.16	1.05
Y	0.18	1.20

$$TR(Mkt) = \frac{0.14 - 0.08}{1} = 0.06$$

$$TRw = \frac{0.12 - 0.08}{0.90} = 0.044$$

$$TRx = \frac{0.16 - 0.08}{1.05} = 0.076$$

$$TRy = \frac{0.18 - 0.08}{1.20} = 0.083$$

These results indicate that Investment Manager W not only ranked the lowest of the three managers but did not perform as well as the aggregate market. In contrast, both X and Y beat the market portfolio, and Manager Y performed somewhat better than Manager X.

Treynor versus Sharpe Measure

The Sharpe portfolio performance measure uses the standard deviation of returns as the measure of total risk, whereas the Treynor performance measure uses beta (systematic risk). The Sharpe measure, therefore, evaluates the portfolio manager on the basis of both rate of return performance and diversification.

For a completely diversified portfolio, one without any unsystematic risk, the two measures give identical rankings because the total variance of the completely diversified portfolio is its systematic variance. Alternatively, a poorly diversified portfolio could have a high ranking on the basis of the Treynor performance measure but a much lower ranking on the basis of the Sharpe performance measure. Any difference in rank would come directly from a difference in diversification.

Therefore, these two performance measures provide complementary yet different information, and both measures should be used. If you are dealing with a group of well-diversified portfolios the two measures provide similar rankings.

1. Jensen's Measure

This ratio attempts to measure the differential between the actual return earned on a portfolio and the return expected from the portfolio given its level of risk. The CAPM model is used to calculate the expected return on a portfolio. Jensen's measure is the average return on the portfolio over and above that predicted by the CAPM, given the portfolio's beta and the average market return. Jensen's measure is the portfolio's alpha value. The Jensen measure is similar to the measures already discussed because it is based on the capital asset pricing model (CAPM). All versions of the CAPM calculate the expected one-period return on any security or portfolio by the following expression:

Jensen ratio (JR) = R_p- $E(R_p)$

$$E(R_p) = R_f + B_p(Rm - Rf)$$

Example: The actual return realized from fund A and B are 12% and 19% respectively. With beta coefficient being 0.7 and 1.3. The market return is 15% and risk free rate is 7%.

Required: Calculate the expected return and differential return on two funds.

Solution

JR = Rp – E(Rp)

E(Rp) = Rf + Bp(Rm-Rf)

Fund A = Rp – E(Rp)

E(Rp) = Rf + Bp(Rm – Rf)

= 7 + 0.7(15 -7) = **12.6%**

Fund B: E(Rp) = 7 + 1.3(15-7) = **17.4%**

- **Differential return**

  Fund A: 12% – 12.6% = **-0.6**

  Fund B: 19%- 17.4% = **1.6**

Conclusion: As per the above calculations, fund A indicates that its performance has been inferior and fund B performance has been superior due to the superior management skills of its portfolio manager.

QUICK CHECK

1. Discuss the concept of performance evaluation.
2. What are the similarities and difference between sharp and Treynor ratio?

7.8 PORTFOLIO THEORY

7.8.1 Markowitz Portfolio Theory

Harry Markowitz is an influential economist, best known for his ground breaking work on modern portfolio theory. Markowitz assumed that investors wanted to avoid risk, so he advocated analyzing individual security vehicles to determine how they contribute to the portfolio's overall risk. The analysis requires close examination of how investments move in relation to one another. According to this theory, an optimal combination would secure for the investor the highest possible return for a given level of risk or the least possible risk for a given level of return.

7.8.2 Assumptions of Markowitz Theory

The Modern Portfolio Theory of Markowitz is based on the following assumptions:

- Investors are rational and behave in a manner as to maximize their utility with a given level of income or money.
- Investors have free access to fair and correct information on the returns and risk.
- The markets are efficient and absorb the information quickly and perfectly.
- Investors are risk averse and try to minimize the risk and maximize return.

- Investors base decisions on expected returns and variance or standard deviation of these returns from the mean.
- Investors prefer higher returns to lower returns for a given level of risk.

