WOLLO UNIVERSITY

CONTINUING AND DISTANCE EDUCATION

ACCOUNTING AND FINANCE DEPARTMENT

FINANCIAL MARKETS AND INSTITUTIONS (AcFn2112)

DISTANCE EDUCATION MODULE

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Financial Institutions and Markets

Content:

Introduction

Hi! Dear learners; how are you doing? Nice to meet you through this teaching material! This course material is designed, assuming that you have a basic knowledge of Accounting and Finance, and/or other business related subjects. This material is designed to acquaint/notify you about the operations of financial markets and institutions. The course is useful to equip you with the role that financial institutions, capital and financial markets play in the social and economic development endeavor of the country.

The material provides an awareness of financial systems and the importance of the financial institutions as the basis for general management decision-making and as a framework for analyzing business situations. It will also attempt to familiarize the learners about the past and current situation of the financial institutions and markets in Ethiopia.

On the whole, this material is intended to cater to the needs of the learners to realize the essential concepts and system of Financial Market and Institutions in such a way that they may be easily intelligible. The course is to be organized in six chapters, which are basically deal with the concept and general overview of the financial markets and institutes with the regulation and practical application of the financial markets and institutions, with special attention to Ethiopian condition.

Each chapter within the module consists of different sections. You will find activities and self-assessment questions. The answers to activities and self-assessment questions are provided at the end of the module. Attempt all questions by yourself before you resort to find the answers. The module also contains a tutor marked assignments. You have to allocate sufficient time for each part of the chapters. Furthermore, we strongly recommend you to read the module and chapters in their order of appearance as it eases up your understanding about the subject matter. We also like to advice you to take notes during your study of the module/chapters, and try all the activities and self-assessment questions.

This course material is designed to enable the learners to realize the meaning and significance of financial institutions and financial markets, in order to comprehend the temperaments of the financial system; to identify the characteristics of good financial flow; to describe the components of a complete financial marketing succession; and to plan effective financial-assets safeguarding mechanisms in the economy.

Thus, at the end of this course, you will be able to:

- explain the role of financial system in the economy of a given nation,
- discuss the relationship between economic system & financial system,
- talk about t the various deposit-taking institutions and their operations;
- explore the nature of various non-deposit-taking institutions & their operations;

- explain the nature and importance of financial markets;
- discuss about the international financial system;
- examine the need and process of financial regulation; and
- conceptualize the nature & role of financial institutions & markets in Ethiopia.

CHAPTER – ONE

AN OVERVIEW OF FINANCIAL SYSTEM

Dear learners welcome to the firs chapter of this course!!

Chapter outline

1. **Introduction**

This chapter is designed in such a way that you can get introduced with the basics of the course. A careful reading in this chapter will offer you a highlight on the financial system and its role in an economy. A financial system that can also be known as a financial sector a central part of an any economy as it supports the development of a real economic sector by facilitating a fluent flow of fund and efficient resource allocation. That is why different authors in the field of financial economics have been arguing that the development of the financial sector as the major determent of an overall economic development of an economy at a national, regional and global level. In addition, its popular attention in academic literatures the sector has been given a due attention by national government policy makers as well as international organization.

A well-developed financial system is a composition of markets, institutions, instruments and various participants as providers and/or seekers of fund, dealers, broker, and regulators in which all will be discussed in brief in this chapter and an in-depth discussion on the subsequent chapters.

Before starting the chapter pleas try to answer the following questions:

- *Have you listed about the term financial institutions and financial markets?*
- *Do you know why the electronic and printing medias daily report about the performance of financial markets and institutions?*
- *How do level of development in a financial sector is related with the development of an overall economy?*
- *Why do the term financial market rose in relation to the recent global economic crises?*

Do you attempt answering the questions? I hope you answered some of the questions as they are related with the day to day issues in a national and international media. To fine-tune your answers don't forget to answer all the after you will complete reading each chapter and at the end of your entire study of this course.

Have a good study!!!!

1.1. Meaning and Features of the Financial System

Financial system is a system that aims at establishing and providing a regular, smooth, effective and efficient linkage between depositors and investors. In other words we may define financial system as: A set of complex and closely connected instructions, agents, practices, markets, transactions, claims, and liabilities relating to financial aspects of an economy.

The financial sector plays a vital role in the economy because it helps money be efficiently channeled from savers to prospective borrowers, making it much easier for firms to obtain financing for profitable investment in new capital and for individuals to borrow against their future income (e.g. to buy a house or car). Had it not been the existence of financial markets and financial institutions, major components of the financial system, borrowers would have to borrow directly from savers. Probably not much borrowing would take place at all, as most would-be borrowers would tend to have a hard time finding individuals able and willing to loan them. Without much borrowing or corporate finance, the economy would surely be a lot less developed, as few businesses would be able to raises funds to invest in new plant and equipment.

1.1.1. Features of Financial System

- Financial system *provides* an ideal linkage between depositors and investors. It encourages savings and investment.
- Financial system facilitates expansion of financial markets over space and time.
- Financial system promotes efficient allocation of financial resources for socially desirable and economically productive purposes.
- Financial system influences both the quality and the pace of economic development

Activity: 1.1.1

1. Define the term financial system by your own words
2. How does the financial system facilitate the development of an economy?
3. List and explain the features of financial system

1.1.2 Goals of Financial system

A. The first goal of financial system is to facilitate the flow of funds from saver to investor

The first goal of the financial system (FS) is to facilitate the flow of funds from savers (entities with a surplus of funds) to investors (entities with a deficit of funds). A financial systems channels fund from the segment/s of the economy where there excess resources to where the fund is really required to financing various corporate and personal investments in two different forms.

1. Direct Financing

When an agent uses direct finance, funds are provided to the investors directly, without the use of an intermediary. This means that investors sometimes sell shares of stock directly to the public in an initial public offer (IPO). For example the recent phenomenon in our country demonstrates that companies are offering share to the general public to establish a giant sugar, cement and other factories that require a huge amount of money.

2. Indirect Financing

Most of the time in countries where the financial system is dominated by financial institutions or the development of the financial markets is at a lower level, it is hardly possible to investor to obtain fund directly from savers, in this case the financial system facilitate the flow through financial intermediaries. A financial intermediary is a firm like a bank that pools the savings of many economic agents (house hold, government) and then passes those funds through to agents (borrowers/investors) that want to invest them. The intermediary in this case is the *middleman*, not the ultimate source of funds.

B. The second goal of the Financial System is to allow economic agents to share risks.

There are many risks that have very high costs but low likelihood of occurring such as natural disasters, early death, failure of a business, and others. Risk averse people prefer to share these risks rather than bear them alone. The risk management function in the financial system is exercised in different ways the most common on is the insurance industries.

C. The third main goal of the FS is to generate liquidity

There are two notions of liquidity concepts. The first is ***the market liquidity*** of an asset (real or financial) is the ease with which it may be traded. Here are the key characteristics of liquid assets:

- Standardized
- Value is well understood by all
- Many potential buyers and sellers

The financial system enhances market liquidity of financial assets by standardizing them in the form of standardized instrument in which potential buyers and sellers can easily traded on it using adequate information supplied by the financial system. In a developed financial system Intermediaries such as brokers and dealers enhance market liquidity

The second notion of liquidity, ***funding liquidity,*** is the ability of an entity to come up with cash on short notice. For example, firm holding cash on its balance sheet, or a person with cash in their wallet, has a high degree of funding liquidity.

Firms and households need funding liquidity to have the option to make investments on short notice. The financial system supplies this liquidity with currency (government supplied), demand deposits (supplied by banks) & lines of credit (also mainly supplied by banks).

Activities: 1.1.2.

1. List and explain the three major goals of a finical system.
2. What is term financing means? And what is the difference between direct and indirect Financing?
3. Who does the financial system facilitate risk management in an economy?
4. How dose financial system improves liquidity?

1.1.3 Components of Financial System

(A) Financial Institutions: it includes regulators, intermediaries, non-intermediaries and others

(B) Financial instruments: monetary claims like stocks, bonds, and loans

(C) Financial Markets: where those instruments are bought and sold

Each of the components will have a detail discussion on the subsequent parts of this chapter and other parts of the module.

1.1.4. Functions of Financial System

A well developed financial system can have the following functions:

1. **Clearing and Settling Payments:**

To "finance" something means to pay for it. Payment is usually effected using either money or credit. A financial system provides ways of clearing and settling payments to facilitate the exchange of goods, services, and assets. For example: Depository institutions (banks) have ways of clearing payments like ATM, Credit/ Cash cards.

2. **Pooling Resources and Subdividing Shares:**

A financial system provides a mechanism for pooling of funds to undertake large-scale indivisible enterprise or for subdividing of shares in enterprises to facilitate diversification.

- The optimal economic scale for production of goods and services is much larger than an individual, family, or even a village total savings.
- A mutual fund provides full divisibility of securities it holds.
- Securitization is an efficient vehicle for pooling non-traded securities and subdividing by selling claims on the pool on the market (e.g., asset backed securities).

3. Transferring Resources across Time and Space:

A financial system provides ways to transfer economic resources through time, across geographic region and, among industries.

- Efficient life-cycle allocations of household consumption.
- Efficient separation of ownership from management
- Connecting capital and ideas
- Makes efficient specialization in production feasibility according to principle of comparative advantage.
- Efficient separation of investment and financing horizons (maturity)
- Short-term deposits used to finance long-term lending
- Roll over loans for financing infinite projects (e.g. going concern firms)

4. Managing Risks:

A financial system provides ways to manage uncertainty and control risk

- Facilitate the efficient allocation of risk-bearing by creating mechanisms for both diversification (pooling) and unbundling (and selling) of risks
- Allows separation of providers of real investments (Personnel, plant, equipment) from providers of risk capital who bears the financial risk of those investments.

5. Providing Information:

A financial system provides price information that helps co-ordinate decentralized decision-making in various sectors of the economy.

- The invisible hand of the market economy relies totally on prices reflecting the individual choices.
- Distortions from true market prices lead to inefficient allocations of resources.
- Interest rates and security prices are information used by households in making consumption-saving decisions, and by firms making investment decisions.
- Prices of traded assets in well functioning, efficient and liquid markets constitute the base for the valuation of all non-traded assets, relying on the principle of relative pricing (valuation using comparables).

6. Dealing with Incentive Problems:

A financial system provides ways to deal with the incentive problems when one party to a financial transaction has information and the other party does not, or when one party is an agent of another.

- Reduces the incentive problems that make financial contracting difficult and costly.
- Arises because parties cannot easily observe or control one another, and because contractual enforcement mechanism can be impossible, or very costly, to invoke.
- Raising external capital, selling off risks, and risk-sharing arrangements becomes more costly (or might fail altogether).

Activity

1. What are the major components of a financial system**?**
2. What are the functions of a financial system?

1.1.5 Financial assets

An asset is any possession that has value in any exchange. Assets can be classified as:

- Real asset
- Financial asset

A real asset is an entity that generates a flow of goods or services over time. Examples include land, factories, inventions, business plans, and goodwill with consumers, reputation. As you can see from the list of examples a real asset can be either tangible or intangible. On the other hand **A financial asset** is a legal contract that gives its owner a claim to payments, usually generated by a real asset. Examples include currency (Birr, dollar, etc), stocks, bonds, bank deposit, bank loans, options, futures, etc. Financial assets in other words refer to the different financial instruments on which parties in the financial market traded with.

For financial instruments, the typical future benefit is a claim to future cash. The entity that has agreed to make future cash payment is called the issuer of the financial assets whereas the owner of the financial asset is referred to as the investor. In other words in financial market investors sale financial asset to savers in which the financial asset represents claims to the payments of a sum of money sometimes in future (repayment of principle) and/or a periodic (regular or not so regular) payment in the form of interest or dividend. With regard to bank deposit or government bond or industrial debenture, the holder receives both the regular periodic payments and the repayment of the principal at a fixed date. Whereas with regard to ordinary share or perpetual bond, only periodic payments are received (which are regular in the case of perpetual bond but may be irregular in the case of ordinary share).

For example: If you invested in the share of Buna Bank, a share of Buna Bank stock that you own gives you a share of the Buna's assets and the right to receive a share of dividends (profits), if Buna Bank is paying

any. To Buna's other owners, the stock means a slightly diluted share of the company's assets for them, and an obligation to include you in their dividend payments.

From the example above it is possible to learn that a financial asset owed by someone is a financial liability to the other who issued or sold it.

1.1.6. Principal economic functions of Financial Assets

Financial assets have two basic economic functions

- First, financial assets transfer funds from those parties who have surplus funds to invest to those who need funds to invest in tangible assets
- As their second function, they transfer funds in such a way as to redistribute the unavoidable risk associated with the cash flow generated by tangible assets among those seeking and those providing the funds.

In a competitive economy there will be number of individuals and businesses that have productive use for more financial resources than they have on hand at a given time. Investment is impossible if there is no way to obtain fund from other source. Thus availability of outside resources is critical to the level of investment and thus employment and income in the economy.

In an economy there will be some individual and entities with fewer profitable investments than resources and some others who have profitable investments but no necessary fund. The entities with resources will share it only if they can receive promise to share the investment return. The financial assets provide this promise which helps the transfer of financial resources which will lead to the raise in the level of investment and income and wealth of entire economy.

Unfortunately the return on investment is risky. If the party who make the investment bears all the risk the incentive to undertake investment may be limited. If the risk can be redistributed or shared with the supplier of fund then the incentive to go through investment is enhanced. Thus financial assets provide mechanism of sharing risk and enhance the investment in the economy.

Activity1. Why financial assets are considered as highly important in an economy?

1.1.7. Properties of Financial Assets

Financial assets have their own typical characteristics that differentiate them from non financial assets. These characteristics are listed below

1. **Money-ness:**

- Some financial assets are used as a medium of exchange or used in settlement of transaction. These assets are called money.
- Those financial assets which can be transformed into money at little cost, delay or risk can also be considered as money.

For example: Checking account, Treasury-bill –easily converted, and other money market instruments

- Therefore, money-ness is clearly a desirable property for investors.

In other words we can say it as the ability of the financial assets to act as medium of exchange or sell for settlement of claims is termed as money-ness.

2. Divisibility and Denomination:

Divisibility relates to the medium size at which a financial asset can be liquidated and exchanged for money or the extent to which fractional amounts of an asset can be sold and bought. The smaller the size, the more the financial asset is divisible.

For example:

(1) Physical assets are often indivisible (cars).

(2) A financial asset such as deposit at a bank is infinitely divisible but other financial assets have varying degrees of divisibility depending on their denomination, which is the dollar value of the amount that each chapter of the asset will pay at maturity.

Therefore, all financial assets can be treated as divisible.

In other words we can say the minimum size at which a financial asset can be liquidated and exchanged for money is known as divisibility. This depends on size, transfer lot and denomination of financial asset.

3. Term of Maturity:

It is the length of time until final payment, or the owner is entitled to demand liquidation. Maturity may be uncertain for some financial instruments or assets.

In other words we can say liquidity. For example

- How easily are the assets converted to cash? Or
- It refers to the speed with which the asset can be sold.

Simply liquidity refers ability to convert an asset into cash without any loss of money and time. In other words how much the seller will lose if they wish to sell the asset immediately decides the liquidity and illiquidity.

4. Convertibility:

Is asset convertible to another type of asset? In some cases, the conversion takes place within one class of financial assets, as when a bond is converted into another type of bond. In other situation, one financial asset can be converted into other financial asset, for example, a corporate convertible bond is a bond that the bondholder can change in to equity.

In other words we can say some financial assets can be converted into other financial asset at the option of the investors. For example: one bond can be converted into other bond or bonds can be converted into shares at the option of the investor if the issuer gives such an option to investor it.

5. Currency:

If cash flow is not in domestic currency, exchange rate fluctuations affect value of cash flow in domestic currency. Thus, to reduce foreign exchange risk, some issuers have issued dual currency securities. For example, some issuers pay an interest in one currency but principal or redemption value in another currency i.e., interest in Sudan Dinar and Principal in US Dollar.

In other words we can say the financial assets are mostly denominated in one currency e.g., in US dollar or Euro etc. Some issuers will also issue dual currency securities to reduce the foreign currencies risk of the investor.

6. Risk/ Return Predictability:

Most assets have some risks. Investors are risk takers, so must be compensated for taking the risk. Some of the risks include:

- *Risk of default*: not receiving promised cash flows in full and/ or on time.
- *Interest rate risk*: fluctuations in the interest rate cause the value of assets to fluctuate. All debt securities carry some interest rate risk.
- *Currency exchange risk*: exchange rate fluctuations affect value of non domestic asset.
- *Regulatory risk*: changes in law affect the tax treatment of asset prospects of an issuer of assets.

The uncertainty of the risks increases with time horizon.

Activity: 1. List and explain the typical characteristics of financial assets.

1.2. An overview of Financial Markets

A market refers to an institution or arrangement that facilitates the purchase and sale of goods & services. Financial markets are structures through which funds flow (Saunders and Cornett, 2004). Financial markets such as the bond and stock markets are important in channeling funds from people who don't have a

productive use for them to those who have shortage and who do (Mishkin and Eakins, 2006). Well functioning financial markets are a key factor in producing high economic growth, and poorly performing financial markets are reasons that many countries in the world remain desperately poor. Activities in financial markets also have direct effect on personal wealth, the behavior of businesses and consumers, and the cyclical performance of an economy (Mishkin and Eakins, 2006). Fabozzi and Modigliani (2003) identified the following economic functions of financial markets:

1. the interaction of buyers and sellers in the financial market determines the price of the traded security or equivalently the required return on the financial instrument is determined
2. because financial markets provide a mechanism for an investor to sell financial securities, it offers liquidity
3. Financial markets reduce the search and information costs (e.g. advertizing to sell or purchase a financial instrument) of transacting.

Activities: 1.2

2. How can you define financial market? And explain what kinds of assets are traded in a financial market? Give examples
3. What are the benefits of a capital market in an economy?

1.2.1. Classification of Financial Markets

There are feive ways that one can classify financial markets: (1) nature of the claim, (2) maturity of the claims, (3) new versus seasoned claims, (4) cash versus derivative instruments, and (5) organizational structure of the market.

1. On the basis of the nature of the claim: Debt Markets Vs Equity Market

The claims traded in a financial market may be either for a fixed dollar amount (debt instruments) or a residual amount (equity instruments). Financial markets can be classified according to the nature of the claim as *debt market and equity/stock market*. Financial markets in which debt instruments are traded are called debt or generally bond markets whereas Financial markets in which equity instruments are traded, stock or equity markets. Classifying financial market based on the nature of claim may create confusion as to where to categorize some claims having the property of both debt and equity such as preferred stock. Preferred stock represents an equity claim that entitles the investor to receive a fixed dollar amount. Consequently, preferred stock has in common characteristics of instruments classified as part of the debt market and the equity market.

Activity: Distinguish between the debt and equity markets

2. On the basis of the maturity of the claims: Money Markets Vs Capital Markets

A second way to classify financial markets is by the maturity of the claims. For example, a financial market for short-term financial assets is called the money market, and the one for longer maturity financial assets is called the capital market. The traditional cutoff between short term and long term is one year. That is, a financial asset with a maturity of one year or less is considered short term and therefore part of the money market. A financial asset with a maturity of more than one year is part of the capital market. Under this classification the major focus is to identify a typical market for debt security on the bases of their maturity. At this juncture you can realize that dent instruments with short term maturity are traded in the money market whereas debt instruments with long term maturity will be traded in Equity Market.

Activity: Distinguish between the money and capital market

3. On the basis of whether the claims are a new issue or seasoned claims: Primary Market Vs Secondary Market

A third way to classify financial markets is by whether the financial claims are new issued. When an issuer sells a new financial asset to the public, it is said to "issue" the financial asset. The market for newly issued financial assets is called the primary market. For instance corporations raise funds through new issues of financial instruments such as stocks and bonds in a primary market for new projects or expand the existing companies. As it will be discussed on the six chapter of this chapter in Ethiopian context private companies can issue only equity securities and recently attempt has been exerted to raise equity fund from the general public or ultimate saver in the form of initial public offer (IPO). Bond in the primary market can be issued only by government to finance different development projects and support the government finance; however as compared to the equity securities the debt securities in Ethiopia are very rare

After a certain period of time, the financial asset is bought and sold (i.e., exchanged or traded) among investors. The market where this activity takes place is referred to as the secondary market. Secondary market is very essential to keep the financial asset at most liquidity as well to make participants of the secondary market to be well informed about the value of the traded securities.

Activity: Distinguish between primary and secondary market.

4. Based on the cash versus derivative instruments

Some financial assets are contracts that either obligate the investor to buy or sell another financial asset or grant the investor the choice to buy or sell another financial asset. Such contracts derive their value from the price of the financial asset that may be bought or sold. These contracts are called derivative instruments and the markets in which they trade are referred to as derivative markets. For example A share of Ford Co. stock is a "pure financial asset," while an option to buy Ford shares is a derivative security whose value depends on the price of Ford stock. The array of derivative instruments includes options contracts, futures contracts, forward contracts, swap agreements, and cap and floor agreements. As far as these markets are the newest of the financial security markets in the world they are mostly traded in developed financial markets.

Activity: what is the typical characteristic of derivative market?

4. Based on organizational structure of the market

Although the existence of a financial market is not a necessary condition for the creation and exchange of a financial asset, in most economies financial assets are created and subsequently traded in some type of organized financial market structure. A financial market can be classified by its organizational structure. These organizational structures can be classified as auction markets and over-the-counter markets.