7.9 PORTFOLIO RETURN AND RISK

7.9.1 Expected Return of Portfolio

As a first step in portfolio analysis, an investor needs to specify the list of securities eligible for selection or inclusion in the portfolio. The next he has to generate the risk-return expectations for these securities. These are typically expressed as the expected rate of return and the variance or standard deviation. The expected return on a portfolio is simply the weighted average of the expected returns on the individual securities in the portfolio. The weights applied to each return are the fraction of the portfolio invested in that security.

$$E(R_{port}) = \sum_{i=1}^{n} W_i E(R_i)$$

Where:

Wi = the proportion of the portfolio in asset *i*

E(Ri) = The expected rate of return for asset *i*

Or

E (Rp) = Wx. $\overline{X}$ + Wy.$\overline{Y}$

Where:

E (Rp) = is the expected return from the collection of investment

Wx/Wy = is the proportion/Weight of security X or Y in the collection of investment

$\overline{X}$ /$\overline{Y}$ = is the mean of security X or Y which mean that the expected return of individual security.

Example 1: From the following information, compute the expected rate of return.

Possibility	Possible Returns
0.10	-0.20
0.15	-0.05
0.20	0.10
0.25	0.15
0.20	0.20
0.10	0.40

Solution

Probability	Possible Returns	Expected Return
0.10	-0.20	-0.0200
0.15	-0.05	-0.0075
0.20	0.10	0.0200
0.25	0.15	0.0375
0.20	0.20	0.0400
0.10	0.40	0.0400
		E(R) = 0.1100

The above table is for refreshment to indicate how to calculate the expected return for individual security based on the given data (the probability for the occurrence of each historical return).

Example 2: Given the following market values of stocks in your portfolio and their expected rates of return, what is the expected rate of return for your common stock portfolio?

Stock	Market Value ($ Mill.)	E(Ri)
Morgan Stanley	$15,000	0.14
Starbucks	17,000	-0.04
General Electric	32,000	0.18
Intel	23,000	0.16
Walgreens	7,000	0.12

In order to solve for the above question 2, our base is the market value of these securities of different companies and the expected return of these individual securities. So to calculate the portfolio return, we are required first to compute the weights of each security individually. Their weight can be calculated by summing up together the market value of these securities and then, the market price if each security is divided for the total market value of the whole securities like in the table below which is $94,000. Finally, the portfolio return is calculated by multiplying the weight of individual security with their respective expected return. Then, add all together to determine the return of the group of investment as shown in the table.

$$E(R_{port}) = \sum_{i=1}^{n} W_i E(R_i)$$

Stock	MV	Weight (Wi)	E(Ri)	E(Rp) -(Wi x Ri)
Morgan	$15,000	15/94 = 0.1596	0.14	0.0223
Starbucks	17,000	0.1809	-0.04	-0.0072
GE	32,000	0.3404	0.18	0.0612
Intel	23,000	0.2447	0.16	0.0392
Walgreens	7,000	0.0745	0.12	0.0089
Total MV = 94,000				E(Rp) = 0.1244

Example 3: The following information is available:

	Stock A	Stock B
Expected returns	16%	12%
Standard Deviation	15%	8%
Coefficient of variation	0.60	

Required: What is the expected return and risk of a portfolio in which the stock A & B have weights of 0.6 and 0.4?

Solution:

This is a simple question because we do have all information and the portfolio is constructed only from two securities i.e. security (stock) A and B. So we can simply calculate the expected return of portfolio like below.

E(Rp) = Wx. $\bar{X}$ + Wy.$\bar{Y}$

E(Rp) = 0.6(16) + 0.4 (12)

= 14.4%

======

This shows that the return a firm can generate after investing in both securities at the same time.

7.9.2 Risk of a Portfolio

The variance of the return and standard deviation of return are alternative statistical measures that are used for measuring risk in investment. These statistics measure the extent to which returns are expected to vary around an average overtime. The variance or standard deviation of an individual security measures the riskiness of a security in absolute sense. For calculating the risk of a portfolio of securities, the riskiness of each security within the context of the overall portfolio has to be considered.

This depends on their interactive risk, i.e. how the returns of a security move with returns of other securities in the portfolio and contribute to the overall risk of the portfolio.