Activity: Differentiate between the organized stock market and over the counter market

In addition to the above five classifications made by Fabozi (2004), there are some other ways of classifying a financial markets. As you have observed from the above discussion the classification are not all mutually exclusive rather the possibility in which one market may include securities traded in one or more other markets is very high. Therefore in the following parts of this section some the classification in which you will have an additional and in depth discussion on the subsequent chapters in the module are given as follows:

- **Spot versus futures** markets. Spot markets are markets in which assets are bought or sold for "on-the-spot" delivery (literally, within a few days). Futures markets are markets in which participants agree today to buy or sell an asset at some future date. For example, a farmer may enter into a futures contract in which he agrees today to sell 5,000 kg of coffee six months from now at a price of Birr 45 a kilogram. On the other side, an international coffee processing companies looking to buy coffee in the future may enter into a futures contract in which it agrees to buy soybeans six months from now.

- **Private versus public markets**. **Private markets,** where transactions are negotiated directly between two parties, are differentiated from **public markets,** where standardized contracts are traded on organized exchanges. Bank loans and private debt placements with insurance companies are examples of private market transactions. Because these transactions are private, they may be structured in any manner that appeals to the two parties. By contrast, securities that are issued in public markets (for example, common stock and corporate bonds) are ultimately held by a large number of individuals. Public securities must have fairly standardized contractual features, both to appeal to a broad range of investors and also because public investors do not generally have the time and expertise to study unique, non-standardized contracts. Their wide ownership also ensures that public securities are relatively liquid. Private market securities are, therefore, more tailor-made but less liquid, whereas publicly traded securities are more liquid but subject to greater standardization.
- **Commodity markets/Commodities exchanges**: "Open and organized marketplace where ownership titles to standardized quantities or volumes of certain commodities (at a specified price and to be delivered on a specified date) are traded by its members; such as fuels, metals, and agricultural commodities exchanges". The Ethiopian Commodity Exchange (ECX) can be taken as example of such a market.
- **Foreign exchange markets**, which facilitate the trading of foreign exchange. For funds to be transferred from one country to another, they have to be converted from the currency in the country of origin (say, Dollars, Euros or Yuan) into the currency of the country they are going to (say, Birr). The foreign exchange market is where this conversion takes place, and so it is instrumental in moving fund between countries.

Dear learner, it can be possible to make other classifications, but this breakdown is sufficient to show that there are many types of financial markets. Also, note that the distinctions among markets are often blurred and unimportant except as a general point of reference. For example, it makes little difference if a firm borrows for 11, 12, or 13 months, hence, whether we have a "money" or "capital" market transaction. You should be aware of the important differences among types of markets, but don't get hung up trying to distinguish them at the boundaries. The details about the types of markets and how they are operating will be discussed in detail using some examples of major events in a well developed financial system.

Activities: 1. What are the major grounds against which financial markets are clarified

1. List out the different types of financial markets and explain their typical characteristics

1.3. An overview of Financial Institutions

1.3.1. Financial institutions

Financial institutions serve as intermediaries by channeling the savings of individuals, businesses, and governments into loans or investments. They are major players in the financial marketplace, with a huge financial asset of most economies under their control. They often serve as the main source of funds for businesses and individuals. According to Saunders and Cornett (2004) financial intermediaries are also defined as companies whose primary function is to intermediate between lenders and borrowers in the economy. Financial institutions perform the essential functions of channeling funds from those with surplus funds to those with shortages of funds. Some financial institutions accept customers' savings deposits and lend this money to other customers or to firms. In fact, many firms rely heavily on loans from institutions for their financial support. Financial institutions are required by the government to operate within established regulatory guidelines.

Financial institutions are what make financial markets work. Without financial institutions, financial markets would not be able to move funds from who save to people who have productive investment opportchapteries; and thus have important effects on the performance of the economy as a whole. The most important financial institution in the financial system of an economy is the central bank, the government agency responsible for the conduct of monetary policy (Mishkin and Eakins, 2006). In addition to this, institutions in the financial system include; commercial and savings banks, insurance companies, mutual funds, stock and bond markets, credit unions and non-formal financial institutions (that are common in least developed countries including Ethiopia).

The major services of financial institutions as identified on Fabozi (2004) are to one or more of the following

1. Transforming financial assets acquired through the market and constituting them into a different and more preferable type of asset—which becomes their liability. This is the function performed by financial intermediaries, the most important type of financial institution.
2. Exchanging financial assets on behalf of customers.
3. Exchanging financial assets for their own account.
4. Assisting in the creation of financial assets for their customers and then selling those financial assets to other market participants.
5. Providing investment advice to other market participants.
6. Managing the portfolios of other market participants.

Financial intermediaries include: depository institutions that acquire the bulk of their funds by offering their liabilities to the public mostly in the form of deposits; insurance companies (life and property and casualty

companies); pension funds; and finance companies. The second and third services in the list above are the broker and dealer functions. The fourth service is referred to as securities underwriting. Typically, a financial institution that provides an underwriting service also provides a brokerage and/or dealer service

Some nonfinancial businesses have subsidiaries that provide financial services. For example, many large manufacturing firms have subsidiaries that provide financing for the parent company's customer. These financial institutions are called captive finance companies.

1.3.2. Role of Financial Institutions

Obtain funds by issue of financial claims and they invest those funds in the financial instruments issued by other participants. The investment made by the financial intermediaries, their assets, can be in the form of loans or securities. Thus the financial intermediaries plays a basic role of transforming the financial assets which are less desirable for large part of public into other financial assets, their own liability, which are widely preferred by public. The intermediaries perform the following economic function:

1. Risk reduction through diversification
2. Maturity intermediation
3. Reduce the cost of contracting
4. Information Production
5. Providing payment mechanism

Each of this listed functions are discussed in brief below:

1. **Risk reduction through diversification**:

By choosing portfolio of investment rather than investing all one's resources in a single asset, the financial intermediary reduces the total risk to which they are expensed. Even if individuals can also do this on their own, they may not be able to do this as cost effective as institutions depending on the amount of funds they have to invest.

2. **Maturity Intermediation**:

Financial intermediaries provide the service of intermediating across maturity or borrowing short and lending long.

This means that they accepts fund from investors who desire to lend their funds for short period and they gives those funds to their borrowers who desire a long maturity. Maturity intermediation presents two implications to financial markets:

(a) Investors have more choice concerning the maturity of their investment; borrowers have more choice for length of their debt obligation.

(b) Counting up on successive short term deposits (which has a lower interest rate) providing fund until maturity, the financial institutions can provide fund to borrowers at a rate lower than that offered by individual investors.

3. **Reduces the cost of contacting**:

Intermediaries can reduce the cost of writing and understanding financial contract. They can also reduce the cost of monitoring the activities of the contracting parties to ensure that the terms of contract are observed. This is possible by appointing professional by financial intermediaries as investment of funds are their normal business and they have large amount of fund to be invested. The intermediaries can promise better service to lenders compared to borrowers of the fund.

4. **Information Production:**

Financial intermediaries provide the services of production of information about the value of assets. Intermediaries expend considerable resources in collecting, processing, analyzing and interpreting facts and opinions about future profitability and financial strength of the firm they are financing. Intermediaries can also hire specialists in the production of the information. The collection and analysis of information is important to them as their success depends on the management of investment based on their information.

5. **Providing a payment mechanism**

Most of the business transactions made today is not done with cash. Instead payments are made using checks, credit cards, debit cards, and electronic transfer of funds. Financial intermediaries provide these methods of making payments

1.3.3. Types of Financial Intermediaries or Financial Institutions

Financial institutions are divided into three types:

1. Depository Financial Institutions
2. Non-Depository Financial Institutions
3. Investment Companies

1.3.3.1. Depository Institutions

Depository institutions are financial intermediaries that accept deposits usually demand deposits and savings deposits from customers and invests those funds in loans and securities. Deposits are liabilities of these institutions. With the fund raised through deposits they make direct loans to various entities. Their income comes from the loans they make and securities they purchase. One key characteristics of a depository institution is that its liabilities include various deposits, such as time, saving, or checking accounts. Further, most depository institutions also specialize in asymmetric information problems specific to loan markets.

They include commercial banks (or simply banks), savings and loan associations (S&Ls), savings banks, and credit unions. It is common to refer to depository institutions other than banks as “thrifts.” Depository

institutions are highly regulated and supervised because of the important role that they play in the financial system. Each of them is briefly discussed in the following part:

A) Commercial banks

Commercial banks accumulate deposits from savers and use the proceeds to provide credit to firms, individuals, and government agencies. Thus they serve investors who wish to "invest" funds in the form of deposits. Commercial banks use the deposited funds to provide commercial loans to firms and personal loans to individuals and to purchase debt securities issued by firms or government agencies. They serve as a key source of credit to support expansion by firms. Historically, commercial banks were the dominant direct lender to firms. In recent years, however, other types of financial institutions have begun to provide more loans to firms.

Like cost other types of firms, commercial banks are created to generate earnings for their owners. In general, commercial banks generate earnings by receiving a higher return on their use of funds than the cost they incur from obtaining deposited funds. For example, a bank may pay an average annual interest rate of 4 percent on the deposits it obtains and may earn a return of 9 percent on the funds that it uses as loans or as investments in securities. Such banks can charge a higher interest rate on riskier loans, but they are then more exposed to the possibility that these loans will default.

Although the traditional function of accepting deposits and using funds for loans or to purchase debt securities is still important, banks now perform many other functions as well. In particular, banks generate fees by providing services such as travelers' checks, foreign exchange, personal financial advising, and other service in the financial market. Thus commercial banks in a well developed financial system are able to offer customers "one stop shopping."

B) Savings Banks and Savings and Loan Associations

Saving Banks and **Savings** and **Loan Associations** are depository institutions that traditionally have specialized in extending mortgage loans to individuals who wish to purchase homes. Just as there is asymmetric information in business loan deals, a person who wants a mortgage loan may or may not become a bad risk after receiving the loan. And so there are adverse selection and moral hazard problems specific to mortgage lending.

C) **Credit Union**

The credit unions are the smallest of all depository institution. A credit union is a depository institution that accepts deposits from and makes loans only to a closed group of individuals. To be a member of a credit union and eligible for its services, a person usually must be employed by a business with which the credit

union is affiliated. Most credit unions specialize in making consumer loans, although some have branched into mortgage loan business.

1.3.3.2 *Non-Depository Financial Institutions*

Non-depository or contractual intermediaries bundles the provision of some other contractual services, with the investment of funds e.g., insurance companies.

1.3.3.2.1. Insurance company

Insurance companies specialize in trying to limit adverse selection and moral hazard problems unique to efforts insure against possible future risks of loss. They issue policies, which are promises to reimburse the holder for damages suffered in the event of a "bad" event, such as an auto accident.

The detail discussion on how insurance companies provide the reduction of adverse selection and moral hazard problem will be discussed on the subsequent chapter on financial institution in this chapter the aim is just to introduce you with what insurance companies are doing in the financial system and their taxonomy .

1.3.3.2.2. Types of Insurance Companies

There are two basic kinds of insurance companies classified on the basis of the major types of insurance policies they are offering.

A. **Life insurance companies***:* charge premiums for policies that insure people against the financial consequences associated with death. They also offer specialized policies, called **annuities**, which are financial instruments that guarantee the holder fixed or variable payment at some future date.
B. **Property and casualty insurers***:* insuring against risks relating to property damage and liabilities arising from injuries or deaths caused by accidents or adverse natural events. Property and casualty insurance companies offer policies that insure individuals and businesses against possible property damages or other financial losses resulting from injuries or deaths sustained as a result of accidents, adverse weather, earthquakes and soon.

Most insurance companies especially here in Ethiopia are formed by combining the above two types of insurance services, as a result in the current financial system of Ethiopia expect the newly introduced life insurance company all other financial institutions are selling both life and non life insurance policies.

1.3.3.2.3 Pension Funds

Pension funds are institutions that specialize in managing funds that individuals have put away to serve as a nest egg when they retire from their jobs and careers. Part of what many workers get paid is in the form of contributions that their employers make to such funds.

The key specialty of pension funds is creating financial instruments called pension annuities. These are similar to the annuities offered by life insurance companies. But life insurance annuities usually are intended as supplements to a person's income at some fixed point in the future, Whether or not a pension is working at

the time. In contrast, pension annuities apply only to the future event of retirement. Most people regard pension annuities as their main source of future income after requirement.

Why do people use the services of pension funds instead of saving funds on their own? One reason certainly is asymmetric information, because those who operate pension funds may be better informed about financial instruments and markets than those who save for retirement. But there is another reason that probably is more important. This is the existence of economies of scale. Many people would find it very costly to monitor the instruments they hold on a day-by-day basis throughout their lives. Pension funds do this for many people at the same time, thereby spreading the costs across large numbers of individuals.

Pension funds exist to protect future pensioners from losses on their retirement savings. Hence, they specialize in monitoring capital market instruments for risks that might arise from adverse selection and moral hazard problems experienced by issuers.

1.3.3.2.3. Mutual Funds

A Mutual fund is a mix of redeemable instruments, called "shares" in the fund. These shares are claims on the returns on financial instruments held by the fund, which typically include equities, bonds, government securities, and mortgage backed securities.

Mutual funds usually are operated by investment companies, which charge shareholders fees to manage the funds.

One reason for the growth of mutual funds is that many share holders believe that Investment Company managers know best how to balance risks and returns on their behalf. This makes shareholders willing to pay fees for the manager's knowledge and skill.

There is more important reason, however, for the growth of mutual funds. Like pension funds, mutual funds take advantage of financial economies of scale. Mutual fund shareholders typically pay lower fees to investment companies than they might have to pay brokers to handle their funds on a personal basis. The reason is that mutual fund managers can spread the costs of managing shareholders' funds across all the shareholders.

1.3.3.2.4. Finance Companies

A finance company also specializes in making loans to individuals and businesses. Finance companies, however, do not offer deposits. Instead, they use the funds invested by their owners or raised through issuing other instruments to make loans to households and small businesses. Many finance companies specialize in making loans to people and firms that depository institutions regard as high risks.

1.3.3.2.5. Investment Banking firms

Investment Banking is financial institutions that underwrites and distributes new investment securities and helps businesses obtain financing. Investment banking houses in the US such as Goldman Sachs or Credit

Suisse Group provides a number of services to both investors and companies planning to raise capital. Such organizations:

(a) help corporations design securities with features that are currently attractive to investors,

(b) then buy these securities from the corporation, and

(c) resell them to savers.

Although the securities are sold twice, this process is really one primary market transaction, with the investment banker acting as a facilitator to help transfer capital from savers to businesses.

Activities:

1. What is the main difference between depository and non depository financial institutions?
2. Distinguish between the role of a commercial bank and that of a mutual fund.
3. Which type of financial institution do you think is most critical for firms?
4. What is the difference between a pure commercial bank and a pure investment bank?

Chapter summary

The development of a financial system of a given economy is directly linked with the overall economic development. Financial system is primarily composed financial assets or instruments and the financial market and financial institutions through which the financial assets are traded, exchanged and transferred from ultimate saver to ultimate investors.

Financial markets are the centers or arrangements that provide facilities for buying and selling of financial claims and services. The corporations, financial institutions, individuals, and governments trade in financial products on these markets either directly or through brokers and dealers. The participants on the demand and supply sides of these markets are financial institutions, agents, brokers, dealers, borrowers, lenders, savers, and others who are inter-linked by the laws, contracts, covenants, and communication network

Financial market can be classified by taking into account the different aspects of the market as basis. Financial market can be classified as debt or equity market based on the nature of the clam; as money and capital market based on maturity of the claim; as primary and secondary market based on the newness or seasonality of the claim; as actuation or over the counter based on the organizational structure. It is also possible to have another classification such as derivative markets, commodity market, foreign exchange market, private and public market and others.

Financial institutions or financial intermediaries includes depository institutions (banks, credit and saving association) and non-depository institutions such as insurance companies, micro finances, financing companies as well as investment banks are required in the financial system in order to stream line the financial sector in a way that it can facilitate the growth and development of a given economy.

Model Exam Question

Part I: Multiple Choice Questions

1. Which one of the following statement is false?
   A. The development of financial system and economic growth are related
   B. It will be easy to invest in countries where a financial system is developed
   C. A financial system eases the possibility of making payment for goods and service
   D. the existence of large number of banks is the only requirement for well of financial system
   E. All except "D"
2. Financial assets are characterized by all of the following except,
   A. Money-ness
   B. Divisibility
   C. Predicable risk
   D. Predictable return
   E. All of the above
3. Which one of the following financial institution is a deposit taking financial institution
   A. Commercial bank of Ethiopia
   B. Oromia Micro Finance institution
   C. Ethiopian Insurance corporation
   D. National Bank of Ethiopia
   E. Only "A" and "B"
4. When a prospective investor planned to raise fund from financial market in the form of equity, which one of the following cannot be true?
   A. He will issue stocks in the capital market
   B. He will issue stocks in the debt market
   C. He will issue stock in the equity market
   D. He will issue stocks in primary market
   E. None of the above
5. One among the following is different
   A. Money market
   B. Capital market
   C. Commodity Market
   D. Debt Market
   E. Foreign exchange market

Part II: Discussion Question

1. Explain the difference between commercial banks and investment banks
2. Assume that Jimma City Administration want to raise fund to finance the various long term projects in the city. If you are the financial advisor of the Mayor of the city what do you advise the mayor about the type of security to be issued the kind of market in which such kind of fund can be procured?
3. If you buy a share or stock of Hiber Sugar Factory which is offered to establish a new sugar factory, to which type/s of finical market instruments you categorize this stock.
4. A Bond sold by the Ethiopian Electric Power Corporations to the Ethiopian in Diaspora for financing the new power projects can be categorized as which of the financial markets discussed in this section?
5. In which Market can a coffee traded in ECX today at $1000 to be sold after 3 months be a typical example of financial claim?

Answer to Model Exam Questions:

Part I: Multiple Choice Questions

1. D 2. E 3. E 4. B 5. C

CHAPTER TWO

FINANCIAL INSTITUTIONS IN FINANCIAL SYSTEM

Introduction

Hello Dear Learners! We would like to say welcome to the second chapter of the module. In this chapter we explore the meaning and nature of financial institutions, types and classifications of financial institutions, the role and kind of depository institutions; function and responsibility of the non-depository institutions and the importance of investment banking firms. The chapter is organized into different distinct parts to help you master the issues piece by piece. It familiarizes you with many conceptual frame works of financial institutions and the formation of both the depository and non-depository establishments.

You will also have to appreciate the usefulness of the financial organizations in the financial system for the country's development. Doing well in this respect will therefore help you lay a good foundation for your success in the next consecutive parts of the course. At the end of the chapter different questions and check points will be presented to help you master the subject gradually. I wish you good learning time!

After completing this chapter successfully, you should be able to:

- √ understand the meaning and components of financial system,
- √ describe the nature and role of financial intermediaries,
- √ portray activities of commercial banks,
- √ discuss the characteristics of savings and loan associations, and
- √ explain the characteristics of credit unions.

2.1 Financial Institutions at a Glance

Financial institutions are those organizations, which are involved in providing various types of financial services to their customers. The financial institutions are controlled and supervised by the rules and regulations delineated by government authorities. Some of the financial institutions also function as mediators in share markets and debt security markets.

The principal function of financial institutions is to collect funds from the investors and direct the funds to various financial services providers in search for those funds.

These institutions include: Banks, Stock Brokerage Firms , Non Banking Financial Institutions, Building Societies , Asset Management Firms, Credit Unions and Insurance Companies. Financial institutions deal with various financial activities associated with bonds, debentures, stocks, loans, risk diversification, insurance, hedging, retirement planning, investment, portfolio management, and many other types of related functions.

With the help of their functions, the financial institutions transfer money or funds to various tiers of economy and thus play a significant role in acting upon the domestic and the international economic scenario. For carrying out their business operations, financial institutions implement different types of economic models. They assist their clients and investors to maximize their profits by rendering appropriate guidance. Financial institutions also impart a wide range of educational programs to educate the investors on the fundamentals of investment and also regarding the valuation of stock, bonds, assets, foreign exchanges, and commodities.

- Financial institutions can be either private or public in nature.

Granted that financial institutions manufacture loans out of money which people lend, what else can we say about what they do? As a general rule, financial institutions are engaged in what is called intermediation. Intermediation means acting as a go-between for two parties. The parties here are usually called lenders and borrowers or sometimes surplus sectors or chapters and deficit sectors or chapters.

What general principles are involved in this going between? The first thing to say is that it involves more than just bringing two parties together. One could imagine a firm which did this. It could keep a register of people with money to lend and a register of people who wished to borrow. Every day, people would join and leave each register and the job of the firm would be to scan the lists continuously, crying eureka (or some thing else of an appropriate kind) every time it finds a potential lender whose desires match those of a potential borrower. It would then charge a commission for introducing them to each other. Something else has to be provided.

As a general rule what financial intermediaries do is to create assets for savers and liabilities for borrowers which are more attractive to each than would be the case if the parties have to deal with each other directly.

2.2 The role of financial institutions

1. Providing a payments mechanism

Most transactions made today are not done with cash; instead payments are made using checks, credit cards, debit cards and electronic transfers of funds. These methods for making payments are provided by certain financial institutions. Financial institutions perform check clearing and wire transfer services. A debit card differs from a credit card in that in the latter case, a bill is sent to the credit card holder periodically (usually once a month) requiring payments for transactions made. In the past in the case of a debit card, funds are immediately withdrawn (that is, debited) from the purchaser's account at the time the transaction takes place.