- **Variance or Standard Deviation of Returns for Individual Assets**

$$\text{Variance } (\sigma^2) = \sum_{i=1}^{n} [R_i - E(R_i)]^2 P_i$$

- **Variance and Standard Deviation of a Portfolio**

$\sigma^2 p = w^2_1\sigma^2_1 + w^2_2\,\sigma^2_2 + 2w_1w_2\,\sigma_1\sigma_2\,r_{1,2}$

$$\sigma_{port} = \sqrt{w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1w_2r_{1,2}\sigma_1\sigma_2}$$

Where

$\sigma^2 p$ = Portfolio variance

σp = Portfolio Standard Deviation

W1 = Percentage of total portfolio invested in security x

W2 = Percentage of total portfolio invested in security y

$\sigma^2 1$ = Variance of security x

$\sigma^2 2$ = Variance of security y

$r_{1,2}$ = Correlation coefficient of security x & y

In determining the risk of a given portfolio, there different elements required as we observe from the above formula either in calculating portfolio Variance or standard deviation to measure risk like variance, standard deviation and weight of individual security. In addition to that we are also observing the other element called correlation coefficient. So it is required to calculate correlation coefficient of different securities included in the collection of investments unless it is given. To calculate the correlation coefficient of securities involved in the construction of portfolio, we can use the following specific formula:

Correlation Co-efficient

The correlation coefficient is obtained by standardizing the covariance for the individual variability of the two return series, that is:

Correlation coefficient ***ij*** = Covariance of the security ***i*** and ***j***

(Standard deviation of ***i***)(Standard deviation of ***j***)

$$r_{ij} = \frac{Cov_{ij}}{\sigma_i \sigma_j}$$

Thus, the correlation coefficient can only vary in the ***range of negative 1 to positive 1.***

Perfect positive correlation (correlation coefficient = +1) occurs when the returns from two securities move up and down together in proportion. If these securities were combined in a portfolio, the 'offsetting' effect would not occur.

Perfect negative correlation (correlation coefficient = –1) takes place when one security moves up and the other one down in exact proportion. Combining these two securities in a portfolio would increase the diversification effect.

Uncorrelated (correlation coefficient = 0) occurs when returns from two securities move independently of each other – that is, if one goes up, the other may go up or down or may not move at all. As a result, the combination of these two securities in a portfolio may or may not create a diversification effect. However, it is still better to be in this position than in a perfect positive correlation situation.

To determine the correlation coefficient of securities in the portfolio, we depend on two basic elements such as covariance of the securities and the standard deviation of each security. Standard deviation can be easily computed like as we discussed in introduction of portfolio risk and in chapter three of this module. But to solve for covariance of securities, we are required to have three basic inputs like probability or the economic life of investment measured in terms of period, the historical returns of the securities and the mean or average return or expected return of each securities as shown below.

Co-Variance **Co-Variance (Cov*xy*)** $= \sum Pi(X-\bar{X})\ (Y-\bar{Y})$

$$= Pi\{[Ri - E(Ri)]\ [Rj - E(Rj)]\}$$

or

$$Covxy = \frac{\sum (X-\bar{X})\ (Y-\bar{Y})}{N}$$

Where:

Cov*ij /Covxy= Covariance of security i and j or covariance of security x and y*

Pi = Probability

Ri = Historical return of security

E(Ri) = The expected return of individual security

Example1: Oliver's portfolio holds security A, which returned 12% and security B, which returned 15%. At the beginning of the year 70% was invested in security A and the remaining 30% was invested in security B. Given a standard deviation of 10% for security A, 20% for security B and a correlation coefficient of 0.5 between the two securities.

Required: Calculate the portfolio variance and expected portfolio return of the securities.

Solution $\sigma^2 p = w^2_A \sigma^2_A + w^2_B \sigma^2_B + 2(w_A w_B \sigma_A \sigma_B r_{AB})$

$\sigma^2 p = (.7^2 x 10^2) + (.3^2 x 20^2) + (2x.7x.3x10x20x.5) = \mathbf{127}$

Portfolio standard deviation is the square root of the portfolio variance.

$\sigma_P = \sqrt{127} = \mathbf{11.27\ \%}$

Again it is possible to calculate the expected return of Oliver's portfolio based on the information given in the example above:

$E(Rp) = Wx.\ \bar{X} + Wy.\bar{Y}$

$= 0.7(12) + 0.3(15) = \mathbf{12.90\%}$

Example 2: This data is derived from the above example 3 under expected portfolio return:

	Stock A	Stock B
Expected returns	16%	12%
Standard Deviation	15%	8%
Coefficient of correlation	0.60	

Required: Based on the above data, what is the expected risk of a portfolio in which the stock A & B have weights of 0.6 and 0.4?

Solution:

$\sigma^2 p = w^2_A \sigma^2_A + w^2_B \sigma^2_B + 2(w_A w_B \sigma_A \sigma_B r_{AB})$

$\sigma^2 p = (.6^2 x 15^2) + (.4^2 x 8^2) + (2x.6x.4x15x8x.6) = \mathbf{125.80}$

$\sigma_P = \sqrt{125.8} = \mathbf{11.22\ \%}$

Example 3: A portfolio consists of the following information:

	Security1	**Security 2**	**Security 3**
Proportion	0.30	0.50	0.20
Standard Deviation	6%	9%	10%

Correlation coefficients: r1,2 = 0.4, r1,3 = 0.6, r2,3 = 0.7

Required: calculate the risk of portfolio

$$\sigma^2 p = w^2_1 \sigma^2_1 + w^2_2 \sigma^2_2 + w^2_3 \sigma^2_3 + 2(w_1 w_2 \sigma_1 \sigma_2 r_{1,2}) + 2(w_1 w_3 \sigma_1 \sigma_3 r_{1,3}) + 2(w_2 w_3 \sigma_2 \sigma_3 r_{2,3})$$

$$= (0.3)^2_1 (6)^2_1 + (0.5)^2_2 (9)^2_2 + (0.2)^2_3 (10)^2_3 + 2(0.3 \times 0.5 \times 6 \times 9 \times 0.4) + 2(0.3 \times 0.2 \times 6 \times 10 \times 0.6) + 2(0.5 \times 0.2 \times 9 \times 10 \times 0.7)$$

$$= \underline{\mathbf{50.89}}$$

$$\sigma^2 p = \sqrt{\sigma 2 p} = \sqrt{50.89} = \mathbf{7.133\%}$$

Example 4: A financial analyst is analyzing two investment alternatives of X & Y. The estimated rates of return and their chances of occurrence for the next year are given below:

State of Market	**Probability**	**Rates of Return**	
		X	**Y**
Recession	0.20	22%	5%
Average	0.60	14%	15%
Boom	0.20	-4%	25%

Required:

a. Determine each alternative E(Ri) & Risk.

b. Is security Y comparatively riskless?

c. If the financial analyst wishes to invest **half in X and another half in Y**, would it reduce the portfolio risk. Explain the reason for it.

Solution:

Question 'a'. Determine each alternative E(Ri) & Risk.

In order to answer question 'a', we are required to compute the expected return and risk of each security as stated below:

i. Expected return is compute as follows:

$E(Ri) = \sum PiRi$

$E(Ri)x = 0.2(22) + 0.6(14) + 0.2(-4) = 12\%$

$E(Ri)y = 0.2(5) + 0.6(15) + 0.2(25) = 15\%$

ii. The risk (which is measured in terms of variance and standard deviation) of security X and security Y is computed like below:

Variance:

$\boldsymbol{\sigma^2 = \sum Pi(Ri - E(Ri))^2}$

Variance of X (σ^2 x) = $0.2(22-12)^2 + 0.6(14-12)^2 + 0.2(-4-12)^2$

= 73.6%

Standard deviation of security X:

$\boldsymbol{\sigma = \sqrt{\sigma 2} = \sqrt{73.6} = 8.58\%}$

Variance of X (σ^2 x) = $0.2(5-15)^2 + 0.6(15-15)^2 + 0.2(25-15)^2 = 40\%$

Standard deviation of security X:

$\boldsymbol{\sigma = \sqrt{\sigma 2} = \sqrt{40} = 6.32\%}$

Question b:

Is security Y comparatively riskless? We can definitely say '**Yes'.** This because if we compare the risk of security 'Y' with security 'X' either in terms of variance or standard deviation, the risk of security 'Y' is less (i.e. 40% is less 73.6% in terms of variance or 6.32% is less than 8.58% in terms of standard deviation). Therefore, this enables us to say security 'Y' is less risky than security 'X' relatively.