2. Maturity transformation

The financial institutions (e.g. banks) perform the valuable functions of converting funds that savers are willing to lend for only short period of time into funds the financial institution themselves are willing to lend to borrowers for longer periods. Maturity transformation function of financial institution has two implications. First, it provides investors with more choices concerning maturity for their investments; borrowing has more choices for the length of their debt obligations. Second, because investors are naturally reluctant to commit funds for a longer period of time, they will require that long-time borrowers pay a higher interest rate than on a short -time borrowing. A financial institution is willing to make long-term loans, and at a lower cost to the borrower than an individual investor would, by counting on successive deposits providing the funds until maturity. Thus, the second implication is that the cost of long-term borrowing is likely to be reduced.

3. Reducing risk through diversification

Consider the example of an investor who places funds in an investment company. Suppose that the investment company invests the funds received in the stock of a large number of companies. By doing so, the investment company has diversified and reduced its risk. Investors who have a small sum to invest would find it difficult to achieve the same degree of diversification because they don't have sufficient funds to buy shares of a large number of companies. Because financial institutions acquire funds from large numbers of surplus chapters and provide funds to large numbers of deficit chapters, substantial diversification is effected and the risk of financial loss is reduced. The diversification is the holding of many (rather than a few) assets reduces risk. Because all assets don’t behave in the same way at the same time, therefore, the behavior of one asset will on some occasions cancel out the behavior of another. Financial institutions (intermediaries) also offer the risk reducing benefits of management expertise since they do have a manpower that specializes in credit risk assessment & monitoring of borrowers.

4. Reducing transaction costs

Not only do Financial institutions have a greater incentive to collect information, but also their average cost of collecting relevant information is lower than for individual investor (i.e., information collection enjoys economies of scale). An economy of scale is a concept that costs reduction in trading and other transaction services results from increased efficiency when financial institutions perform these services.
Such economies of scale of information production and collection tend to enhance the advantages to investors of investing via financial institutions rather than directly investing themselves.

2.3 Classification of Financial Institutions

⇒ Dear learners! How are you doing? Are we together? I suppose so! I believe, now you may have some hint about the financial institutions in brief. Having it in mind, let us see things, from the grass root level starting from the very classification of the considered institutions. I wish you pleasant study time!

Financial institutions are the firms that provide financial services and advices to its clients. The financial institutions are generally regulated by the financial laws of government authority. Types of Financial Institutions include:

- √ Commercial banks,
- √ Credit unions,
- √ Stock brokerage firms,
- √ Asset management firms,
- √ Insurance companies,
- √ Finance companies,
- √ Building Societies, and
- √ Retailers.

The 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. The financial institutions are also responsible to transfer funds from investors to the companies. Typically, these are the key entities that control the flow of money in the economy. The services provided by the various types of financial institutions may vary from one institution to another.

For example:

- The services offered by the commercial banks are: insurance services, mortgages, loans and credit cards.
- The services provided by the brokerage firms, on the other hand, are different and they are - insurance, securities, mortgages, loans, credit cards, money market and check writing.
- The insurance companies offer – insurance services, securities, buying or selling service of the real estates, mortgages, loans, credit cards and check writing.
    - ♥ The credit union is 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.

- The stock brokerage firms are the other types of financial institutions that help both the corporations and individuals to invest in the stock market.
- Another type of financial institution is the asset management firms. The prime functionality of these firms is to manage various securities and assets to meet the financial goals of the investors. The firms also offer fund management advice and decisions to the corporations and individuals.

On the other hand, 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. Correspondingly, there are several institutions that act as the middleman and join the deficit and surplus chapters. Investing money on behalf of the client is another variety of functions of financial institutions.

⇒ Financial institutions can also be categorized as deposit taking institutions, and this include:

- √ Finance and Insurance Institutions,
- √ Investment Institutions,
- √ Pension Providing Institutions, and
- √ Risk Management Institutions.

At the same time, there are several governmental financial institutions assigned with regulatory and supervisory functions. These institutions have played a distinct role in fulfilling the financial and management needs of different industries, and have also shaped the national economic scene. Deposits taking financial organizations are known as commercial banks, mutual savings banks, savings associations, loan associations and so on. The primary functions of financial institutions of this nature are:

- ♦ Accepting Deposits;
- ♦ Providing Commercial Loans;
- ♦ Providing Real Estate Loans;
- ♦ Providing Mortgage Loans; and
- ♦ Issuing Share Certificates.

Finance companies provide loans, business inventory financing and indirect consumer loans. These companies get their funds by issuing bonds and other obligations. These companies operate in a number of countries. On the other hand, there are insurance companies that provide coverage for a variety of risk factors and they also provide several investment options. Insurance companies provide loans for a number of purposes and create investment products.

Self-Status Checking-Activities

(Financial Institutions as Intermediaries, take 9 minutes only.)

Activity 5

Attempt the following questions

1. What are the main issues or instruments or financial contracts or functions with/in which these firms perform their activities?

   _____

   _____

   _____

2. In most cases, financial institutions are engaged in intermediation. Who are the parties these firms are intermediating?

   _____

   _____

   _____

3. Some financial institutions facilitate the economic activities of different organizations through collecting funds from the investors and direct it to those various financial services providers. Give some exemplar of those institutions engage in such kind of activities.

   _____

   _____

2.4 Depository Institutions

Depository institutions are financial institutions that raise loan able funds by selling deposits to the public or in other words they are those institutions whose funds come significantly from customer deposits. They accept deposits from individuals and firms and use these funds to participate in the debt market, making loans or purchasing other debt instruments such as Treasury bills.

The major types of depository financial institutions are: Commercial banks Saving and Loan Associations Mutual Savings Banks Micro Finance Institutions (MFIs) and Credit Unions.

The major assets of depository institutions are loans (financial assets) and reported on the left hand side of the balance sheet. The major liabilities (sources of funds) of depository institutions are deposits and are presented on the right hand side of the balance sheet.

Depository institutions can also be generally categorized in to commercial banks and other depository institutions (such as saving and loan institutions, credit unions, and microfinance institutions). The following table shows the distinction between commercial banks and other depository institutions:

Table 2, Distinction between commercial banks and other depository institutions

Area of Difference	Commercial Banks	Other Depository Institutions
Size of Loan	Large	Small
Composition	Diversified and Broader	Few
Liabilities	Include liabilities other than deposits	Principally include deposits
Regulation	Stringent	Not stringent

- **Depository institutions are popular financial institutions for the following reasons:**
  1. They offer deposit accounts that can accommodate the amount and liquidity characteristics desired by most surplus chapters.
  2. They repackage funds received from deposits to provide loans of the size & maturity desired by deficit chapters.

3. They accept the risk on loans provided.
4. They have more expertise than individual surplus chapters in evaluating the credit worthiness of deficit chapters.
5. They diversify their loans among numerous deficit chapters and therefore can absorb defaulted loans better than individual surplus chapters could.

When a depository institution offers a loan, it is acting as a creditor, just as if it had purchased a debt security. Yet, the more personalized loan agreement is less marketable in the secondary market than a debt security, because detailed provisions on a loan can differ significantly among loans. Any potential investors would need to review all provisions before purchasing loans in the secondary market.

Dear Learners! How are you doing? Are you acquiring the necessary knowledge? If you are not in a mood take 5 minutes to relax and come back with fresh mind so as to sprint together as per the needed speed.

……..

- Have you done so? Well go on! A more specific description of each depository institutions role in the financial markets follows:

2.4.1 Commercial Banks

Commercial Banks are institutions that offer deposit and credit services as well as a growing list of newer services as investment advice, security underwriting, selling insurance and financial planning. Unlike the name “commercial”, commercial banks expanded their services to consumers and Government chapters to be a financial department store of the financial system.

Commercial Banks manage the customers' current and savings accounts, pay out checks that have been drawn on the bank by account holders, and also perform the collection of

checks deposited in their customers' accounts. Banks implement a number of other procedures for payments to customers, such as: ATM's (Automated Teller Machines), telegraphic transfer, and EFTPOS (Electronic Funds Transfer at the Point of Sale), or Debit Cards.

The borrowing process of banks is carried out by receiving funds in savings accounts and current accounts and receiving term deposits, as well as through issuance of debt securities, such as bonds and banknotes. Banks also provide loans to customers that are repayable in installments as well as lending through investments in tradable debt securities and other types of lending. Banks offer a comprehensive variety of

payment facilities, and a bank account is regarded as indispensable by the majority of Governments, business enterprises, and individuals.

1. Functions of Commercial Banks

Commercial banks play an indispensable roll in the economic activities of every country. Accordingly, the following are among the main functions of the commercial banks:

- They process payments with the help of online banking, telegraphic transfer, debit card, and other methods;
- They issue banknotes, such as promissory notes;
- Acceptance of funds on term deposits;
- Issuance of bank checks and bank drafts;
- Offering performance bonds, guarantees, letters of credit, and other types of documents related to underwriting commitments for securities;
- Safe custody of important documents and other valuable items in safe deposit vaults or safe deposit boxes;
- Providing loans through installment loans, overdrafts, and others; and
- Selling and brokerage services related to chapter trust and insurance products and
- Foreign exchange services.

Correspondingly, commercial banks are business corporations that accept deposits, make loans, and sell other financial services, especially to other business firms, to households and Governments. They are the largest and most important depository institutions. They have the largest and most diverse collection of assets of all depository institutions. Their main source of funds is demand deposits (i.e., checking account deposits) and various types of savings deposits (including time deposits and certificates of deposit).

The major use of funds by commercial banks is making loans. They are assets of the commercial bank. These loans could include real estate loans and loans to businesses & automobile loans. The remaining commercial banks' assets include securities (primarily federal government bonds), vault cash, and deposits at the central bank. Commercial banks also allow for a diversity of deposit accounts, such as checking, savings, and time deposit. These institutions are run to make a profit and owned by a group of individuals.

While commercial banks offer services to individuals they are primarily concerned with receiving deposits and lending to businesses

2. Importance of Commercial Banks

- √ Banks are principal means of making payments.
- √ Create money from excess reserves of public deposits.
- √ Use excess cash reserves to make loans and investments.
- √ They are principal channel for government monetary policy.

3. Classification of Commercial Banks

Commercial banks can be classified in different types depending on their activities or as per their functions in the economy. The following classification is the common one.

I. Chapter Banking
   - A banking business operating a single banking office
   - All operations housed in a single office

II. Branch Banking
   - A single bank that offers a full-fledged services in two or more offices across the country, including offices abroad
   - Home office is the largest branch in the system

III. Correspondent Banking
   - An arrangement whereby a bank maintains deposit balance with other banks at a distant place for a variety of services and assistance
   - The practice can take place within the local environment among local banks or overseas

Self-Status Checking-Activities

(Depository Financial Institutions, take 8 minutes only.)

Activity 6

Attempt the following questions

1. What are the major types of depository financial institutions?

_____

_____

2. What are the primary functions of depository financial institutions?

_____

_____

3. What are the reasons or activities that make depository financial institutions popular/unique?

_____

_____

_____

4. Activities and Services of Commercial Banks

Activities of commercial banks can be too much; however, the following are the main and common activities that are crucial in the economic and commercial system of any country.

A. Loans and Advances

Commercial Banks gives various types of loans and advances to various business sectors. The major ones include Domestic trade, Import and export trade, Agriculture, Hotel and tourism, Manufacturing, Construction, Transport, Services (education, health, etc), and others. Most of these loans are extended to customers on the basis of collaterals. The commonly acceptable collaterals are: Buildings/Houses, Motor vehicles, Bank guarantees, and Unconditional Life Insurance at surrender value.

🡻 Types of Credit Facilities

The main forms of credit facilities issued by the Commercial Banks are:

1. Term Loan

A term loan is a loan granted to customers to be repaid with interest within a specific period of time. The loan can be repaid in periodic installments or in a lump sum on the due date of the loan, as the case may be. This loan is granted in three forms, i.e., short-term, medium-term and long-term loan.

- Short-term Loan

  A short-term loan is a loan that has a maturity period of one year or twelve months from the date the loan contract is signed. The purpose of the loan is to finance the working capital needs and/or to meet other short-term financial constraints of customers. Short-term loan may be repaid monthly, quarterly, semi-annually or annually in a lump sum upon maturity, depending on the nature of the business and cash-flow statement. The periodic repayment amount incorporates both principal and interest.

- Medium- and Long-term Loan (project loan)

A medium-term loan is a loan which has a maturity period exceeding one year but less than or equal to five years from the date the loan contract is signed. A long-term loan is a loan that has a maturity period of five to fifteen years. The purpose of these loans is to finance new projects, support the expansion of existing projects, investments and meet working capital needs. Applicants can be either new or existing customers. Loans provided by commercial banks may also be classified into various categories, according to the purpose for which they are granted. The major classifications are: Agricultural loan Manufacturing loans, Banks avail loan, Transport loans, Merchandise loan, Import and Exports Loan, Trade and service loans, and the likes.

a. Agricultural Loans

Agricultural loan is a loan granted to customers who are engaged in a production business. Agricultural loan is intended to finance working capital needs and investments of customers involved in the sector.

Any individuals, enterprises and associations involved in the agricultural sector can apply for this loan. Agricultural loan may be repaid monthly, quarterly, semi-annually or annually. The Bank provides a grace period for investment-related agricultural loans. Agricultural loans include loans granted for purchase of agricultural inputs like selected seeds, fertilizers, agro-chemicals, rental or purchase of agricultural machinery and equipment; for crop collection, processing and marketing of agricultural products, projects aiming at producing exportable products like flowers, fruits, and vegetable and agro-industry developments like diary, farming, cattle fattening etc.

b. Manufacturing loans

Manufacturing loans are loans availed to facilitate the manufacturing activities of small, medium and large-scale industries.

c. Trade and Service loans

Trade and service loans include wholesale trade, retail trade, services other than transport such as hotels, schools, hospitals, tour agencies, etc. Financing trade and services helps in the smooth flow of goods and services in the economy and serve as an intermediary between producers and consumers. Therefore, trade in essential goods whether imported or locally produced is to be encouraged through working capital financing. Among others, goods traded include outputs of manufacturing industries, cottage and handicraft, mining activities and agricultural products.

d. Building and construction loan

Banks avail loan to this category for building contractors, investors engaged on road and water projects under construction, civil workers and business persons who seek financial assistance to construct commercial

or residential buildings. Loans can be provided to licensed building contractors to cover working capital shortages i.e. to mobilize materials required to construct buildings, roads, dams etc. based on contracts concluded with employers.

e. Transport loans

All loans to be availed for the purchase of transport vehicles like trucks, tankers and public transport buses to licensed transport operators are to be classified here. Additionally, loans availed to facilitate smooth operation of trucking companies or loans to cover custom duty charges or modification costs are also included.

f. Merchandise Loan

Merchandise loan is a credit facility provided by the Bank against which the merchandise is held as collateral for the loan. The purpose of the loan is to overcome the cash-flow problem of customers when money is tied up in merchandise. The loan is usually approved for a period of three months (90 days) or it may be approved on a renewal basis.

g. Import and Exports Loan

Foreign Trade plays a key role in the development of an economy and has always been the major force behind the economic relations among nations. In view of its paramount importance, the bank's role is to promote the growth of the country's economy. International trade financing in the form of import and export transactions is one of the priority areas of commercial banks.

√ Import Letter of Credit Facility

A letter of credit (L/C) is an instrument issued by a bank whereby payments in international trade are effected by banks through documents. It is issued by the Bank at the request of a buyer (importer) to pay a seller (exporter) upon presentation of import documents specified in the instrument. A letter of credit facility is a type of credit that a bank avails to importers (applicants) to pay a certain percentage of the value of the L/C while opening L/C by setting a limit to the total value of the L/C to be opened. The facility is secured against valid import documents and has a tenor of six months and, in exceptional cases, one year. It alleviates temporary working capital needs of customers while importing goods.

√ Export Credit Facility

Export credit facility may take various forms. Some of them are discussed below:

i) Pre-Shipment Export Credit

Pre-shipment export credit is a loan granted to exporters starting from the procurement of inputs until the date of shipment of goods against guarantee by banks. The availability period is determined with the consideration of the validity dates of the sales contracts, but it must be shorter than the validity date of

banks guarantee. The pre-shipment export credit may be settled from the export proceeds of the goods for which the loan is advanced.

ii) Revolving Export Credit Facility

Revolving export credit facility is an advance extended to exporters with a limited margin until goods are loaded on board, upon presentation of all relevant export documents to the Bank, except a bill of lading. The facility has tenure of six months or one year. The facility is availed to finance the temporary working capital requirement of customers when the goods are in transit for shipment. A revolving export credit will be settled from the export proceeds when all relevant export documents are presented to the Bank. The facility has to be renewed every six months or every year.

iii) Advance On Export Bills

Advance on export bills is a post-shipment export credit provided to exporters with a certain margin against presentation of all the necessary export documents. This credit

is advanced for a period of fifteen days, and interest is charged if the loan is not settled within this period. An advance on export bills is intended to bridge the financial gap between the shipment of the goods and the realization of the proceeds. This export credit will be advanced to all exporters who could present the following complete export documents, including a bill of lading, as per the terms and conditions of the letter of credit.

B. Overdraft

An overdraft (O/D) is a credit facility by which a customer can withdraw in excess of her/his/its current account balance up to the limit approved by the Bank. The purpose of the loan is to finance the day-to-day operational needs of a viable business. In order to use O/D facility, applicants have to open a current account. The O/D account should have a proper turnover by way of withdrawals and deposits. *However, an O/D account should not be overdrawn.*

An O/D facility is approved only for a period of six months and, in some cases, for a year. Therefore, it has to be renewed every six months or year. The request for renewal is usually presented to the Bank some months before the expiry date of the facility. Overdrafts can be considered for manufacturing, trading and service-giving enterprises. An O/D facility can be approved against any collateral acceptable by the Bank, except motor vehicles and machinery. As far as repayment on over draft facility is concerned, interest is calculated on the amount used by the customers. Customers have to pay the accrued interest regularly so that the facility will not be overdrawn. At the time of the request for renewal, the outstanding overdraft balances have to be fully settled. The Bank can claim the outstanding balance of the O/D facility at any time.

C. Deposits Services

Commercial Banks also provide different types of deposit services. The main ones are described in the following section:

1. Special Demand Deposit Account

   Special Demand Deposit Account (SDDA) is a non-interest bearing deposit account operated by a saving like passbook and vouchers. The main features of this account are (1) Non-interest-bearing deposit account (2) The initial deposit for opening a Special Demand Deposit Account is Birr 50. It is a deposit account service for those customers demanding non-interest bearing saving deposit account.

   Who is eligible?

   Individuals, Trade operators, Organizations, Cooperatives and associations, Domestic banks, financial institutions, Government Local/Central, Private sector, and Public Agencies and Enterprises are all eligible to open and operate Special Demand Deposit Account.

2. Saving Account

   It is an interest-bearing deposit account. Saving account may be opened and operated by individuals and organizations, resident and non-resident. Saving account is maintained for various reasons.

⇒ Saving accounts may be classified in to various categories. The major ones are discussed below:

a. Private saving account: Such account is opened by individual Person
b. Joint Accounts:
   - And Account
   - And/or Accounts.
c. Company Accounts
d. Accounts of Churches, Mosques, Missions, etc.
e. Earmarked Accounts: This includes Club Accounts, Private Accounts, and the like.
f. Special Accounts

- Tutor account: Tutor accounts are opened in the name or names of minors followed by the word “minor” or “minors.”
- Liquidator account: Liquidators’ account is opened in the name of a person or company but appointed by court as liquidator in bankruptcy.
- Interdicted accounts: Interdicted accounts are saving accounts opened in the name of the interdicted person.

- Staff accounts: Staff accounts are saving accounts like the individual accounts opened for the employee of the Bank.

g. Non-Private Accounts. It can be for thrift and credit co-operatives society. Mandate file is a must to open such an account. The opening of such accounts must first be approved by a regional organization of the co-operatives, and the approval letter, indicating the names of the persons authorized to operate the account, must be submitted to the Bank.

3. Fixed (time) Deposit

A time-deposit account is a deposit account that bears interest based on the duration of the deposit. Parties who can open such account include individuals, sole-proprietorship, and partnership.

4. Current Account

Current account, also called demand deposit or checking account, is a non-interest-bearing deposit account that is operated by checks. The unique features of current account are: A non-interest-bearing deposit account with a check book facility and Overdraft facility permitted in connection with checking account. Current account may be opened by individuals and organizations, resident and non-resident, and Non-literates and minors. Current or Demand Deposits may be classified under the following categories:

i) Demand Deposit Non-resident: This account includes correspondents' accounts, Non-Resident Foreign Currency Account (NRFCY), Non-Resident Non-Transferable Birr Account (NRNT), and Non-Resident Transferable Birr Account (NRT).

ii) Demand Deposit Resident :

- √ Cooperatives and Associations: accounts opened for mass organizations such as Kebeles, Farmers Association, Trade Unions, Savings and Credit Associations, etc. are classified under the above categories.
- √ Domestic Banks: accounts of local banks are included in this category. A license from the National Bank of Ethiopia should be obtained to open accounts for commercial banks.
- √ Financial Institutions: These are accounts of insurance companies.
- √ Government Accounts: (Local and Central) all accounts opened in the names of Ministries (Offices, Bureaus) budgetary and town developments of municipalities are classified under this account. The authority to open these accounts emanates from either the local or the central Finance Bureau and local or central urban development and housing offices.
- √ Private Sector: the following demand deposit accounts are subsumed under this account:
  - Private individuals,

- Private companies, and
- Ikubs, Edirs, Religious Private and International Organizations.