Question c: If the financial analyst wishes to invest **half in X and another half in Y**, would it reduce the portfolio risk. Explain the reason for it.

To answer this question, first we have to calculate portfolio risk. This is because if the investor wants to invest in both securities i.e. 50% in security 'X' and the remaining 50% in security 'Y', the diversification concept may be applied here. To compute portfolio risk we require about four elements like proportion of each security in the portfolio, the variance of the security, the standard deviation of the security and the correlation coefficient of these securities. For variance and standard deviation, we have already solved in question 'a' above and we can easily use it. But, since we do not have correlation coefficient of both securities we need to calculate it as follows:

$$\sigma^2 p = w^2_{X*}\sigma^2_X + w^2_Y * \sigma^2_Y + 2(w_{X*}w_{Y*}\sigma_X * \sigma_Y * r_{X,Y})$$

Correlation coefficient = $\frac{\text{Covariance of the security}}{\text{(Standard deviation of X)(Standard deviation of Y)}}$

$$r_{x,y} = \frac{Cov_{xy}}{\sigma_x \sigma_y}$$

Again to solve for correlation coefficient, we have to solve first for covariance of securities as follows:

Co-Variance (Cov*xy*) $= \sum Pi(X-\bar{X})(Y-\bar{Y})$

$Covxy = 0.2(22-12)(5-15) + 0.6(14-12)(15-15) + 0.2(-4-12)(25-15)$

$= -52$

$$r_{x,y} = \frac{-52}{(8.58)(6.32)} = -0.96$$

Now, it is easy to compute portfolio risk since we have all requirements.

$$\sigma^2 p = w^2_X \sigma^2_X + w^2_Y \sigma^2_Y + 2(w_X w_Y \sigma_X \sigma_Y r_{X,Y})$$

$$=(0.5)^2(73.6) + (0.5)^2(40) + 2(0.5*0.5*8.58*6.32*-0.96) = 2.37\%$$

$$\sigma p = \sqrt{\sigma 2 p} = \sqrt{2.37} = 1.54\%$$

From this we can observe that the risk of portfolio is less if a firm in both security X and Y rather than investing individually. 2.37% (portfolio risk) is less than individual risk of security X and Y (73.6 and 40) in terms of variance. The same thing is true if compare

with their standard deviation. In general, if a firm diversifies its investment to both securities, the risk of this portfolio will reduce.

Coefficient of Variation

It shows the risk per unit of return. Standardized measure of the risk per unit of return; calculated as the standard deviation divided by the expected return.

$$\textit{Coefficient of Variation} = \frac{\textit{Standard deviation of security 'i'}}{\textit{Expected Return of Security 'i'}}$$

$$CV = \frac{SD}{E(R)}$$

Example: consider Projects X and Y.

	Project X	**Project Y**
Expected Return	60%	8%
Standard Deviation	15%	3%

CVx = 15/60 = .25 and Cvy = 3/8 = .375

Is Project X riskier, on a relative basis, because it has the larger Standard deviation?

Security y is more dispersed than security X. Therefore, even though Project Y has the lower standard deviation, according to the Coefficient of variation it is riskier than Project X.

Chapter Summary

A portfolio refers to a collection of investment tools such as stocks, bonds, mutual funds, cash and so on, depending on the investor's income, budget and convenient time frame. Portfolio is the combination of different assets with different risk and return class. The objective of every rational investor is to maximize his returns and minimize the risk. Diversification is the method adopted for reducing risk. It essentially results in the construction of portfolios. The proper goal of portfolio construction would be to generate a portfolio that provides the highest return and the lowest risk.