√ Public Agencies and Public Enterprises: The chairman of the Board of the enterprise should produce a letter of appointment from the Public Enterprises Supervising Authority.

5. Diaspora Account

These types of accounts are opened for people living abroad (who live more than one year abroad) and citizens by origin but with different nationalities that are referred as eligible citizen.

D. Money Transfers

It is a means of transferring funds through banks to individuals or organizations. Users of money transfer include individuals, workers, students, members, travelers, organizations, private organizations, cooperatives, public enterprises, and government.

The main features of money transfers include:

- Transfers are made between branches of the bank
- Transfers are made between branches of different cities or towns.
- Availability of telecommunication and local post offices enhances the smooth flow of transfers between branches.

Some of the major benefits include:

- It facilitates the operations of trade and other economic sectors and helps to accomplish their organizational objective as a whole.
- It is an easy and convenient way for both the sender and the receiver.
- Transfer of money can be done with a minimum cost, time, and energy.
- It reduces the risk of losing money.

♦ Types of Local Transfer

1. Telegraphic Transfer (TT): Transfers are made through telephone, telegram, telex or radio. It is relatively the fastest means, and is usually preferred by most transfer users.
2. Mail Transfer (MT): Transfers are made through post offices. It is considered to be an ordinary type and takes a longer time to reach the paying branch.
3. Demand Draft (DD): Transfers are made with the use of a special bank instrument called “draft”. Drafts are usually called “demand drafts” or “sight drafts” because they are paid immediately, on demand or on sight. They are negotiable within twelve months from the date of issue after which the drawer's confirmation is required for payment.

4. Cashier’s Payment Order: It is a special bank instrument negotiable within six months from the date of the issue. They are issued to Finance Bureaus, Land Revenue Office, Customs Authority, Maritime and Transit Service Corp., and to secure bids only.

E. Foreign Currency

It involves buying and selling foreign currency, cash notes, traveler's checks, and drafts for the following purposes:

- ✓ holiday travel expenses,
- ✓ Business travel allowances,
- ✓ medical expenses,
- ✓ Educational expenses, and
- ✓ seminars, workshops, symposium, conference, and training fees, etc

F. Guarantee Services

A guarantee is a promise to answer ' for the debt, default or miscarriage of another' if that person fails to meet the obligation in a contractual agreement. Primary liability for the debt is incurred by the principal debtor. The guarantor incurs secondary liabilities (becomes liable if the principal debtor fails to pay or perform). A guarantee is evidenced by a written document signed by the guarantor. There are various types of guarantees.

Some of them are discussed below:

1. Bid bond guarantee. It is issued by the bank upon the request by the bidder expressing the bank's commitment to meet the claims of the beneficiary in case the bidder withdraws from the bid during the bid period or fails to accept the award when s/he becomes a winner.

2. Performance bond guarantee It is issued by the bank in favor of a bid organizer (beneficiary) at the request of the bid winner to meet any claims to be made by the beneficiary in case the bid winner fails to deliver the goods or perform the service as per their agreement.
3. Advance payment guarantee: It is issued by the bank in favor of the buyer who makes the advance, at the request of the seller or contractor who received the advance payment, representing the bank's commitment to repay the sum in the event that the seller fails to honor the contract terms in their entirety or in part.
4. Suppliers credit guarantee: It is issued by the bank to meet any claims to be made by the local or foreign supplier (beneficiary) in case the debtor (buyer) fails to repay in accordance with the terms and conditions of the contract.

5. Customers duty guarantee: It is issued by the bank to meet the requests of the beneficiary in respect of customs duties in circumstances where the goods imported without payment of customs duties are not re-exported and the respective customs duties have not been paid.

G. Information & Advisory services

√ information on foreign trade through periodic publications

√ special reports on commodities and markets

√ Information to foreign investors about:

- Business climate
- legal requirements
- Banking and insurance
- Foreign exchange
- tax laws etc

√ Advisory services on:

- working capital management
- project studies and financing

Hello dear learners! How is everything? Are things moving as per your plan? Are you performing as you are to be? Are you confident enough by your achievement? Bear in mind that in the teaching and learning process you are the leader of yourself than anybody else! So do as best of your level to be the winner of the match!

Self-Status Checking-Activities

(Commercial Banks and related issues, take 12 minutes only.)

Activity 7

Attempt the following questions

1. What is the most important use of funds by commercial banks?

_____

_____

2. What are the major functions of commercial banks?

_____

_____

_____

3. Explain in brief the purpose of short-term loan?

_____

_____

_____

4. What do we mean by pre-shipment export credit?

(Explain the pre shipment export credit)

_____

_____

_____

5. What is the difference between the advance on export bills and revolving export credit facility

_____

_____

_____

2.4.2 Other Depository Institutions

Stable financial institutions are an important component of well-functioning financial Systems, as it has been vividly demonstrated by recent developments around the globe. When banking or, other depository financial institutions temporarily break down or operate ineffectively, the ability of firms to obtain funds necessary for continuing existing projects and pursuing new endeavors is curtailed. Severe disruptions in the intermediation process can even lead to financial crises and, in some cases, undo years of economic and social progress.

The importance of depository institutions for economic growth coupled with their fragility has led governments to establish official agencies to regulate and supervise them. The common goals for these agencies are to promote the development of the modern financial systems that (a) avoid excessive fragility and (b) efficiently intermediate between savers and borrowers. The following are among the other depository institutions (in addition to banks) which play significant role in the economic and financial system of every country.

1. Savings and Loans Associations

A savings and loan association is a financial institution that specializes in accepting savings deposits and making mortgage loans. They are often mutually held (often called mutual savings banks), meaning that the depositors and borrowers are members with voting rights and have the ability to direct the financial and managerial goals of the organization. It is possible for a savings and loan to be stock-based and even publicly traded. This means, however, that it truly no longer is an association and depositors and borrowers no longer have any managerial control.

Savings and loans associations (S&Ls) were originally designed as mutual associations, (i.e., owned by depositors) to convert funds from savings accounts into mortgage loans. They are the predominant home mortgage lender in many countries, making loans to finance the purchase of housing for individuals and families. The purpose is to ensure a market for financing housing loans. Today, the distinction between S&Ls and commercial banks is minimal. However, S &Ls continue to hold a less diversified set of assets than commercial banks do.

S and Ls accept deposit and extend loans primarily to household customers. S and Ls emphasize on longer-term loans to households in contrast of most other deposit type financial institutions. Many S and Ls are mutual and therefore have no stockholders but owned by depositors.

- The characteristics of savings and loan associations

The most important purpose of these institutions is to make mortgage loans on residential property. These organizations, which also are known as savings associations, building and loan associations, cooperative banks and homestead associations, are the primary source of financial assistance to a large segment of many countries homeowners. As home-financing institutions, they give primary attention to single-family residences and are equipped to make loans in this area.

Some of the most important characteristics of a savings and loan association are:

1. generally it is a locally owned and privately managed home financing institution.
2. it receives individuals' savings and uses these funds to make long-term amortized loans to home purchasers.
3. it makes loans for the construction, purchase, repair, or refinancing of houses.
4. it is state or federally chartered.

2. Credit Unions

Credit Unions are house hold oriented intermediaries, offering deposit and credit services to individuals and families. They are cooperative, self-help association of individuals rather than profit motivated institutions accepting deposits from and making loans to their members, all of whom have a common bond, such as working for the same employer. They offer low loan rates and high deposit interest rates and have relatively low operating costs. The members of a credit union are owners receiving dividends and sharing in any losses that occur. Credit Unions usually report low default and delinquency rates and organized around a common affiliate.

They are organized as cooperative depository institutions, much like mutual savings banks. Depositors are credited with purchasing shares in the cooperative, which they own and operate. Like savings and loans. Credit unions were originally restricted by law to accepting savings deposits and making consumer loans. Recent regulatory changes allow them to accept checkable deposits and make a broader array of loans.

Credit union policies governing interest rates and other matters are set by a volunteer Board of Directors elected by and from the membership itself. Only a member of a credit union may deposit money with the credit union, or borrow money from it. As such, credit unions have historically marketed themselves as providing superior member service and being committed to helping members improve their financial health.

Credit unions typically pay higher dividend (interest) rates on shares (deposits) and charge lower interest on loans than banks. Credit union revenues (from loans and investments) do, however, need to exceed operating expenses and dividends (interest paid on deposits) in order to maintain capital and solvency. Often credit unions have a lower cost of funds than typical commercial banks, due to a higher proportion of non/low interest bearing deposits.

Credit unions offer many of the same financial services as banks, often using a different terminology. Common services include: share accounts (savings accounts), share draft (checking) accounts, credit cards, share term certificates (certificates of deposit), and online banking.

Credit unions exist in a wide range of sizes, ranging from volunteer operations with a handful of members to institutions with several billion dollars in assets and hundreds of thousands of members.

- Credit Unions and Banks

The credit unions are the co-operative financial institutions that are owned 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 unlike banks. The policies of credit unions are governed by a volunteer Board of Directors that is elected by and from the membership itself. This board of directors also decides on the interest rates to be charged.

According to the regulation of credit unions, only the members of the credit union are eligible to deposit money in the union or borrow money from the union. The credit unions are always committed and dedicated to the members and ensure to improve the financial status of the members. The size of the credit unions may vary in a large manner. There are credits unions available both with handful of members to thousands of members.

Even if they are generally non-profit organizations, the credit unions can perform to earn profit for their members. The profits earned by the union are received by the members in the forms of dividends. The dividends are paid on savings that are taxed as ordinary income. The credit unions also offer several financial services like banks, but the terminology used here are different from the banks. The credit unions offer the services of share accounts, share draft accounts, share term certificates, credit cards and online banking services. Depending on the financial structure of the country, the functionality of credit unions may vary in different countries.

Due to their status as not-for-profit financial institutions, credit unions in some countries are exempt from federal and state income taxes (but, not from employment or property taxes, among others). Additionally, credit union members pay income taxes on dividends earned through financial participation in the credit union; this is similar to the taxation structure enjoyed by many banks.

Bank holding companies and their affiliates aggressively compete to provide services to credit unions through their ATM networks, corporate checking accounts, and certificate of deposit programs.

Credit unions maintain that no matter their size or field of membership, the fact that they are owned by their members and not share holders makes

3. Micro-Finance Institutions

Micro finance is defined as the provision of financial intermediation through distribution of small loans acceptance of small savings and the provision of other financial products and services to the poor. A micro

finance institution (MFI) is an organization that offers financial services to the very poor. They are making small loans available to the poor through schemes specially designed to meet the Poor's particular needs and circumstances. The main focus of micro financing is on the poor through provision of small credit and acceptance of small savings.

The typical client base of any micro-finance institution is poor people who don't have access to formal financial institutions.

Micro-finance clients are typically self-employed, entrepreneurs. In rural areas, they are usually small farmers and others who are engaged in small income generating activities such as food processing and petty trade. In urban areas, micro-finance activities are more diverse and include shopkeepers, service providers, artisans, street vendors, etc.

- Types of Services Provided by Micro-Financing Institutions

Credit provision & saving mobilization are the core financial products /services provided by MFIs. But there are other services provided by MFI. Micro financial Institutions provide the Credit provision, Saving mobilization and other types of services:

1. Credit provision (Small size credit/loans) to:

- Rural and urban poor households;
- Petty traders;
- Handcraft producers;
- Unemployed youth and women ...etc.

2. Saving mobilization

- One of the objectives of MFIs is to encourage the saving habit of the poor society.

3. Other services

Now a days, in addition to credit provision and saving mobilization, some MFIS provide other financial services like local money transfer, insurance and pension fund administration and short-term training to clients.

- The Distinguishing characteristics of micro finance from Conventional Banks

The most distinguishing characteristics of MFIs from the conventional banks are:

1. Procedures are designed to be helpful to the client and therefore are user friendly. They are simple to understand, locally provided and easily and quickly accessible.
2. The traditional lender's requirement for physical collateral (such as land, house and productive assets) is usually replaced by system of collective guarantee groups whose members are mutually responsible for ensuring individual loans are repaid. Loans are dependent not only on individual's repayment performance, but also on that of every other group members.
3. Loan amounts especially at the first loan cycle are too small, much smaller than the traditional banks would find it viable to provide and service.
4. Borrowers are usually also required to be savers.
5. Together with their long term sustainability they have the objective of ending poverty and
6. MFI's operating costs as well as administrative cost per loan are higher than the conventional bank's.

- Objectives of the Micro finance Institutions

The goal of MFIs as development organizations is to service the financial needs of un-served or underserved markets (the poor) as a means of meeting development objectives. The development objectives generally include one or more of the following:

- To reduce poverty.
- To help existing businesses grow or diversify their activities and to encourage the development of new businesses.
- To create employment and income opportchapteries through the creation and expansion of micro enterprise and ,
- To increase the productivity and income of vulnerable group, especially women and the poor.

4. Mutual Savings Banks

Mutual savings banks are much like savings and loans, but are owned cooperatively by members with a common interest, such as company employees, union members, or congregation members.

Saving banks play an active role in the residential mortgage banks but are more diversified in their investments, purchasing corporate bonds and common stocks, making customer loans and investing in

commercial mortgage banks. Saving banks are owned by their depositors to which all earnings not retained are paid as owner's dividend. Mortgage and Mortgage related instruments are principal assets followed by investments in non-mortgage loans, corporate bonds, corporate stocks and government bonds.

- The principal source of funds for saving banks is deposits, which is a liability for them.

5. Money Market Funds

Money Market Funds are financial intermediaries pooling deposits of many individuals and investing those in short-term, high quality, money market instruments. Money fund offer accounts whose yields are free to reflect prevailing interest rates in the money market. (Dear Learners! We will see the details of this concept in the "Money Market" study/portion in the first chapter of second module of this course.)

SELF-STATUS CHECKING-ACTIVITIES

(Non-Depository Financial Institutions, take 11 minutes only.)

Activity 8

Attempt the following questions

1. Enumerate the most important characteristics of savings and loan associations:

_____

_____

_____

2. What differ credit unions from banks? Explain.

_____

_____

_____

3. Identify the beneficiaries of micro financial institutions credit provisions?

_____

_____

_____

4. Who own saving banks? Explain.

_____

_____

_____

2.5 Non-depository Institutions

Unlike depository institutions, non-depository institutions do not accept checkable deposits. With one exception that will be noted shortly, you cannot simply write a "check" to withdraw funds from a non-depository institution.

- Types and Role of Non-depository Financial Institutions

Non-depository institutions serve various functions in financial markets, ranging from financial intermediation to selling insurance against risk. The following are some of the types of non-depository financial institutions with their role in the financial system.

A. Financial brokers

Brokerage Houses or firms: buy/sell old securities on behalf of individuals. Brokerage firms serve the valuable function of linking buyers and sellers of financial assets. In this regard, they function as intermediaries, earning a fee for each transaction they create. Modern brokerage firms compete with depository institutions in the deposit market, where they attract depositors with money market mutual funds.

Nonetheless, brokerage firms are not formally considered depository institutions because their main function is to serve as brokers in the secondary debt and equity markets.

B. Investment Institutions (Finance Companies, Investment Companies and Mutual Funds)

i) Finance Companies: are sometimes called department stores of consumer and business credit. They grant credit to businesses and consumers for a wide variety of purposes acquiring their funds mainly from debt. Like banks, they use people's savings to make loans to businesses, but instead of holding deposits, they sell bonds and commercial papers.

- Types of finance companies
  - √ Consumer Finance companies-make personal cash loans to individuals.
  - √ Sales Finance Companies- make indirect loans to consumers by purchasing installment paper from dealers selling automobiles and other consumer durables.
  - √ Commercial Finance Companies- focus primarily on extending credit to business firms.
  - √ Other Financial Institutions:
    - Security Dealers are firms that take a position of risk in government and privately issued securities, purchasing the instruments from sellers and reselling them to buyers with the expectation of a profitable spread between purchases and sales.
    - Investment Banks are capital market firms that assist businesses and governments to issue debt and stock in order to raise new capital.
    - Mortgage Banks are intermediaries that work with other businesses or real estate development projects and sell the mortgage loan instruments to other investors.
    - Venture Capital Firms are institutional investors that provide long-term capital financing for new businesses and rapidly emerging companies.
    - Real Estate Investment Trusts are specialized lenders and equity investors that finance commercial and residential projects.
    - Leasing Companies are financial firms that purchase business equipment and other productive assets and make the purchased items available for use by others in return for rental fee.

ii) Investment companies: provide an outlet for the savings of many individual investors towards bonds, stocks, and money market securities. Most investment companies stocks are highly liquid because they repurchase their outstanding shares at current market price.

iii) Mutual funds: are especially attractive to small investor, which purchase shares of these funds and gain greater diversification, risk sharing, lower transaction cost, opportchapteries for capital gains and indirect access to higher yielding securities that can be purchased only in large blocks. They pool funds of savers and make them available to business and government demanders.

They obtain funds through sale of shares and uses proceeds to acquire bonds and stocks issued by various business and government chapters. They create a diversified and professionally managed portfolio of securities to achieve a specified investment objective, such as liquidity with high return. Some mutual funds, called money market mutual funds, invest in short-term, safe assets like Treasury bills and large bank certificates of deposit.

Largely for historical reasons money market mutual funds are not considered depository institutions even though shareholders are often allowed to write checks on their accounts.

C. Pension Funds

A Pension fund is a pool of assets forming an independent legal entity that are bought with the contributions to a pension plan for the exclusive purpose of financing pension plan benefits. Pension funds are savings plan through which fund participants accumulate savings during their working days so that they withdraw the fund during their retirement years.

A pension plan is a promise by a pension plan sponsor to a plan member to provide a pension upon retirement. The sponsor may be a company, an employer, a union or a jointly trusteed plan where both management and unions in an industry appoint trustees to a board which manages the plan. This promise is legally stated in the "pension plan document" which states the provisions for the plan. Pension plans may be regulated by governments or financial institutions.

A trustee is appointed to hold the assets in trust for the benefit of the plan members. Usually the trustee is also the custodian, which holds the plan investments. Pension plans usually hire an outside investment manager to invest the plan assets. The sponsor may also appoint an "investment consultant" to advice on investment issues and help select and assess the performance of investment managers.

(Respected Learners! We deal about this issue in detail in the second module of this course (third chapter) when we learn about the Ethiopian Financial Institutions case.)

D. Insurance

Insurance can be defined from the view points of the individual and the society. From an individual point of view insurance is an economic device whereby the individual substitutes a small certain cost (the premium) for a large uncertain financial loss (the contingency insured against) that would exist if it were not for the insurance. Insurance is the protection against financial loss. The creation of the counterpart of risk is the primary function of insurance. Insurance doesn’t decrease the uncertainty for the individual as to whether the

event will occur, nor does it alter the probability of occurrence, but it does reduce the probability of financial loss concerned with the event.

From the viewpoint of the society, insurance is an economic device for reducing and eliminating risk through the process of combining a sufficient number of homogenous exposures into a group to make the losses predictable for the group as a whole. From the viewpoint of the insured, insurance is a transfer device. From the viewpoint of the insurer, insurance is a retention and combination device. The distinctive feature of insurance as a transfer device is that it involves some pooling of risks; i.e., the insurer combines the risks of many insured. Insurance does not prevent losses, nor it reduces the cost of losses to the economy as a whole. The existence of insurance encourages some losses for the purpose of defrauding the insurer, and in addition, people are less careful and may exert less effort to prevent losses than they might if the insurer did not exist.

- Major Classes of Insurance Companies

Insurance companies create insurance policies by grouping risks according to their focus. This provides a measure of uniformity in the risks that are covered by a type of policy, which in turn allows insurers to anticipate their potential losses and set premiums accordingly. Insurance Companies may be classified in to life insurance companies and Non-life (Property-casualty) insurance companies.

I. Life Insurance Companies

Human values are far greater and more important than all the different property values combined. Human resource is the most important resource for a nation's development than other resources. A human life has value for many reasons. Many of these reasons are philosophical in nature, and would lead us in to the realm of religion, esthetics, sociology, psychology and other behavioral sciences. A human life has an economic value to all depends on the earning capacity of that life, particularly to two central economic groups - the family and the employer.

There are four major perils that can destroy, wholly or partially, the economic value of a human life. These include premature death, loss of health, old age, and unemployment which are categorized under personal risk. Every person faces two basic contingencies concerning life.

- √ First, he/she may die too soon, or this is a physical death.
- √ Second, he/she may live too long. It means that the person may outlive his/her financial usefulness or his/her ability to provide for his/her needs.

Life insurance is designed to provide protection against these two distinct risks: premature death and superannuation. Thus, life insurance may be defined as a social and economic device by which a group of people may cooperate to ameliorate (to make better) the loss resulting from the premature death or living too long of members of the group. The main purpose of life insurance, therefore, is financial protection i.e. to provide dependents of the insured with financial compensation amounting to the sum assured if the insured faces premature death while the policy is in force. It gives the family financial security for a certain period.

In general, there are many different types of life insurance, but the standard arrangement is a contact specifying that upon death of the person whose life is insured, a stated sum of money (the policy's face amount) is paid to the person designated in the policy as he beneficiary.

Life insurance is a risk-pooling plan, which is an economic plan through which the risk of premature death is transferred from the individual to the group. However, there are characteristics that differentiate from other types of insurance contract. That is,

- The event insured against is an eventual certainty;
- Life insurance is not a contract of indemnity;
- The application of principle of insurable interest is different;
- Life insurance contracts are long-term contract; and
- There is no possibility of partial loss.

Not all people need exactly the same kind of protection from life insurance. It is so because there are differences in ages; incomes and financial obligations; the number of their dependents; and other related variables. To provide all the different types of protection that are needed, insurance companies offer a variety of policies. The basic types of contracts are: Term insurance, Whole life insurance, Endowment insurance, and Annuities.

A. Term Insurance

Term insurance provides protection only for a definite period (term) of time. A term insurance policy is a contract between the insured and the insurer where by the insurer promises to pay face amount of the policy to a third party (the beneficiary) if the insured dies within a given period of time. If the insured manages to survive during the period for which the policy was taken, the insurance company is not required to pay anything. Common types of term life insurance are 1-year term, 5-years term, 10-years term, 20-years term, and to age 60 or 65.

B. Whole life insurance

As the name suggests, it is a permanent insurance that extends over the life time of the insured. It provides for the payment of the face value upon the death of the insured, regardless of when it may occur. Whole life insurance policies promise to pay the beneficiary whenever death occurs. It also promise payment if the insured reaches age 100. Whole life insurance premium is greater than that of term, as claims are certain and the insurer must collect enough premiums to pay them.

Whole life insurance contracts contain savings elements called cash values. The cash values are due to the overpayment of the insurance premiums during early years. As a result policy owner builds cash equity in the policy. If the policyholder decides to terminate it prior to the insured's death, the cash value can be refunded which is not in the case of term insurance.

C. Endowment Insurance

It differs from other policies in that the death of the insured is not required for payoff. At the maturity' date, the value of the policy is remitted to the insured, if surviving, otherwise to the beneficiary. It is to mean that endowment contracts provide death benefits for a specified period of time, just as term insurance does.

However, unlike term insurance, endowment insurance has a cash policy owner is paid the contract's face amount at the end of the protection period if the insured is still alive.

D. Annuity Contracts

An annuity may be defined as a periodic payment to commence at a stated date and to continue for a fixed period or the duration of a designated life. The person who receives the periodic payments or whose life governs the duration of payments is known as the annuitant.

In one sense, an annuity may be described as the opposite of life insurance. Life insurance creates an immediate estate and provides protection against dying too soon before financial assets can be accumulated. The fundamental purpose of a life annuity is to provide a lifetime income that cannot be outlived to an individual. An annuity insurance operation transfers funds from those who die at a relatively early age to those who live to a relatively old ages.

E. Credit Life Insurance

Credit life insurance is meant to protect lenders against a borrower's death prior to repayment of a debt contract. It can be issued through other financial institutions.

II. Non-life Insurance

Non-life insurance is also called property-casualty insurance and can be divided in to property insurance and casualty (liability) insurance. Property insurance involves coverage related to loss, damage or destruction of real and personal property.

Properties to be covered, range from personal jewelry to industrial plant and machinery. Property insurance is intended to indemnify the loss suffered by the insured. Indemnity may be in the form of payment of money, repair, replacement or re-instatement. Casualty insurance, on the other hand, provides protection against legal liability exposure resulting from negligence. Payment is made to the injured third party by the insurance company.

- Distinction between life insurance and non-life insurance companies

  Insurance contracts can be classified commonly (most of the time) in to life insurance and non-life insurance contracts or risk coverage's. As the name imply their detailed agreements and contract may vary so. Accordingly,

1. Asset portfolios of non-life insurance companies largely contain liquid assets or short term investments due to the fact that events are difficult to predict statistically than are death rates in population.
2. Non-life insurance companies are riskier and administratively more expensive than life insurance because of the following reasons:
   - ✓ Greater complexity in asset valuation and determination of payouts
   - ✓ Higher incidence of claims
   - ✓ Higher likelihood of fraudulent claims which requires significant administrative resources to verify the claim and the cause of loss
3. Life insurance company's claims and liabilities are relatively long term in nature

♦ Reinsurance

Reinsurance is the shifting of part or all of the insurance originally written by one insurance to another insurer. The insurer that initially writes the business is called Ceding Company. Ceding company may get commission from the reinsurer on the account of bringing business for the reinsurer. The insurer that accepts

part or all of the insurance from the ceding company is called the reinsurer. The amount of insurance retained by the ceding company for its own account is called the retention limit or net retention. The amount of the insurance ceded to the reinsurer is known as a premium cession. The reinsurer in turn may obtain reinsurance from another insurer. This is known as a retrocession. In this case, the second reinsurer is called a retrocessionaise.

The main Reasons for Reinsurance include increase underwriting capacity (allows the reinsured to write larger amounts of insurance, and a ceding company's capacity for retaining such coverage is limited by capital and surplus, regulatory and other factors), and stabilize profit. Loss experience can fluctuate widely because of social and economic conditions, natural disaster, and chance. If a large, unexpected loss (catastrophe) occurs, the reinsurer would pay the portion of the loss in excess of some specified limit.

E. Investment Banking Firms

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.

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. Investment is a term frequently used in the fields of economics, business management and finance. It can mean savings alone, or savings made through delayed consumption. Investment can be divided into different types according to various theories and principles. While dealing with the various options of investment, the defining terms of investment need to be kept in mind.

Investment banking firms provide their clients with the opportunities to generate funds through different processes. At the same time, they also provide professional services to the investors for identifying different investment opportunities and to invest in the same. The investment banking firms provide various financial services to a wide range of clients. There are both institutional as well as individual clients of these firms. At the same time, these firms also offer a number of services to different national Governments.

❖ Services provided by Investment Banking Firms

The clients of the investment banking firms are provided with advisory services. The firms also offer a range of capital raising opportunities to the clients. They help the clients to place their equities in such a manner that they can produce highest yields. At the same time, the firms are also involved in the syndication of primary market on behalf of their clients. The investment banking firms also play a major role in arranging debt securities for their clients. The corporate clients of the companies are offered with several other services as well. The mergers and acquisitions are a very important part of the business expansion plans.

The investment banking firms play an important role in creating customized strategies for all these activities. The investment banking services are also available for the activities like divestitures, restructurings, buyouts and others. All these activities need huge amount of money and the investment banking firms are responsible for arranging these funds. At the same time, there are individual clients of investment banking firms. These clients are helped in a number of ways. The firms help the clients to identify the growth prospect of different investment options and to invest in the best one.

Self-Status Checking-Activities

(Bank and other Financial Institutions, take 15 minutes only.)

Activity 9

Attempt the following questions

1. In what sense finance companies seam banks? (What makes them similar?)

   _____

   _____

   _____

2. Who regulate the pension plan?

   _____

   _____

3. Explain the distinctive feature of insurance as a transfer device?

_____

_____

_____

4. Enumerate major classes of insurance companies.

_____

_____

_____

Hi Dear Students! Fine for you! At this time you have completed the first part of the course. This is a great success and a sweet fruit of your valuable effort. To finalize the session, read the short summary below and immediately go to the checklist in order to know your status. In addition, do the self-assessment questions as fast as possible and check your result using the answer key provided. We wish you do all the bests! Meet you in the next module!

Summary

Financial institutions include banks, credit unions, asset management firms, building societies, and stock brokerages, among others. The functions of financial institutions, such as stock exchanges, commodity markets, futures, currency, and options exchanges are very important for the economy. These institutions are involved in creating and providing ownership for financial claims. These institutions are also responsible for maintaining liquidity in the market and managing price change risks.

A depository financial institution is the one that specializes in depository lending, and the services offered by these institutions are a bit different from that of other financial service providers. The depository financial institutions are also known as deposit-taking financial organizations. The primary functions of these institutions are to accept deposits and to use the money collected for lending purposes.

In aggregate, commercial banks are the most dominant depository institution. A Commercial bank is an institution which accepts deposits, makes business loans, and offers related services. They serve surplus chapters by offering a wide variety of deposit accounts, and they transfer deposited funds to deficit chapters by providing direct loans or purchasing debt securities.

Savings institutions, which are sometimes referred to as thrift institutions are another type of depository institution. Savings institutions include savings and loan associations (S&Ls) and savings banks. Like

commercial banks, S&Ls offer deposit accounts to surplus chapters and then channel these deposits to deposits to deficit chapters.

On the other hand a credit union is a cooperative financial institution that is privately owned and controlled by its members. Credit unions differ from banks and other financial institutions in that the members who have accounts in the credit union are the owners of the credit union and they elect their board of directors in a democratic one person-one vote system regardless of the amount of money invested in the credit union.

As one part of Investment Institutions Mutual funds get money from small savers (individuals), who buy shares in the fund; they in turn invest in variety of stocks, bonds, etc.; allow the individuals to "pool" their savings, diversify (avoid risk). Mutual funds sell shares to investors, and invest the proceeds in a wide choice of assets. The other non depositary institution Pension Funds, protect individuals and families against loss of income in their retirement years by allowing workers to set aside and invest a portion of their current income.

On the other direction insurance companies issue insurance policies in exchange for premiums that protect individuals from losses or damages. Insurance companies protect individuals against risk. Life insurance companies accept regular payments from individuals in exchange for contracted payments in the event of the insured’s' death. They are financial service firms selling contracts to customers that promise to reduce the financial loss to an individual or family associated with death, disability, or old age.

✍ *Self-Assessment Questions-Chapter Two*

Part I: Multiple Choices

Direction: Choose the best answer from the given alternatives. (10 marks)

1. Which one of the following services are not provided by banks?
    A. Issuance of promissory notes
    B. Offering documents related to underwriting commitments for securities
    C. Safe custody of important documents and other valuable items in safe deposit vaults or safe deposit boxes
    D. Selling and brokerage services related to chapter trust and insurance products
    E. None of the forgoing
2. Which one of the following is different from the others?
    A. Pre-Shipment Export Credit
    B. Revolving Export Credit Facility
    C. Overdraft
    D. Advance On Export Bills
    E. None of the above
3. _____ is a non-interest bearing deposit account operated by a saving like passbook and vouchers.
    A. Fixed (time) Deposit
    B. Special Demand Deposit Account (SDDA)
    C. Saving Account
    D. Current Account
    E. None of the above
4. Which one of the following is not a part of financial institutions?
    A. Stock brokerage firms
    B. Asset management firms
    C. Building Societies
    D. Retailers
    E. None of the above
5. When a depository institution offers a loan, it is acting as_____.
    A. a creditor
    B. if it had purchased a debt security
    C. if it has invested in treasury bills

D. All of the above

E. None of the forgoing

Part II: Matching

Direction: Match statements under 'Column One' with the correct terms under 'Column Two'

Part One		Part Two	
1	Acting as a go-between for two parties.	A	Branch Banking
2	A loan granted to customers to be repaid with interest within a specific period of time.	B	Short-term Loan
3	An arrangement whereby a bank maintains deposit balance with other banks at a distant place for a variety of services and assistance.	C	Home office
4	Checking account.	D	Chapter Banking
5	Financial intermediaries pooling deposits of many individuals and investing those in short-term, high quality, money market instruments.	E	Insurance Companies
6	A single bank that offers a full-fledged services in two or more offices across the country, including offices abroad.	F	Intermediation
7	An organization that offers financial services to the very poor.	G	Demand deposit
8	Indirect loans to consumers by purchasing installment paper from dealers selling automobiles and other consumer durables.	H	Money Market Funds
9	A banking business operating a single banking office.	I	Credit Unions
10	House hold oriented intermediaries, offering deposit and credit services to individuals and families.	J	A term loan
		K	Commercial Finance Companies
		L	Correspondent Banking
		M	Sales Finance Companies

	N	A micro finance institution (MFI)
	O	None

Part III: True or False

Direction: Say true or false for the following statements.

1. Financial institutions are necessarily regulated by the financial laws of government authority.
2. The major difference between banks and the credit unions is that the bank is owned by the members having accounts in it.
3. Insurance companies provide loans for a number of purposes and create investment products.
4. Un considering the financial structure of the particular country, the functionality of credit unions can be the same in different countries.
5. Micro-finance activities are more diverse in rural areas and include shopkeepers, service providers, artisans, street vendors, etc.

Glossary

Asset - is anything of durable value, that is, anything that acts as a means to store value over time.

Annual Percentage Yield (APY) - takes into account compound interest, annual percentage rate (APR) does not.

Automatic Transfer Service - is a preauthorized payment service in which the bank transfers funds from interest-bearing saving accounts to a checking account to cover checks written.

Bankers Acceptances — a document that serves as a promise to pay where the bank has undertaken to guarantee payment when the debt is due. Bankers Acceptances - is a negotiable time draft for financing transactions in goods. BAs are used frequently in international trade and are generally the only available to individuals through money market funds.

Bank Failures- refers to the insolvency of banks leading to bankruptcy.

Banking holding company- is a corporation organized to acquire and hold the stock of one or more banks, serving as vehicle to reduce restrictions of bank expansions and services.

Banking structure- refers to the number and sizes of commercial banks operating in a nation.

Bearer Bonds (unregistered) - where coupons are attached to bond certificate, vs.

Bonds — issued to finance expenditures on schools, roads and other large programs or corporations activities.

Bond Funds - are investment companies that invest on debt obligations or tax exempt municipal bonds.

Bond Indenture - is the legal document that outlines the terms, conditions and covenants of the bond issue. Rights and obligations of the bond issuer and the bondholder, e.g., dividend restrictions, call feature, put feature, sinking fund, etc.

Borrowers - are people who have a shortage of funds relative to their desired expenditures who are seeking to obtain loans. Borrowers attempt to obtain funds from lenders by selling to lenders newly issued claims against the borrowers' real assets, i.e., by selling the lenders newly issued financial assets.

Borrowings - are non-deposit sources of funds such as purchases of reserves (federal funds) from other banks, security repurchase agreements, and issuances of notes.

Callable Bonds - can be called in at the option of the issuer at a predetermined call price, usually at a premium, after a deferred period, e.g. ten years. The closer to maturity, the lower the call premium is. Callable bonds have yields higher than non callable bonds.

Certificates of Deposits — a debt-instrument sold by a bank to depositors that pays annual interest of a given amount and at maturity pays back the original purchase price. Certificate of Deposit is a time deposit with a bank. CDs are safe, but the returns aren't great, and your money is tied up for the length of the CD.

Close End Investment Companies - sell only a specific number of ownership shares which usually trade on an exchange.

Commercial Paper — unsecured short-term debt instruments used by sales finance and consumer loan companies and by large banks and well-known corporations. It is an unsecured, short-term loan issued by a corporation. Returns of commercial papers are higher than T-bills because of the higher default risk.

Convergence trend- in banking industry refers to the trend in which banking organizations are looking more and more like other financial service providers.

Convertible Bonds - are convertible to another security of the issuing firm (e.g. common stock) at a predetermined rate, at the discretion of the bond holders. Bondholders have a valuable option that allows them to become a shareholder if the stock price rises, and they will pay a premium and accept a lower yield. So the market value of the convertible bond will increase as the conversion security price rises. Conversion is an attractive option or feature to bond holders. Thus the yield on convertible bond is usually lower than that on convertible bond.

Corporate bonds — long-term bonds issued by corporations; pays the holder an interest payment twice a year and pays off the face value when the bond matures.

Country or Political Risk - Political Instability or Interference.

Credit Risk - Loan Default Risk

Defined Benefit Plans - promise a specific monthly or annual payment to workers when they retire based up on their salary and length of employment.

Defined Contribution Plans - specify how much must be contributed each month but the amount to be received as benefit will vary depending up on the amount saved and returns earned.

Demand Deposits (Checking Accounts) - are the principal means of making payments.

Derivative products — financial instruments derived from financial products bought and sold in the spot market. They include options and futures.

Eurobond - is an international bond denominated in a currency other than that of the country in which it is sold. More precisely, it is issued by a borrower in one country, denominated in the borrower's currency, and sold outside the borrower's country.

Eurocurrencies - are currencies deposited in banks outside the country of issue.

Excess Reserves - are equal to the difference between the total legal reserves actually held by the bank and the amount of its required reserves.

Federal funds — overnight loans made by bank to other banks. Federal funds results in banks with excess reserves lend to banks deficient reserves of funds.

Finance Paper — unsecured short-term debt instruments used by sales finance and consumer loan companies and by large banks and well-known corporations.

Financial assets - are claims against real assets, either directly (e.g., stock share equity claims) or indirectly (e.g., money holdings, or claims to future income streams that originate ultimately from real assets).

Financial market - is a market in which financial assets are traded. In addition to enabling exchange of previously issued financial assets, financial markets facilitate borrowing and lending by facilitating the sale by newly issued financial assets.

Financial institution - is an institution whose primary source of profits is through financial asset transactions. 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.

Foreign bond — is sold in a foreign country and are denominated in that country's currency. Or an international bond issued by a country that is denominated in a foreign currency and that is for sale exclusively in the country of that foreign currency.

Future contract - is a purchase contract stipulating that a particular asset to be delivered at a predetermined future date.

Government Agency Securities — issued by various government agencies to assist municipalities to finance mortgages, farm loans or power-generating equipment.

Government bonds — issued by the federal government to finance its deficits.

Government Treasury Bills — short-term debt instrument of issued government to finance the federal government. They pay a set amount at maturity and have no interest payments.

Global funds - are investment companies that invest on stocks and bonds which came from all over the world.

Hedge Funds - are private partnerships that sell shares to only a limited number of investors in the hope of reaping large returns from pursuing high risk investments.

Hedging - refers to an investment strategy that splits the money being invested between those assets expected to increase in value if the market goes up and those believed to benefit if the market goes down.

Index Funds - are investment companies that invest in a portfolio of stocks and bonds of listed corporations.

Insolvency Risk - Inadequate Net Worth/Equity to protect against decline in asset value (e.g., bad loans), and possible bank failure.

International bond - is a bond available for sale outside the country of its issuer.

Interest Rate Risk - Maturity Mismatch or Fixed-Rate/Variable-Rate Mismatch.

Lenders- are people who have available funds in excess of their desired expenditures that they are attempting to loan out.

Life Insurance Companies - are institutions that shelter their policy holders against loss of income at time of death, disability, or illness. Ordinary or whole, Term, Endowment, Group and Credit life insurances are some of the policies issued by life insurance companies.

Liquidity Risk - Unexpected Deposit Outflow.

Load Funds - offer shares at net asset value plus a commission to brokers

Loans- are the major types of assets in commercial banks and are among the highest yielding assets a bank can add to its portfolio. Loans often provide the largest portion of operating revenue.

Money Market – is the market specializes in debt securities that mature in less than one year. The easiest way for individuals to gain access to the money market is through a money market mutual fund.

Money Market Deposit Accounts -are deposits carrying prevailing market rates on short-term funds and can be drafted through checks designed to compete with money market funds. These are also called money market linked accounts.

Money Market Funds - are investment companies that invest in short term debt securities.

Money Market Securities - are securities which are very liquid, and are considered very safe. As a result, they offer a lower return than other securities.

Mortgages — loans to households or firms to purchase housing, land or other real structures, where the structure serves as collateral for the loans.

Mortgage Bonds - is secured debt, where specific real estate property has been pledged as collateral. Most corporate bonds are unsecured (debentures) and pay higher yields compared to mortgage bonds.

Mutual Funds- are investment companies which buy back (redeem) their shares any time the customer wishes and sell shares in any quantity demanded.

Negotiable Order of Withdrawals - is accounts that may be drafted to pay bills but also earn interest.

No Load Funds - offer shares purely at their net asset value.

Open End Investment Companies - are investment companies which buy back (redeem) their shares any time the customer wishes and sell shares in any quantity demanded.

Operational Risk - Technology or support breakdowns.

Option - is the right, but not the obligation, to buy or sell an asset on or before a particular date.('Call' option — purchase; 'Put' option — sell.)

Overnight Funds — overnight loans made by bank to other banks.

Primary reserves- are assets consisting of cash and deposits held with other banks to serve as a first line of defense against withdrawals by depositor and customer demand for loans.

Property- Causality Insurance Companies - are firms that protect their policy holders against loss or damage arising from accidents, negligence, dangerous products, or hazardous substances, medical or legal malpractice or other causes by collecting premium payments from policy holders, investing those premiums and paying off any loss or damage claims.

Real assets- are assets in physical form (e.g., land, equipment, houses,...), including "human capital" assets embodied in people (natural abilities, learned skills, knowledge,..).

Registered Bonds - where ownership is recorded by name or serial number, payments get paid electronically (most common in the U.S.).

Repurchase Agreements — (Repo) is an agreement involving the sale of securities by one party to another with a promise to repurchase the securities at specified price and on a specified date in the future.

Repurchase agreements are a form of short term borrowing backed by government securities. Repo is essentially a collateralized loan.

Required Reserves - are equal to the legal reserve requirement percentage times the volume of deposits subject to reserve requirement.

Saving Deposits - are deposits in small amounts and bear a relatively low interest rate.

Secondary Market – a market for corporate bonds which take place mostly OTC through an inter-dealer network of bond traders, e.g., investment banks. Some bonds also trade on organized exchanges.

Secondary Reserves- are assets consisting of securities acquired in the open market as a long term investment and help to meet short term cash needs.