Portfolio Management is the art of selecting the right investment policy for the individuals in terms of *minimum risk and maximum return.* It refers to managing an individual's investments in the form of **bonds, shares, cash, mutual funds** etc, so that he earns the maximum profits within the stipulated time frame. Portfolio Management is classified in to Active Portfolio Management, Passive Portfolio Management, Discretionary Portfolio management services and Non-Discretionary Portfolio management services The portfolio management process/phases include Identification of Objectives, Selection of the Asset mix, Formulation of portfolio strategy, Security Analysis, Portfolio Selection, Portfolio Evaluation: and Portfolio Revision. For evaluating the performance of a portfolio it is necessary to consider both risk and return. Three popularly employed portfolio performance measures are Sharpe measure, Treynor measure and Jensen measure

Review Questions

Part I: Multiple Choice: Choose the Correct Answer from the given alternatives

1. The following are the factors that affect the portfolio construction of an investor **except**:
    A. Investor's income
    B. Investor's age
    C. The convenient time frame.
    D. All
    E. None
2. Identify the **correct** statement about the assumption of Markowitz Theory of portfolio return.
    A. Investors are irrational and behave in a manner as to maximize their utility with a given level of income or money.
    B. Investors have free access to fair and correct information on the returns and risk.
    C. The markets are inefficient and absorb the information quickly and perfectly.
    D. Investors are risk indifferent and try to minimize the risk and maximize return.
    E. All
3. Identify the **correct** statement/s:
    A. Passive portfolio management actively participates in trading of securities on behalf of the investor to ensure maximum profit.
    B. Active portfolio managers hold fixed portfolio designed to match the current market scenario.
    C. In non-discretionary portfolio management, an investor authorizes a portfolio manager to take care of his financial needs on his behalf.
    D. In discretionary portfolio management, decision related to investment activities reserved fully for the client.
    E. All F. None
4. The process of finding the optimal portfolio referred to as _____
    A. Diversification
    B. Investment
    C. Optimal portfolio
    D. Portfolio selection
    E. None

5. _____ shows the risk per unit of return.
    A. Coefficient of correlation
    B. Coefficient variation
    C. Covariance
    D. Portfolio
    E. All
    F. None
6. If the correlation coefficient of two securities is +1, what it implies?
    A. They negative perfect correlation
    B. They are uncorrelated
    C. They have perfect positive correlation
    D. All
    E. None

Part II: Discussion Questions:

a. List and discuss the portfolio management phases
b. Explain what diversification mean
c. Discuss Portfolio Return
d. Discuss Portfolio Risk
e. Explain the need for portfolio management

Part III: Problems

Solve for the following Problems:

7. An investor has a choice of two stocks for investment considered as stock X and stock Z. The rate of return and probabilities are given below.

Probability	**Return of stock X**	**Return of sock Z**
15%	-30%	20%
35%	0%	0%
45%	30%	20%
5%	70%	40%

Required:

a. Compute the return for each stock. Which stock is more desirable as per return analysis? Why?

b. Compute the variance and standard deviation of the annual rate of return for each stock. By these measures, which stock is the preferable stock? Why?

8. Assume the following portfolio information. The risk free rate of return is 6% and the return from the market is 12%. Assume the following additional data:

	Stock A	**Stock B**
Beta portfolio	1.10	0.8
Expected return of portfolio	14.5%	11.25%
Portfolio standard deviation	20%	17.50%

Required: Calculate the performance of the portfolio according to:

a) Sharp ratio
b) Treynor ratio
c) Jensen ratio

9. From the following information, calculate the expected return of portfolio, Variances and standard deviation of portfolio return.

	Security 1	**Security 2**
Expected Return	7%	11%
Proportion	0.25	0.75
Standard deviation	18%	13%

The correlation coefficient of these assets is 0.35.