S**ecurities**- are financial assets exchanged in auction and over-the-counter markets (see below) whose distribution is subject to legal requirements and restrictions (e.g., information disclosure requirements).

Serial bonds - have several or many maturity dates, with a portion of the issue being paid off on each date.

Sinking Fund Provision of a bond - requires the corporation to put funds into an interest-earning escrow account/fund that will be used to pay off the principal of the bonds upon maturity. Sinking fund provision can also be a provision that requires the company to retire bonds early, either by secondary market purchases or by randomly calling in bonds early. Bonds with a sinking fund are less risky, could be issued at a lower YTM.

Stocks — equity claims on the net income and assets of corporation.

Stock Investing Funds - are traditional mutual funds which invest on stocks.

Stock Warrants (call options) - are similar to convertible bonds, but allows the investor to buy shares of stock at a predetermined price on or before a specified date, without giving up the bonds. Stock warrants can also be detached and sold.

Subordinated Debt - is junior to more senior debt, in some order of priority for payment (secured debt has higher priority than unsecured debt).

Technology Risk - Investments in technology that do not generate increased expected efficiencies or cost savings. However, technology risk could also turn out to be beneficial when cost savings are achieved.

Term bonds - have a single maturity date for entire issue vs.

Time Deposits - are fixed maturity deposits which carry a penalty for early withdrawal and offer the highest interest rates.

Trading or Market Risk - Macro risk, recession, volatility or unexpected changes in interest rates, ex-rates or asset prices, especially the impact of these changes on a FI's trading activity.

Treasury bills - are short-term government securities that mature in one year or less from their issue date. T-bills are considered to be one of the safest

Investments -they don't provide a great return.

🗝 **Answer Key**

For activities and

Self-assessment questions

Answer Key for Chapter One

A. Answer for Activities

- Answer for Activity 1

1. What is the primary task of the financial system?

Answer:

The primary task of the financial system is to move scarce loan able funds from those who save, to those who borrow to buy goods and services and to make investments so that the economy can grow and increase the standard of living enjoyed by citizens.

1. An organization can mobilize funds either as a debt or as an equity, what is the difference between debt financing and equity financing?

Answer:

Debt funds are supplied as a loan and generally the repayments are scheduled, whereas equity funds acquire part ownership of a business and their returns depend on the future profitability of the business.

2. What is the importance of the pension funds to the people?

Answer:

Pension funds help people to accumulate wealth over a long period and then to exchange this for income to cover the (uncertain) period between retirement and death.

- Answer for Activity 2

1. What is the advantage/s of the financial instruments sold in the money and capital markets, for the business and individuals choosing to save their capital?

Answer:

For the business and individuals choosing to save, the financial instruments sold in the money and capital markets provide an excellent way to store wealth (to preserve value or hold purchasing power) until funds are needed for spending in future periods.

2. In modern economy and efficient financial system savers generally minimize their holdings of money and hold bonds and other financial assets until spend able funds really are needed; why it is so?

Answer:

Because, money generally earns the lowest rate of return of all assets traded in the financial system, and its purchasing power is seriously eroded by inflation.

3. Indicate the importance of 'Debit Card'.

- Answer:

Debit card - is used today to charge a buyer's deposit account for purchases of goods and services and transfer the proceeds instantly by wire to the seller's account.

♦ Answer for Activity 3

1. What are the three major goals of financial system?

- Answer:

- The first goal of the financial system (FS) is to facilitate the flow of funds from savers (entities with a surplus of funds) to investors (entities with a deficit of funds).
- The second goal of the FS is to allow economic agents to share risks.
- The third main goal of the financial system is to generate liquidity.

2. Define a financial asset.

- Answer:

Financial Asset is a legal contract that gives its owner a claim to payments, usually generated by a real asset.

3. What is a letter of credit?

- Answer:

A letter of credit is a promise by the issuer (the bank) to make good on the obligations of a beneficiary (the party paying a fee to the bank) if that beneficiary fails to perform.

♦ Answer for Activity 4

1. An instrument is said to be payable to bearer, if what?

- Answer:

An instrument is said to be payable to bearer if it is transferred to another party by delivery.

2. Describe at least four main Characteristics of Financial Assets.

- Answer:

- Financial assets do not provide a continuous stream of services to the owners i.e. promise future returns to their owners
- Financial assets serve as a store of value i.e. purchasing power
- Financial assets cannot be depreciated physically i.e. do not wear out
- The physical condition of financial assets is irrelevant in determining the market value or price
- The cost of transporting and storing financial assets is low

3. What are the main functions of money?

- Answer:

- Medium of exchange
- Chapter of account
- Store of value
- Standard of deferred payment

B. Answer for Self-Assessment Questions

☞ Part I: Multiple Choices

1. A
2. E
3. B
4. E
5. E

☞ Part II: Matching

1. H
2. K
3. M
4. L
5. A
6. J
7. I
8. E
9. D
10. C

☞ Part III: True or False

1. T
2. F
3. T
4. T
5. F

🗝 **Answer Key for Chapter Two**

B. Answer for Activities

♦ Answer for Activity 5

1. Financial institutions generally transact with diverse financial dealings. What are the main issues or instruments or financial contracts or functions with/in which these firms perform their activities?

- Answer:

Financial institutions deal with various financial activities associated with bonds, debentures, stocks, loans, risk diversification, insurance, hedging, retirement planning, investment, portfolio management, and many other types of related functions.

2. In most cases, financial institutions are engaged in intermediation. Who are the parties these firms are intermediating?

- Answer:

The parties here are usually called lenders and borrowers or sometimes surplus sectors or chapters and deficit sectors or chapters.

3. Some financial institutions facilitate the economic activities of different organizations by collecting funds from the investors and direct it to those various financial services providers. Give some exemplar of those institutions engage in such kind of activities.

- Answer:

These institutions include: Banks, Stock Brokerage Firms , Non Banking Financial Institutions, Building Societies , Asset Management Firms, Credit Unions and Insurance Companies.

♦ Answer for Activity 6

1. What are the major types of depository financial institutions?

- Answer:

The most important types of depository financial institutions are: Commercial Banks, Saving and Loan Associations, Mutual Savings Banks, Micro Finance Institutions (MFIs), and Credit Unions.

2. What are the primary functions of depository financial institutions?

- Answer:

The primary functions of depository financial institutions are:

Accepting Deposits,

Providing Commercial Loans,

Providing Real Estate Loans,

Providing Mortgage Loans, and

Issuing Share Certificates.

3. What are the reasons that make depository institutions popular/unique depository financial institutions?

- Answer:

Depository institutions are popular financial institutions for the following reasons:

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

♦ Answer for Activity 7

1. What is the most important use of funds by commercial banks?

- Answer:

The major use of funds by commercial banks is making loans.

2. What are the vital doings of commercial banks?

- Answer:

Banks play significance roll in the economy of a country because of the following functions they perform:

- Banks are principal means of making payments.
- Create money from excess reserves of public deposits.
- Use excess cash reserves to make loans and investments.
- They are principal channel for government monetary policy.

3. What is the purpose of short-term loan?

- Answer:

The intention of the short term loan is to finance the working capital needs and/or to meet other short-term financial constraints of customers.

4. What do we mean by pre-shipment export credit?

- Answer:

Pre-shipment export credit is a loan granted to exporters starting from the procurement of inputs until the date of shipment of goods against guarantee by banks.

5. What is the difference between the advance on export bills and revolving export credit facility?

- Answer:

Revolving export credit facility is an advance extended to exporters with a limited margin until goods are loaded on board, upon presentation of all relevant export documents to the Bank, except a bill of lading. Where as advance on export bills is a post-shipment export credit provided to exporters with a certain margin against presentation of all the necessary export documents.

- Answer for Activity 8

1. Mention the most important characteristics of savings and loan associations:

- Answer

Some of the most important characteristics of a savings and loan association are:

- In general it is a locally owned and privately managed home financing institution.
- It receives individuals' savings and uses these funds to make long-term amortized loans to home purchasers.
- It makes loans for the construction, purchase, repair, or refinancing of houses.
- It is state or federally chartered.

2. What makes credit unions different from banks?

- Answer

The major difference between the credit unions and commercial banks is that the credit unions are owned by the members unlike banks. Where as commercial banks are pure business firms/financial institutions owned by investors for their profit sack rather than collective self help members.

3. Who are the beneficiaries of micro financial institutions credit provisions?

- Answer
  - Rural and urban poor households
  - Petty traders
  - Handcraft producers
  - Unemployed youth and women ...etc.

4. Who own saving banks?

- Answer

Saving banks are owned by their depositors to which all earnings not retained are paid as owner's dividend.

- Answer for Activity 9

1. In what sense finance companies seam banks?

- Answer

Like banks financial companies grant credit to businesses and consumers for a wide variety of purposes and they use people's savings to make loans to businesses.

2. Who regulate the pension plan?
   - Answer

Pension plans can be regulated by governments or financial institutions.

3. What is the distinctive feature of insurance as a transfer device?
   - Answer

The distinctive feature of insurance as a transfer device is that it involves some pooling of risks; i.e., the insurer combines the risks of many insured.

4. Mention major classes of insurance companies.
   - Answer

The insurance companies can be mainly categorized in to:

Life Insurance Companies and

Non-life Insurance Companies

C. Answer for Self-Assessment Questions

☞ Part I: Multiple Choices

1. E
2. C
3. B
4. E
5. D

☞ Part II: Matching

1. F
2. J
3. L
4. G
5. H
6. A
7. O
8. M
9. D
10. I

☞ Part III: True or False

1. T
2. F
3. T
4. F

CHAPTER THREE

INTERESTS RATES IN THE FINANCIAL SYSTEM

Chapter objectives

Dear learner, you are now at the third chapter of the module. The main objective of this chapter is to understand interest rate, show how it is measured, to understand distinction between interest rates and returns, and to see the different Theory and structure of interest rate. Therefore, after completing of this chapter you are expected to:

- ✓ Define the different methods used to measured interest rate
- ✓ Explain the behavior of interest rates
- ✓ Distinguish the interest rates from returns
- ✓ Explain the different theories on the interest rates
- ✓ Define the different structure of interest rate

INTRODUCTION

Dear learner, in this chapter, we will see that a concept known as the yield to maturity is the most accurate measure of interest rates. We will discuss how the yield to maturity is measured and examine alternative (but less accurate) ways in which interest rates are quoted. We'll also see that a bond's interest rate does not necessarily indicate how good an investment the bond is because what it earns (its rate of return) does not necessarily equal its interest rate. Finally, we will explore the different theories and structure on the interest rates

3.1. UNDERSTANDING INTEREST RATES

Dear learner, what do you understand about interest rate? How do you measure it?

Interest rates are among the most closely watched variables in the economy. Their movements are reported almost daily by the news media, because they directly affect our everyday lives and have important consequences for the health of the economy. They affect personal decisions such as whether to consume or save, whether to buy a house, and whether to purchase bonds or put funds into a savings account. Interest rates also affect the economic decisions of businesses and households, such as whether to use their funds to invest in new equipment for factories or to save their money in a bank.

Dear learner, before we can go on with the study of different financial institutions, and financial markets, we must understand exactly what the phrase interest rates means.

3.1.1. MEASURING INTEREST RATES

Dear learner, what different concepts do you know before that used to interest rate?

By holding financial instruments such as loans or bonds, savers and financial institutions could result in different flows of funds with different time.

Dear learner, here we will try to see how interests' rates are measured on different debt instruments that have very different streams of payment with very different timing. Thus we first need to understand how we can compare the value of one kind of debt instrument with another before we see how interest rates are measured. To do this, we make use of the concept of *present value*.

The concept of present value (or present discounted value) is based on the commonsense notion that a birr paid to you one year from now is less valuable to you than a birr paid to you today: This notion is true because you can deposit a birr in a savings account that earns interest and have more than a birr in one year.

The process of calculating today's value of birr received in the future is called discounting the future. We can generalize this process by writing the following formula

$$PV = \frac{FV}{(1+i)^n}$$

Where PV = Today's (present) value

FV = the future value

i = the interest rate

Intuitively, what this equation tells us is that if you are promised Br. 1 for certain ten years from now, this birr would not be as valuable to you as Br.1 is today because if you had the Br.1 today, you could invest it and end up with more than Br.1 in ten years.

The concept of present value is extremely useful, because it allows us to figure out today's value (price) of a credit market instrument at a given simple interest rate (i) by just adding up the individual present values of all the future payments received. This information allows us to compare the value of two instruments with very different timing of their payments. In terms of the timing of their payments, there are four basic types of credit market instruments.

1. ***A simple loan***. In which the lender provides the borrower with an amount of funds, which must be repaid to the lender at the maturity date along with an additional payment for the interest. Many money market instruments are of this type: for example, commercial loans to businesses.

2. ***A fixed-payment loan (which is also called a fully amortized loan).*** In which the lender provides the borrower with an amount of funds, which must be repaid by making the same payment every period (such as a month), consisting of part of the principal and interest for a set number of years. For example, if you borrowed Br. 1,000, a fixed-payment loan might require you to pay Br. 126 every year for 25 years. Installment loans (such as auto loans) and mortgages are frequently of the fixed-payment type.

3. ***A coupon bond.*** In which pays the owner of the bond a fixed interest payment (coupon payment) every year until the maturity date, when a specified final amount (face value or par value) is repaid. The coupon payment is so named because the bondholder used to obtain payment by clipping a coupon off the bond and sending it to the bond issuer, who then sent the payment to the holder. Nowadays, it is no longer necessary to send in coupons to receive these payments. A coupon bond with Br. 1,000 face value, for example, might pay you a coupon payment of Br. 100 per year for ten years, and at the maturity date repays you the face value amount of Br. 1,000. (The face value of a bond is usually in Br. 1,000 increments.) A coupon bond is identified by three pieces of information. First is the corporation or government agency that issues the bond. Second is the maturity date of the bond. Third is the bond's coupon rate, the birr amount of the yearly coupon payment expressed as a percentage of the face value of the bond. In our example, the coupon bond has a yearly coupon payment of Br. 100 and a face value of Br. 1,000. The coupon rate is then Br. 100/Br. 1,000 = 0.10, or 10%. Capital market instruments such as government Treasury bonds and notes and corporate bonds are examples of coupon bonds.

4. ***A discount bond (also called a zero-coupon bond)*** is bought at a price below its face value (at a discount), and the face value is repaid at the maturity date. Unlike a coupon bond, a discount bond does not make any interest payments; it just pays off the face value. For example, a discount bond with a face value of Br. 1,000 might be bought for Br. 900; in a year's time the owner would be repaid the face value of Br. 1,000. Government Treasury bills, government savings bonds, and long-term zero-coupon bonds are examples of discount bonds.

These four types of instruments require payments at different times: Simple loans and discount bonds make payment only at their maturity dates, whereas fixed-payment loans and coupon bonds have payments periodically until maturity. ***How would you decide which of these instruments provides you with more income?*** They all seem so different because they make payments at different times. To solve this problem, we use the concept of present value, explained earlier, to provide us with a procedure for measuring interest rates on these different types of instruments.

- ***YIELD TO MATURITY (YTM)***

Dear learner, have you heard before about Yield to Maturity? And, if knew, how it used to measure interest rate on different financial instruments?

Of the several common ways of calculating interest rates, the most important is the yield to maturity, the interest rate that equates the present value of payments received from a debt instrument with its value today. It is also called the *internal rate of return*.

The key to understanding the calculation of the yield to maturity is equating today's value of the debt instrument with the present value of all of its future payments. To understand the yield to maturity better, we now look at how it is calculated for the four types of credit market instruments

i. YTM on Simple Loan Using the concept of present value, the yield to maturity on a simple loan is easy to calculate. For example, if you made your friend, Almaz, a simple loan of Br. 100 for one year, and you would require her to repay the principal of Br. 100 in one year's time along with an additional payment for interest; say, Br. 10, the payments in one year's time would be Br. 110 (the repayment of Br. 100 plus the interest payment of Br. 10). Now we can use this information to solve for the yield to maturity by recognizing that the present value of the future payments must equal today's value of a loan. Making today's value of the loan (Br. 100) equal to the present value of the Br. 110 payment in a year (using present value Equation) gives us:

$$\text{Br. } 100 = \frac{\text{Br. } 110}{1 + i}$$

$$i = \frac{\text{Br. } 110 - \text{Br. } 100}{\text{Br. } 100} = \frac{\text{Br. } 10}{\text{Br. } 100} = 0.10 = 10\%$$

This calculation of the yield to maturity should look familiar, because it equals the interest payment of Br. 10 divided by the loan amount of Br. 100; that is, it equals the simple interest rate on the loan. An important point to recognize is that for simple loans, the simple interest rate equals the yield to maturity. Hence the same term- i is used to denote both the yield to maturity and the simple interest rate.

ii. YTM ON Fixed-Payment Loan Recall that this type of loan has the same payment every period throughout the life of the loan. On a fixed-rate mortgage, for example, the borrower makes the same payment to the bank every month until the maturity date, when the loan will be completely paid off. To calculate the yield to maturity for a fixed-payment loan, we follow the same strategy we used for the simple loan—we equate today's value of the loan with its present value. Because the fixed-payment loan involves more than one payment, the present value of the fixed-payment loan is calculated as the sum of the present values of all payments (using present value Equation).

In the case of our earlier example, the loan is Br. 1,000 and the yearly payment is Br. 126 for the next 25 years. The present value is calculated as follows: At the end of one year, there is a Br. 126 payment with a PV of Br. 126/(1 + i); at the end of two years, there is another Br. 126 payment with a PV of Br. 126/$(1 + i)^2$; and so on until at the end of the twenty-fifth year, the last payment of Br. 126 with a PV of Br. 126/$(1 + i)^{25}$ is made. Making today's value of the loan (Br. 1,000) equal to the sum of the present values of all the yearly payments gives us:

$$LV = \frac{FP}{(1+i)} + \frac{FP}{(1+i)^2} + \ldots\ldots + \frac{FP}{(1+i)^n}$$

Where LV = loan value

FP = fixed yearly payment

n = number of years until maturity

iii. YTM ON Coupon Bond To calculate the yield to maturity for a coupon bond, follow the same strategy used for the fixed-payment loan: Equate today's value of the bond with its present value. Because coupon bonds also have more than one payment, the present value of the bond is calculated as the sum of the present values of all the coupon payments plus the present value of the final payment of the face value of the bond. The present value of a Br. 1,000-face-value bond with ten years to maturity and yearly coupon payments of Br. 100 (a 10% coupon rate) can be calculated as follows: At the end of one year, there is a Br. 100 coupon payment with a PV of Br. 100/(1 + i); at the end of the second year, there is another Br. 100 coupon payment with a PV of Br. 100/(1 + i)2; and so on until at maturity, there is a Br. 100 coupon payment with a PV of Br. 100/(1+ i)10 plus the repayment of the Br. 1,000 face value with a PV of Br. 1,000/(1 + i)10. Setting today's value of the bond (its current price, denoted by P) equal to the sum of the present values of all the payments for this bond gives:

$$P = \frac{C}{(1+i)} + \frac{C}{(1+i)^2} + \ldots\ldots + \frac{C}{(1+i)^n} + \frac{F}{(1+i)^n}$$

Where P = price of coupon bond C = yearly coupon payment

F = face value of the bond n = years to maturity date

Let's look at some examples of the solution for the yield to maturity on our 10%- coupon-rate bond that matures in ten years. If the purchase price of the bond is Br. 1,000, then either the above equation or looking at a bond table below, we will find that the yield to maturity is 10 percent. If the price is Br. 900, we find that the yield to maturity is 11.75%. The following table shows the yields to maturity calculated for several bond prices.

Table 3.1 Yields to Maturity on a 10%-Coupon-Rate Bond Maturing in Ten Years (Face Value = Br. 1,000)	
Price of Bond (Br.)	Yield to Maturity (%)
1,200	7.13
1,100	8.48
1,000	10.00
900	11.75
800	13.81

Three interesting facts can be illustrated from this Table 2.1:

1. When the coupon bond is priced at its face value, the yield to maturity equals the coupon rate.
2. The price of a coupon bond and the yield to maturity are negatively related; that is, as the yield to maturity rises, the price of the bond falls. As the yield to maturity falls, the price of the bond rises.
3. The yield to maturity is greater than the coupon rate when the bond price is below its face value.

These three facts are true for any coupon bond and are really not surprising if you think about the reasoning behind the calculation of the yield to maturity. When you put Br. 1,000 in a bank account with an interest rate of 10%, you can take out Br. 100 every year and you will be left with the Br. 1,000 at the end of ten years. This is similar to buying the Br. 1,000 bond with a 10% coupon rate analyzed in Table 1, which pays a Br. 100 coupon payment every year and then repays Br. 1,000 at the end of ten years. If the bond is purchased at the par value of Br. 1,000, its yield to maturity must equal 10%, which is also equal to the coupon rate of 10%. The same reasoning applied to any coupon bond demonstrates that if the coupon bond is purchased at its par value, the yield to maturity and the coupon rate must be equal.

It is, therefore, straightforward to show that the bond price and the yield to maturity are negatively related. As the yield to maturity rises, all denominators in the bond price formula, given above, must necessarily rise. Hence a rise in the interest rate as measured by the yield to maturity means that the price of the bond must fall. Another way to explain why the bond price falls when the interest rises is that a higher interest rate implies that the future coupon payments and final payment are worth less when discounted back to the present; hence the price of the bond must be lower.

iv. *YTM ON Discount Bond* The yield-to-maturity calculation for a discount bond is similar to that for the simple loan. Let us consider a discount bond such as a one-year Treasury bill, which pays off a face value of Br. 1,000 in one year's time. If the current purchase price of this bill is Br. 900, then equating this price to the present value of the Br. 1,000 received in one year, using present value equation given above, gives:

$$\text{Br. } 900 = \frac{\text{Br. } 1{,}000}{1 + i}$$

And solving for *i*,

$$(1 + i) * \text{Br. } 900 = \text{Br. } 1{,}000$$

$$\text{Br. } 900 + \text{Br. } 900\, i = \text{Br. } 1{,}000$$

$$\text{Br. } 900\, i = \text{Br. } 1{,}000 - \text{Br. } 900$$

$$i = \frac{\text{Br. } 1{,}000 - \text{Br. } 900}{\text{Br. } 900} = 0.111 = 11.1\%$$

More generally, for any one-year discount bond, the yield to maturity can be written bas:

$$i = \frac{F - P}{P}$$

Where: F= face value of the discount bond and P = current price of the discount bond

In other words, the yield to maturity equals the increase in price over the year F – P divided by the initial price P. In normal circumstances, investors earn positive returns from holding these securities and so they sell at a discount, meaning that the current price of the bond is below the face value. Therefore, F – P should be positive, and the yield to maturity should be positive as well. An important feature of this equation is that it indicates that for a discount bond, the yield to maturity is negatively related to the current bond price. This is the same conclusion that we reached for a coupon bond. For example, the above Equation can shows that a rise in the bond price from Br. 900 to Br. 950 means that the bond will have a smaller increase in its price at maturity, and the yield to maturity falls from 11.1 to 5.3%. Similarly, a fall in the yield to maturity means that the price of the discount bond has risen.

❖ Other Measures of Interest Rates

The yield to maturity is the most accurate measure of interest rates. However, because the yield to maturity is sometimes difficult to calculate, other, less accurate measures of interest rates have come into common use in bond markets. You will frequently encounter two of these measures—the current yield and the yield on a discount basis and it is important for you to understand what they mean and how they differ from the more accurate measure of interest rates, the yield to maturity.

Current Yield….. The current yield is an approximation of the yield to maturity on coupon bonds that is often reported, because in contrast to the yield to maturity, it is easily calculated. It is defined as the yearly coupon payment divided by the price of the security,

$$i = \frac{C}{P}$$

Where: i = current yield, P = price of the coupon bond and C=yearly coupon payment

When a coupon bond has a long term to maturity (say, 20 years or more), it is very much like a consol, which pays coupon payments forever. Thus you would expect the current yield to be a rather close approximation of the yield to maturity for a long-term coupon bond, and you can safely use the current-yield calculation instead of calculating the yield to maturity with a financial calculator. However, as the time to maturity of the coupon bond shortens (say, it becomes less than five years), it behaves less and less like a consol and so the approximation afforded by the current yield becomes worse and worse.

The general characteristics of the current yield (the yearly coupon payment divided by the bond price) can be summarized as follows: The current yield better approximates the yield to maturity when the bond's price is nearer to the bond's par value and the maturity of the bond is longer. It becomes a worse approximation when the bond's price is further from the bond's par value and the bond's maturity is shorter. Regardless of whether the current yield is a good approximation of the yield to maturity, a change in the current yield always signals a change in the same direction of the yield to maturity.

Activity 3.1.

1. What are four basic types of credit market instruments?
2. How do you measure the funds flow on the different types of credit market instruments?
3. What are the different concepts used to measure the interest rate?

3.1.3.THE DISTINCTION BETWEEN INTEREST RATES AND RETURNS

Dear learner, what is the difference between interest rates and returns?

Many people think that the interest rate on a bond tells them all they need to know about how well off they are as a result of owning it. If Irving the Investor thinks he is better off when he owns a long-term bond yielding a 10% interest rate and the interest rate rises to 20%, he will have a rude awakening: As we will shortly see, if he has to sell the bond, Irving has lost his shirt! How well a person does by holding a bond or any other security over a particular time period is accurately measured by the return, or, in more precise terminology, the rate of return. For any security, the rate of return is defined as the payments to the owner plus the change in its value, expressed as a fraction of its purchase price. To make this definition clearer, let us see what the return would look like for a Br. 1,000-face-value coupon bond with a coupon rate of 10%

that is bought for Br. 1,000, held for one year, and then sold for Br. 1,200. The payments to the owner are the yearly coupon payments of Br. 100, and the change in its value is Br. 1,200 _ Br. 1,000 _ Br. 200. Adding these together and expressing them as a fraction of the purchase price of Br. 1,000 gives us the one-year holding-period return for this bond:

$$\frac{\text{Br. 100 + Br. 200}}{\text{Br. 1,000}} = \frac{\text{Br. 300}}{\text{Br. 1,000}} = 0.30 = 30\%$$

You may have noticed something quite surprising about the return that we have just calculated: It equals 30%, yet as Table 2. 1 indicates, initially the yield to maturity was only 10 percent. This demonstrates that the return on a bond will not necessarily equal the interest rate on that bond. We now see that the distinction between interest rate and return can be important, although for many securities the two may be closely related.

More generally, the return on a bond held from time t to time t+1 can be written as:

$$RET = \frac{C + (P_{t+1} - P_t)}{Pt}$$

Where: RET = return from holding the bond from time t to time t + 1

P_t = price of the bond at time t

P_{t+1} = price of the bond at time t + 1

C= coupon payment

A convenient way to rewrite the return formula given above is to recognize that it can be split into two separate terms:

$$RET = \frac{C}{Pt} + \frac{(P_{t+1} - P_t)}{Pt}$$

The first term is the current yield, i_c (the coupon payment over the purchase price):

$$\frac{C}{P_t}$$

The second term is the rate of capital gain, or the change in the bond's price relative to the initial purchase price:

$$\frac{(P_{t+1} - P_t)}{P_t} = g, \quad \text{where: } g = \text{rate of capital gain}$$

Thus, the above equation can then be rewritten as:

$$RET = i_c + g$$

Which shows that the return on a bond is the current yield, i_c, plus the rate of capital gain, g. This rewritten formula illustrates the point we just discovered. Even for a bond for which the current yield, i_c, is an accurate measure of the yield to maturity, the return can differ substantially from the interest rate. Returns will differ from the interest rate, especially if there are sizable fluctuations in the price of the bond that produce substantial capital gains or losses. To explore this point even further, let's look at what happens to the returns on bonds of different maturities when interest rates rise. ***Table 2.2*** calculates the one-year return on several 10%-coupon-rate bonds all purchased at par when interest rates on all these bonds rise from 10 to 20%.

Table 3.2. **One-Year Returns on Different-Maturity 10%-Coupon-Rate Bonds When Interest Rates Rise from 10% to 20%**

(1) Years to Maturity When Bond Is Purchased	(2) Initial Current Yield (%)	(3) Initial Price (Br.)	(4) Price Next Year* (Br.)	(5) Rate of Capital Gain (%)	(6) Rate of Return (2 + 5) (%)
30	10	1,000	503	-49.7	-39.7
20	10	1,000	516	- 48.4	-38.4
10	10	1,000	597	- 40.3	-30.3
5	10	1,000	741	-25.9	-15.9
2	10	1,000	917	-8.3	+1.7
1	10	1,000	1,000	00	+10

Several key findings in this table are generally true of all bonds:

- The only bond whose return equals the initial yield to maturity is one whose time to maturity is the same as the holding period (see the last bond in Table 2.2).
- A rise in interest rates is associated with a fall in bond prices, resulting in capital losses on bonds whose terms to maturity are longer than the holding period.
- The more distant a bond's maturity, the greater the size of the percentage price change associated with an interest-rate change.
- The more distant a bond's maturity, the lower the rate of return that occurs as a result of the increase in the interest rate.
- Even though a bond has a substantial initial interest rate, its return can turn out to be negative if interest rates rise.

At first it may puzzles you that a rise in interest rates can mean that a bond has been a poor investment. The trick to understanding this is to recognize that a rise in the interest rate means that the price of a bond has fallen. A rise in interest rates therefore means that a capital loss has occurred, and if this loss is large enough,

the bond can be a poor investment indeed. For example, we see in Table 2.2 that the bond that has 30 years to maturity when purchased has a capital loss of 49.7% when the interest rate rises from 10 to 20%. This loss is so large that it exceeds the current yield of 10%, resulting in a negative return (loss) of -39.7%. If you not sell the bond, your capital loss is often referred to as a "paper loss." This is a loss nonetheless because if you had not bought this bond and had instead put your money in the bank, you would now be able to buy more bonds at lower price than you presently owns.

Activity2.2

i. What is the difference between interest rate and returns, and which one is mare accurate to measure investment on financial assets?

3.2.THE BEHAVIOR OF INTEREST RATES

Dear learner, what explains the substantial fluctuations in interest rates?

Dear learner, in this section we will examine how the overall level of nominal interest rates (which we refer to as simply "interest rates") is determined and which factors influence their behavior. We learned in pervious sections that interest rates are negatively related to the price of bonds, so if we can explain why bond prices change, we can also explain why interest rates fluctuate. To do this, we make use of supply and demand analysis for bond markets to examine how interest rates change.

3.2.1. Determinants Of Asset Demand

Dear learner, before going on to our supply and demand analysis of the bond market, we must first understand what determines the quantity demanded of an asset. Recall that an asset is a piece of property that is a store of value. Items such as money, bonds, stocks, art, land, houses, farm equipment, and manufacturing machinery are all assets. Facing the question of whether to buy and hold an asset or whether to buy one asset rather than another, an individual must consider the following factors:

1. **Wealth**, the total resources owned by the individual, including all assets
2. **Expected return** (the return expected over the next period) on one asset relative to alternative assets
3. **Risk** (the degree of uncertainty associated with the return) on one asset relative to alternative assets
4. **Liquidity** (the ease and speed with which an asset can be turned into cash) relative to alternative assets

Dear learner, as we discuss each factor that influences asset demand, remember that we are always holding all the other factors constant. Also, think of additional examples of how changes in each factor would

influence your decision to purchase a particular asset: say, a house or a share of common stock. This intuitive approach will help you understand how the theory works in practice.

Wealth……. When we find that our wealth has increased, we have more resources available with which to purchase assets, and so, not surprisingly, the quantity of assets we demand increases. Therefore, the effect of changes in wealth on the quantity demanded of an asset can be summarized as follows: ***Holding everything else constant, an increase in wealth raises the quantity demanded of an asset.***

Expected Returns……the return on an asset (such as a bond) measures how much we gain from holding that asset. When we make a decision to buy an asset, we are influenced by what we expect the return on that asset to be. If ABC Corporation bond, for example, has a return of 15% half the time and 5% the other half of the time, its expected return (which you can think of as the average return) is 10% (= 0.5 * 15% + 0.5 * 5%).1 If the expected return on the ABC bond rises relative to expected returns on alternative assets, holding everything else constant, then it becomes more desirable to purchase it, and the quantity demanded increases. This can occur in either of two ways: (1) when the expected return on the ABC bond rises while the returns on an alternative asset—say, stock —remains unchanged or (2) when the return on the alternative asset, the stock, falls while the return on the ABC bond remains unchanged. To summarize, ***an increase in an asset's expected return relative to that of an alternative asset, holding everything else unchanged, raises the quantity demanded of the asset.***

Risk….. The degree of risk or uncertainty of an asset's returns also affects the demand for the asset. Consider two assets, stock in Ethio-Airlines and stock in Ground Selam Bus Company. Suppose that Ethio-Airlines stock has a return of 15% half the time and 5% the other half of the time, making its expected return 10%, while stock in Selam Bus has a fixed return of 10%. Ethio-Airlines stock has uncertainty associated with its returns and so has greater risk than stock in Selam Bus, whose return is a sure thing.

A risk-averse person prefers stock in Selam Bus (the sure thing) to Ethio-Airlines stock (the riskier asset), even though the stocks have the same expected return, 10%. By contrast, a person who prefers risk is a risk preferrer or risk lover. Most people are risk-averse, especially in their financial decisions: Everything else being equal, they prefer to hold the less risky asset. Hence, *holding everything else constant, if an asset's risk rises relative to that of alternative assets, its quantity demanded will fall.*

Liquidity….. Another factor that affects the demand for an asset is how quickly it can be converted into cash at low costs—its liquidity. An asset is liquid if the market in which it is traded has depth and breadth; that is, if the market has many buyers and sellers. A house is not a very liquid asset, because it may be hard to find a buyer quickly; if a house must be sold to pay off bills, it might have to be sold for a much lower price. And

the transaction costs in selling a house (broker's commissions, lawyer's fees, and so on) are substantial. A Treasury bill, by contrast, is a highly liquid asset. It can be sold in a well-organized market where there are many buyers, so it can be sold quickly at low cost. *The more liquid an asset is relative to alternative assets, holding everything else unchanged, the more desirable it is, and the greater will be the quantity demanded.*\

3.2.2. Changes In Equilibrium Interest Rates Of Bonds

We will now use the supply and demand framework for bonds to analyze why interest rates change. To avoid confusion, it is important to make the distinction between movements along a demand (or supply) curve and shifts in a demand (or supply) curve. When quantity demanded (or supplied) changes as a result of a change in the price of the bond (or, equivalently, a change in the interest rate), we have a movement along the demand (or supply) curve. A shift in the demand (or supply) curve, by contrast, occurs when the quantity demanded (or supplied) changes at each given price (or interest rate) of the bond in response to a change in some other factor besides the bond's price or interest rate. When one of these factors changes, causing a shift in the demand or supply curve, there will be a new equilibrium value for the interest rate.

In the following, we will look at how the supply and demand curves shift in response to changes in different variables and what effects these changes have on the equilibrium value of interest rates.

A. ***Shifts in the Demand for Bonds…….*** The theory of asset demand demonstrated at the beginning of the chapter provides a framework for deciding what factors cause the demand curve for bonds to shift. These factors include changes in four parameters:

a. Wealth
b. Expected returns on bonds relative to alternative assets
c. . Risk of bonds relative to alternative assets
d. Liquidity of bonds relative to alternative assets

Now let see how a change in each of these factors (holding all other factors constant) can shift the demand curve.

Wealth…… When the economy is growing rapidly in a business cycle expansion and wealth is increasing, the quantity of bonds demanded at each bond price (or interest rate) increases and another factor that affects wealth is the public's propensity to save. If households save more, wealth increases and the demand for bonds rises and the demand curve for bonds shifts to the right. Conversely, if people save less, wealth and the demand for bonds will fall and the demand curve shifts to the left.

Expected Returns……. For bonds with maturities of greater than one year, the expected return may differ from the interest rate. For example, as shown before, that a rise in the interest rate on a long-term bond from

10 to 20% would lead to a sharp decline in price and a very negative return. Hence if people begin to think that interest rates will be higher next year than they had originally anticipated, the expected return today on long-term bonds would fall, and the quantity demanded would fall at each interest rate. Higher expected interest rates in the future lower the expected return for long term bonds, decrease the demand, and shift the demand curve to the left

By contrast, a revision downward of expectations of future interest rates would mean that long-term bond prices would be expected to rise more than originally anticipated, and the resulting higher expected return today would raise the quantity demanded at each bond price and interest rate. Lower expected interest rates in the future increase the demand for long-term bonds and shift the demand curve to the right

Changes in expected returns on other assets can also shift the demand curve for bonds. If people suddenly became more optimistic about the stock market and began to expect higher stock prices in the future, both expected capital gains and expected returns on stocks would rise. With the expected return on bonds held constant, the expected return on bonds today relative to stocks would fall, lowering the demand for bonds and shifting the demand curve to the left.

A change in expected inflation is likely to alter expected returns on physical assets (also called real assets) such as automobiles and houses, which affect the demand for bonds. An increase in expected inflation, say, from 5 to 10%, will lead to higher prices on cars and houses in the future and hence higher nominal capital gains. The resulting rise in the expected returns today on these real assets will lead to a fall in the expected return on bonds relative to the expected return on real assets today and thus cause the demand for bonds to fall. Alternatively, we can think of the rise in expected inflation as lowering the real interest rate on bonds, and the resulting decline in the relative expected return on bonds causes the demand for bonds to fall. An increase in the expected rate of inflation lowers the expected return for bonds, causing their demand to decline and the demand curve to shift to the left.

Risk….. If prices in the bond market become more volatile, the risk associated with bonds increases, and bonds become a less attractive asset. An increase in the riskiness of bonds causes the demand for bonds to fall and the demand curve to shift to the left.

Conversely, an increase in the volatility of prices in another asset market, such as the stock market, would make bonds more attractive. An increase in the riskiness of alternative assets causes the demand for bonds to rise and the demand curve to shift to the right

Liquidity…... If more people started trading in the bond market, and as a result it became easier to sell bonds quickly, the increase in their liquidity would cause the quantity of bonds demanded at each interest rate to

rise. Increased liquidity of bonds results in an increased demand for bonds, and the demand curve shifts to the right. Similarly, increased liquidity of alternative assets lowers the demand for bonds and shifts the demand curve to the left.

B. Shifts in the Supply of Bonds…… Certain factors can cause the supply curve for bonds to shift, among them these:

a. Expected profitability of investment opportunities
b. Expected inflation
c. Government activities

Expected Profitability of Investment Opportunities….. The more profitable plant and equipment investments that a firm expects it can make, the more willing it will be to borrow in order to finance these investments. When the economy is growing rapidly, as in a business cycle expansion, investment opportunities that are expected to be profitable abound, and the quantity of bonds supplied at any given bond price and interest rate will increase. *Therefore, in a business cycle expansion, the supply of bonds increases, and the supply curve shifts to the right. Likewise, in a recession, when there are far fewer expected profitable investment opportunities, the supply of bonds falls, and the supply curve shifts to the left.*

Expected Inflation……. As we saw in prior section, the real cost of borrowing is more accurately measured by the real interest rate, which equals the (nominal) interest rate minus the expected inflation rate. For a given interest rate, when expected inflation increases, the real cost of borrowing falls; hence the quantity of bonds supplied increases at any given bond price and interest rate. An increase in expected inflation causes the supply of bonds to increase and the supply curve to shift to the right.

Government Activities……. The activities of the government can influence the supply of bonds in several ways. The government Treasury issues bonds to finance government deficits, the gap between the government's expenditures and its revenues. When these deficits are large, the Treasury sells more bonds, and the quantity of bonds supplied at each bond price and interest rate increases. Higher government deficits increase the supply of bonds and shift the supply curve to the right. On the other hand, government surpluses decrease the supply of bonds and shift the supply curve to the left.

State and local governments and other government agencies also issue bonds to finance their expenditures, and this can also affect the supply of bonds.

Activity2.3

1. Explain why you would be more or less willing to buy a house under the following circumstances:
    a. You just inherited Br. 100,000.
    b. Real estate commissions fall from 6% of the sales price to 5% of the sales price.
    c. You expect Microsoft stock to double in value next year.
    d. Prices in the stock market become more volatile.
    e. You expect housing prices to fall.
2. Will there be an effect on interest rates if brokerage commissions on stocks fall? Explain your answer.

3.3. THEORY AND STRUCTURE OF INTEREST RATE

Dear learner, what do we mean when we say theories and structure of interest rate? And what are the different theories developed and structure of interest rate?

Money is often loaned or rented by people for its purchasing power. The rental price of money is called interest rate and usually expressed as a percentage of the nominal money borrowed. Thus interest rates are the price of borrowing money for the use of its purchasing power or it is the reward for parting with the money. To the person borrowing the money interest is the penalty for consuming income before it is earned. To the lender it is the reward for postponing current consumption until the maturity of the loan.

In economics it is the payment given for the lender of production viz. Capital. In business it is considered as the share of profit as the lender is sharing the risk of the business by financing it or the price of the market fund. Like the price of other factors of production, the interest rates also have a number of economic functions.

1. it guarantees savings
2. They allocate funds between Surplus Spending Units (SSU's) and Deficit Spending Units (DSU's).
3. The interest also enhances production
4. Helps to maintain a dynamic balance of investment.
5. It regulates the lending and borrowing activities of commercial banks.

3.3.1. THEORIES OF INTEREST

Dear learner, what is the difference among theories developed on interest rate and what factors are used to explain interest rate under those theories?

A. CLASSICAL THEORY

This theory is also regarded as savings and investment theory of rate of interest. According to this theory the rate of interest is determined by the interaction of savings and investment. Interest is regarded as a reward for savings in classical theory. The rate of interest is a real phenomenon because it is determined by the real factors like savings, investment, and thriftiness and so on. The rate of interest is not directly affected by the change in money supply. The change of supply of money can only change the price level and not rate of interest. The rate of interest is really the equilibrium mechanism which brings about equality between savings and investments. If there is disequilibrium between savings and investment, it is corrected by the rate of interest. (if savings higher than investment-means more people ready to lend out money- leads to more supply than demand-so rate of interest comes down to level of equilibrium. If investment higher than savings-the demand for capital higher than supply of capital-this leads to rise in the rate of interest till such time when equilibrium rate of interest is achieved). The rate of interest at which savings and investment are equalized in the classical system is at some positive rate of interest. There is no possibility of zero or negative rate of interest in classical system.