Answer Key for all chapters' Review Questions

Chapter 1

Part One: Multiple Choices:

1. E 2. B 3. E 4. E 5. C

Part -II- True or False answer:

1. True
2. False
3. False
4. True
5. False
6. False
7. True
8. True
9. False
10. True
11. True
12. True

Part –III- Case Answer

Process of Bankers' Acceptance

1. *Abraham arranges for CBE to issue L/C which will guarantee payment of $5million USD in the after shipment.*
2. *The L/C is forwarded to Citigroup By CBE*
3. *Citigroup notify the GM to ship the goods to Shewit in Ethiopia*
4. *GM ship the goods and submit the shipping documents to Citigroup for payment*
5. *Citigroup pays to GM:*
   - *Now GM is out of picture*
6. *Citigroup presents the shipping document and L/C to CBE.*
   - *The CBE stamps "Accepted" on the L/C. The L/C becomes CDE/s bankers' acceptance. This means CBE will pay the holder of the BA of $5 million upon maturity*
7. *CBE then passes the shipping documents to Shewit in return for an appropriate fee.*
   - *Citigroup (after step 6) has two options:*
     a. *Retain the BA as investment as part of loan portfolio, or*
     b. *Sell it to an investor*

Chapter 2

Multiple Choices

1. E
2. E
3. F
4. D
5. C
6. E
7. E
8. C

Chapter 3

Multiple Choices

1. C 2. C 3. D 4. C 5. B

Chapter 4

Multiple Choices

1. E
2. B
3. A
4. C
5. E
6. A

Chapter 5

Multiple Choices

1. C 2. E 3. E 4. F 5. E

Chapter 6: Discussion Questions

Chapter 7

Multiple Choices

1. E 2. B 3. F 4. D 5. B 6. **C**

Answer Key for all chapters' Review Questions

Chapter 1

Part One: Multiple Choices:

1. E 2. B 3. E 4. E 5. C

Part -II- True or False answer:

1. True
2. False
3. False
4. True
5. False
6. False
7. True
8. True
9. False
10. True
11. True
12. True

Part –III- Case Answer

Process of Bankers' Acceptance

1. *Abraham arranges for CBE to issue L/C which will guarantee payment of $5million USD in the after shipment.*
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   - *Citigroup (after step 6) has two options:*
     a. *Retain the BA as investment as part of loan portfolio, or*
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Chapter 2

Multiple Choices

1. E
2. E
3. F
4. D
5. C
6. E
7. E
8. C

Chapter 3

Multiple Choices

1. C 2. C 3. D 4. C 5. B

Chapter 4

Multiple Choices

1. E
2. B
3. A
4. C
5. E
6. A

Chapter 5

Multiple Choices

1. C 2. E 3. E 4. F 5. E

Chapter 6: Discussion Questions

Chapter 7

Multiple Choices

1. E 2. B 3. F 4. D 5. B 6. **C**

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…

Assignment for Financial Institutions & Investment Management

This assignment is to be completed and send to the institute for evaluation. Its maximum load is **30%.**

Do not try to complete the assignment until you have covered all the lessons and have reviewed the study guide and yourself test exercises.

In addition to this, your tutor will clarify the assignment for you.

After successfully completing this assignment, be certain that to write your **Name, ID No., and Address** on the cover page of your assignment and also your **Name and ID No.** on the other pages.

PART- I: MULTIPLE CHOICES

Choose the correct Answer from the given Alternatives

1. Which one of the following is correct?

A. Financial institutions are entities of the financial system which operate within or outside financial markets and play an intermediate role between savers and borrowers.

B. Financial institutions are an institution which collect funds from the public and places them in financial assets, such as deposits, loans, and bonds, rather than tangible property.

C. Financial institutions are establishment that focuses on dealing with financial transactions.

D. All of the above

E. None of the above

2. The following institutions are depository financial institutions **except;**

A. Commercial Banks,

B. Credit Unions,

C. Saving and Loan Associations and

D. Micro Finance Institutions.

E. Insurance companies

F. None of the above

3. Which one of the following is **not** the function of central Bank?

A. Regulator of currency

B. Banker, Fiscal Agent and Advisor to the Government

C. Custodian of Cash reserve of Commercial Banks

D. Custody and Management of Foreign Exchange Reserves

E. All of the above

F. None

4. Of the following one is **wrong** about Monetary Policy and Its Objectives. Identify

A. Monetary Policy refers to credit control measures adopted by CB of a country.

B. Monetary Policy is a policy employing CB's control of the supply of money as an instrument for achieving the objective of general economic policy

C. Monetary Policy is any conscious action undertaken by the monetary authorities

D. All of the above

E. None of the above

5. Which of the followings is an investment in General?

A. Investment is the employment of funds on assets with aim of earning income or capital appreciation.

B. Investment is putting money into something with the expectation of profit.

C. Investment is the commitment of money or capital to purchase financial instruments or other assets to gain profitable returns in the form of: interest, income, or appreciation of the value of the instrument.

D. Investment is related to saving or deferring consumption.

E. All of the above

F. None of the above

PART- II DISCUSSION QUESTIONS

Discuss the Following Concepts to the Point

1. What is coefficient of variation?

2. Discuss the Assumptions of Markowitz Theory

3. Discuss briefly the concept of derivate instrument of forward, option, future and swaps.

4. Discuss briefly the concept of fundamental and technical analysis in market analysis.

PART – III- CASE QUESTION:

In Ethiopia even though there a lot of financial institutions for supporting investor in reducing financing problem, there is no advanced stock market that can be used as an alternative for getting finance and modern trade activities. Due to this, there are some groups which recommend as it is better currently if Ethiopia establishes stock market to facilitate the development of financial system more. But, others argue that it is not time to establish stock market currently due

to different reasons. What is your comment to the Ethiopian government? If your side is with those who are saying Ethiopia needs stock market currently, justify relevant reason. If you are with those who are saying it is not time to establish stock market in Ethiopia, what is your justification? Which activities must be done? If so, when?

PART IV- WORK OUT QUESTIONS

Solve the Following Problems Properly

1. **.** If a 100-day t-bill with a face value of $100,000 is sold (quoted) on a bank discount basis of 12%.

   Required: Find the selling price of the T-bills.

2. The table below provides a probability distribution for the returns on stocks **X** and **Y**. compute expected return and expected risk by using variance and standard deviation.

Year	**Probability**	**Return on Stock X**	**Return on Stock Y**
1	15%	10	40
2	25	5	20
3	20	10	10
4	20	20	15

Required: Compute expected rate of return

3. Suppose that during the most recent 10-year period, the average annual total rate of return on an aggregate market portfolio was 11 % and the average nominal rate of return on government Treasury bills was 7% having the beta portfolio of 0.9. Additionally the following are given:

Portfolio	Average annual rate of return	Beta
A	0.08	0.90
B	0.12	1
C	0.11	1.20

Required: Calculate:

a. The Treynor's ratio of the market.
b. The Treynor's ratio of the each security

4. Assume that there are three securities in the market and Ato Challa want to invest in all of these securities. A portfolio consists of the following information:

	Security K	Security L	Security M
Proportion	40%	25%	35%
Standard deviation	8%	9%	12%

Correlation coefficients between: K & L = 0.4, K & M= 0.6, L & M = 0.7

Required:

a. Calculate expected return of portfolio that Ato Challa could earn by investing in the portfolio.
b. calculate the risk that he could bear by investing in the of portfolio.

5. A financial analyst is analyzing two investment alternatives of P & Q. The estimated rates of return and their chances of occurrence for the next year are given below:

State of Market	Probability	Rates of Return	
		P	**Q**
Recession	0.30	25%	6%
Average	0.50	12%	10%
Boom	0.20	2%	20%

Required:

a. Determine each alternative expected return & risk.

b. Which security is comparatively riskless?

6. Based on question number '1' above, assume that the firm wishes to invest half of its fund in security P and another half of its fund in security Q.

Required:

a. What is the weight given for both securities of P and Q?

b. Calculate the covariance of securities.

c. Calculate the correlation coefficient of securities.

d. What is the expected portfolio return of the firm?

e. What is the expected portfolio variance and standard deviation?

f. Based on your result of question 'e' above, would investing in portfolio reduce the portfolio risk when you compare with the risk of investment in individual security? Explain the reason for it through detail analysis.

7. Assume yourself as a financial analyst. **Ato Kebede** is an investor and he want to invest in a single security. But he wants to choose the security with more return and less risk. There are two securities in the market as security X and security Y. So Ato Kebede needs your advice to help him which security is preferable from risk perspective having the following information in the table.

	Security X	**Security Y**
Expected Return	30%	7%
Standard Deviation	12%	4%