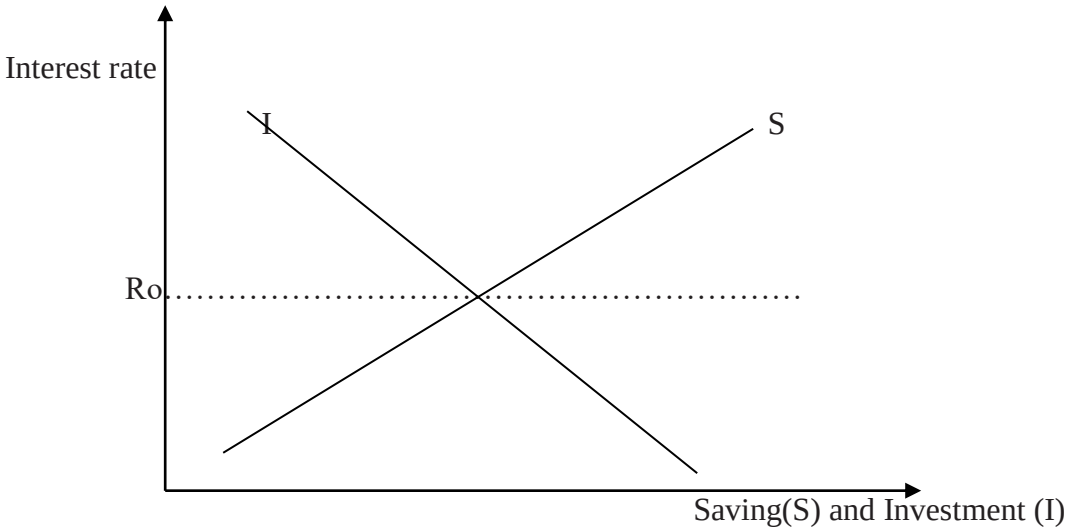
The rate of interest has to take into account two important variables: supply of savings and demand for savings. The supply comes mainly from household. Savings involves sacrifices of present consumption. There is an act of abstinence in savings. While making savings a person abstains from consumption. Thus in order to induce people to save a premium is necessary. This premium can be called as rate of interest. In classical theory the rate of income is assumed to be given. It is also based on the assumption of full employment. Savings become an increasing function of rate of interest. As rate of interest goes up people save more in order to get more income. The savings function is positively sloped.

Savings is a source of capital which is scarce in supply. Capital is highly productive. Therefore, it is demanded. The necessity of interest arises due to two facts one capital is scare and second it is highly productive.

The demand for savings i.e., demand for capital mainly comes from business sector. Unlike savings investment is inversely related to interest. The higher the interest rate the lower is the demand for investment.

The business people will demand for capital up to the point at which the expected return on capital equals the prevailing market rate of interest. Since the marginal productivity of capital goes on declining as one has more and more chapterof capital, it follows that if rate of interest falls more and more capital would be demanded. Thus the investment demand function is thus decreasing function on the rate of interest.

The equilibrium rate of interest is determined by the intersection of savings and investment scheduled as below:



As the above diagram shows the equilibrium rate of interest is R_0. Above this rate interest savings are higher than investment and below this rate investment is higher than savings. Therefore, in these cases of disequilibrium appropriate changes in the interest rate have to be made. For instance when savings is higher than investments the rate of interest has to come down to the rate of equilibrium and when the investment is higher than savings the rate of interest will goes up to the level of equilibrium where savings and investment in the economy are equal. Thus interest rate is the equilibrium mechanism in classical theory.

B. NEO-CLASSICAL OR LOANABLE FUND THEORY OF INTEREST RATE

According to this theory the rate of interest is the price paid for the use of loanable fund. The rate of interest is determined by the equilibrium between demand and supply of loanable funds in the credit market.

- ***Source of Demand for loanable fund:*** Loanable funds are demanded for three purposes:

  (a) Investment(I)
  (b) Dissaving /Consumption(C)
  (c) Hoarding(H)

Investment by business is the most important source of demand for loanable funds. Business people want investment to build up capital assets or invest in inventories. The price for loanable funds used for the purchase of all this capital up to the point at which the expected return on capital equals the prevailing

market rate of interest. The demand for loanable funds for the purpose of investment is inversely related to the rate of interest. In other words, the higher the interest rate the lesser is the demand for loanable funds for investment and lower the interest rate the higher will be the demand. An increase in investment will lower the marginal productivity of capital. Thus unless the rate of interest goes down a large amount of investment cannot be undertaken.

The second large demand comes from households sector. The house hold wants funds for the purchase of consumer goods for which their present income will not be sufficient. In such cases the households tries to get additional funds from the credit market. When people demand funds for consumption it is an act of dissaving (consumption). This will depend on the rate of interest. Higher the rate of interest less of loan able funds will be demanded for dissaving (consumption).

The demand for loanable funds may also be for hoarding (H). The people may hoard money to meet their liquidity preference. The demand of loan able funds for hoarding will be inversely related to the rate of interest. Higher the rate of interest less is the demand for loan able funds for hoarding and when rate of interest is lower, the demand may be higher. ***Thus, the curve for investment (I) Dissaving (C) and Hoarding (H+) will have negative slope.***

- ***Source of Supply of Loanable Funds:*** the basic source of supply for loanable are***:***
    - Savings (S)
    - Dishoarding (D_H)
    - Disinvestment (D_I)
    - Bank Credit (BC)

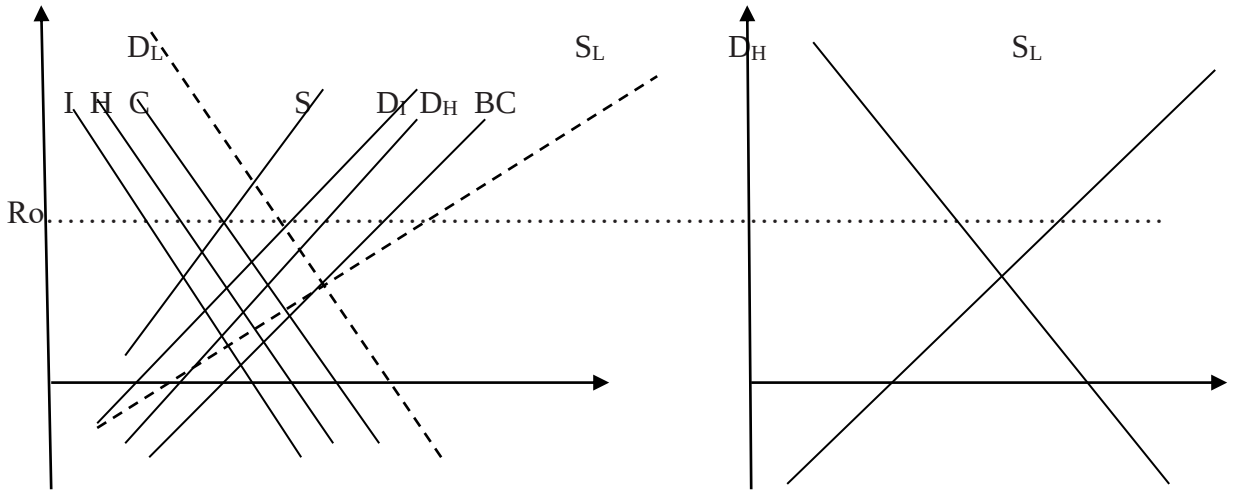
Large part of loan able funds comes from savings by households and by businesses. Savings varies directly with rate of interest. The higher the rate of interest higher is the saving and lower the rate of interest lower may be the savings. However, savings ultimately depends on level of income. Given the level of income rate of interest is the most important determinant of savings. Saving function slopes upwards to right.

Dishoarding (DH) of the past savings is another source of loan able funds. Dishoarding means releasing funds from the stock of money which was hoarded in the past due to desire to earn interest. The cash balance which was idle in the previous period may be active balance in the present period and may be available for loaning out. Dishoarding is also positively related to rate of interest. When rate of interest is high Dishoarding is high and when rate of interest is low Dishoarding is also low.

Disinvestment means that when existing stock of capital is worn out they are not replaced or inventories are drawn below the level of previous period. On disinvestment, a part of fund will come to the market as loan able fund. The schedule of disinvestment is upwards sloping, when interest rate is high, a high disinvestment may takes place and when interest rate is low the rate of disinvestment will also be low.

Bank credit is the major source of loan able funds. The commercial banks advance loans to investors by creating additional credit. The supply of bank credit is also directly related to rate of interest. The higher the rate interest higher is bank credit and when interest rate is low the bank credit will also be low. The schedule for bank credit is positively sloped.

The total supply of loan able funds (S_L) will be sum of savings (S), Dishoarding (DH), disinvestment (DI), and bank credit (BC). The schedule of these items can be latterly summed up to produce the supply schedule of S_L (supply of loan able funds). In the same way the total demand for loan able funds (D_L) will be the sum of Investment (I), Dissavings (C) and hoarding (H). The schedule of these items can be latterly summed up to produce the demand schedule of LD (demand of loan able funds). The two schedules the supply of loan able funds and demand of loan able funds determines the rate of interest at the point of intersection, which is marked by E. Thus as shown in the following diagram R_0 will be the rate of interest. At this point the demand for loan able funds and supply of loan able funds would be equal.



C. KEYNES'S LIQUIDITY PREFERENCE THEORY OF INTEREST

According to this theory the rate of interest is determined by the demand for and supply of money. Rate of interest is a monetary phenomenon. It is payment for the use of money. Keynes has defined interest as reward for parting with the liquidity. The supply of money is institutionally given. It depends on the currency issued by government and policy of the central bank. Hence, the supply of money represents a vertical line. The supply of money is independent of level of income and the change in rate of interest.

Demand for money comes from the desire for holding money, which is called liquidity preference by Keynes. Liquidity preference is the same as demand for money. Liquidity preference is the preference to have equal amount of cash rather than of claims against others. There is three important motives behind the demand for money (liquidity):

1. Transaction Motive
2. Precautionary Motive
3. Speculative Motive

People demand money for day to day transactions i.e., to make necessary purchase. The transaction demand depends on various factors like frequency of receipt of income, frequency of expenditure and so on. The most important variable which affect the demand for money is the income and not rate of interest. Thus, Mt = f(Y) where 'Mt' is transaction demand for money and 'Y' is level of income. Transaction demand for money is directly and positively related to income.

Precautionary motive for money is related to meeting unforeseen contingencies or uncertain expenses. They keep money in their hands for emergencies like sickness, accidents, unemployment etc. The most important factor which effect precaution demand for money is the level of income. There are many other factors also, like business conditions, nature of economy, socio economic conditions and so on. Thus, Mp=f (Y) Where 'Mp' is the precautionary demand for money and 'Y' is the level of income. Thus, Precautionary demand for money is directly and positively related to level of income.

The Transaction demand for money and precautionary demand for money are regarded as active balances 'M1' which depend on level of income (Y) or M_1=f (Y).

Speculative demand for money comes as store of wealth. It is desire to hold wealth to take advantage of market movements regarding future change in rate of interest and bond price. Here money is held for speculation which may lead to possible gain. Given the expectation the speculative demand for money will be higher at lower rate of interest and lower at higher rate of interest. Thus 'M_2' is a function of rate of interest M_2=(r), where 'M_2' is speculative demand for money and 'r' is rate of interest.

The demand for money under Keynes Theory represents as below:

The total Demand for money $M=M_1+M_2=M_1(Y)+M2(r)$

The above equation shows that the demand for active balance (Transaction demand and Precautionary demand for money) depends on level of income and demand for passive balance (speculative demand for

money) depends on rate of interest. Thus rate of interest in Keynes system is determined by demand for money and supply of money

Activity 3.4

1. What are the three different theories of interest rate?
2. Explain the different measurement factors used under the three theories of interest rate and how they affect interest rate.

3.4.1. STRUCTURE OF INTEREST RATES

Dear learner, how different interest rates are related and what are the different structure for interest rate? What are the factors explain the structure of interest rate?

In our supply and demand analysis of interest-rate behavior, we examined the determination of just one interest rate. Yet we saw earlier that there are enormous numbers of bonds on which the interest rates can and do differ. In this section, we complete the interest-rate picture by examining the relationship of the various interest rates to one another. Understanding why they differ from bond to bond can help businesses, banks, insurance companies, and private investors decide which bonds to purchase as investments and which ones to sell.

We first look at why bonds with the same term to maturity have different interest rates. The relationship among these interest rates is called the **risk structure of interest rates**, although risk, liquidity, and income tax rules all play a role in determining the risk structure. A bond's term to maturity also affects its interest rate, and the relationship among interest rates on bonds with different terms to maturity is called the **term structure of interest rates**. In this section, we examine the sources and causes of fluctuations in interest rates relative to one another and look at a number of theories that explain these fluctuations.

3.3.2.1. RISK STRUCTURE OF INTEREST RATES

Dear learner, what do we mean when we say risk structure of interest rates? Haw and why interest rates on different instruments differ and affect each other?

The financial instruments with the same term to maturity may have different interest rates. Interest rates, thus, on different categories of bonds differ from one another in any given year, and the spread (or difference) between the interests rates vary over time. The relationship among yields on financial

instruments, say bonds, which have the same maturity but differ because of variations in default risk, liquidity and tax rates, refers to the risk structure of interest rates.

i. Default Risk

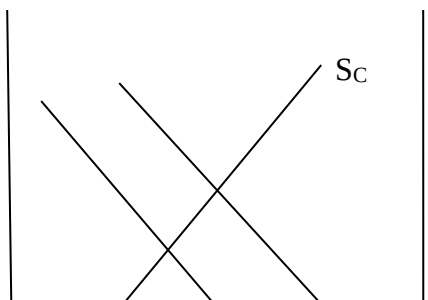
One attribute of a bond that influences its interest rate is its risk of default, which occurs when the issuer of the bond is unable or unwilling to make interest payments when promised or pay off the face value when the bond matures. ***For instance,*** a corporation suffering big losses, say ETHIO Corporation, might be more likely to suspend interest payments on its bonds. The default risk on its bonds would therefore be quite high. By contrast, Government Treasury bonds have usually been considered to have no default risk because the federal government can always increase taxes to pay off its obligations. Bonds like these with no default risk are called default-free bonds. The spread between the interest rates on bonds with default risk and default-free bonds, called the risk premium, indicates how much additional interest people must earn in order to be willing to hold that risky bond.

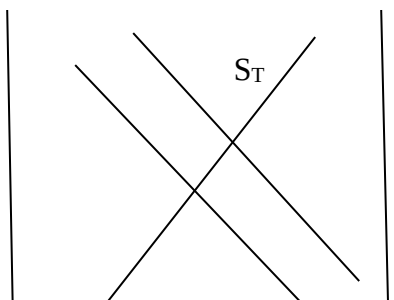
To examine the effect of default risk on interest rates, let us look at the supply and demand diagrams for the default-free (Government Treasury bond) and corporate long-term bond markets in Figure, given below, for corporate and treasury bonds. To make the diagrams somewhat easier to read, let's assume that initially corporate bonds have the same default risk as Government Treasury bonds. In this case, these two bonds have the same attributes (identical risk and maturity); their equilibrium prices and interest rates will initially be equal ($P_{c1} = P_{t1}$ and $i_{c1} = i_{t1}$), and the risk premium on corporate bonds ($i_{c1} - i_{t1}$) will be zero.

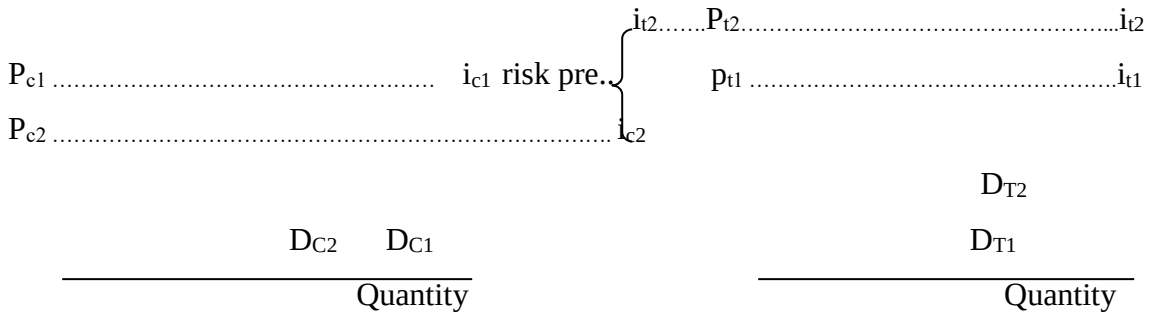
If the possibility of a default increases because a corporation begins to suffer large losses, the default risk on corporate bonds will increase, and the expected return on these bonds will decrease. In addition, the corporate bond's return will be more uncertain as well. The theory of asset demand predicts that because the expected return on the corporate bond falls relative to the expected return on the default-free Treasury bond while its relative riskiness rises, the corporate bond is less desirable (holding everything else equal), and demand for it will fall. The demand curve for corporate bonds then shifts to the left, from D_{c1} to D_{c2}.

At the same time, the expected return on default-free Treasury bonds increases relative to the expected return on corporate bonds, while their relative riskiness declines. The Treasury bonds thus become more desirable, and demand rises by the rightward shift in the demand curve for these bonds from D_{T1} to D_{T2}.

Price interest rate price interest rate







Corporate bond **Treasury bond**

As we can see from the Figure, the equilibrium price for corporate bonds (left axis) falls from P_{c1} to P_{c2}, and since the bond price is negatively related to the interest rate, the equilibrium interest rate on corporate bonds (right axis) rises from i_{c1} to i_{c2}. At the same time, however, the equilibrium price for the Treasury bonds rises from P_{T1} to P_{T2}, and the equilibrium interest rate falls from i_{T1} to i_{T2}. The spread between the interest rates on corporate and default-free bonds—that is, the risk premium on corporate bonds—has risen from zero to i_{c2} less i_{T2}. We can now conclude that a bond with default risk will always have a positive risk premium, and an increase in its default risk will raise the risk premium.

ii. Liquidity

Another attribute of a bond that influences its interest rate is its liquidity. A liquid asset is one that can be quickly and cheaply converted into cash if the need arises. The more liquid an asset is, the more desirable it is (holding everything else constant). Government Treasury bonds are the most liquid of all long-term bonds, because they are so widely traded that they are the easiest to sell quickly and the cost of selling them is low. Corporate bonds are not as liquid, because fewer bonds for any one corporation are traded; thus it can be costly to sell these bonds in an emergency, because it might be hard to find buyers quickly.

Dear learner, can you explain how the reduced liquidity of the corporate bonds affect their interest rates relative to the interest rate on Treasury bonds? To do so, we can use supply and demand analysis with the same figure, given above, that was used to analyze the effect of default risk, to show that the lower liquidity of corporate bonds relative to Treasury bonds increases the spread between the interest rates on these two bonds. Let us start the analysis by assuming that initially corporate and Treasury bonds are equally liquid and all their other attributes are the same. As shown in Figure, their equilibrium prices and interest rates will initially be equal: $P_{c1} = P_{T1}$ and $i_{c1} = i_{T1}$. If the corporate bond becomes less liquid than the Treasury bond because it is less widely traded, then (as the theory of asset demand indicates) its demand will fall, shifting its demand curve from D_{c1} to D_{c2} as in shown in the figure.. The Treasury bond now becomes relatively more liquid in comparison with the corporate bond, so its demand curve shifts rightward from D_{T1} to D_{T2} as also

shown in figure. The shifts in the curves in Figure show that the price of the less liquid corporate bond falls and its interest rate rises, while the price of the more liquid Treasury bond rises and its interest rate falls

iii. Income Tax Considerations

The other reason why financial instruments with identical maturity may have different interest yields is that tax laws treat some instruments differently than others. Fore instance, individuals typically are not required to pay either federal or state taxes on interest earning from municipality bonds. This means that the pretax and after tax yields on municipality bonds are identical. But interest earnings on treasury bonds are subject to federal, which depresses their after tax yields. So, once the municipality bonds are given a tax advantage that raises their after tax expected return relative to treasury bonds and make them more desirable, demand for them raise, and this results in equilibrium interest rate falls. By contrast, treasury bonds have now become less desirable relative to municipality bonds, and result in a price fall and a rises in interest rates.

3.3.2.2. TERM STRUCTURE OF INTEREST RATES

Dear learner, how bonds with identical risk, liquidity, and tax characteristics may have different interest rates?

We have seen how risk, liquidity, and tax considerations (collectively embedded in the risk structure) can influence interest rates. Another factor that influences the interest rate on a bond is its term to maturity: Bonds with identical risk, liquidity, and tax characteristics may have different interest rates because the time remaining to maturity is different.

In money market, there are many rates of interest. The rates vary because the risk, repayments, maturity structure, size of the loans all varies. The combined effect of this rate represents the structure of interest rate.

The term structure of interest rate refers to the interest rate structure in short and long period. It is the relationship between interest yield and maturity of comparable securities. The difference in interest rate in relation to the maturity creates the term structure or maturity pattern of interest rate. The long-term and short-term interest rates are very different. Similarly, various short-term and long-term rates on various different securities differ among themselves. The fundamental relationship between yields of various types of financial instruments will depend on the way the structure of interest rate is calculated. It is to be born in mind that the interest rate differential with respect to the maturity is very crucial aspect in the functioning of the financial market.

❖ *THEORIES OF TERM STRUCTURE OF INTEREST RATES*

i. Liquidity Premium Theory

According to this theory, the degree of liquidity of a financial instrument is the determinant of the structure of rate of interest. Higher the degree of liquidity lower is the rate of interest and lower the liquidity higher is the rate of interest. Apart from this long-term security involves greater risk as compared to short-term securities. Therefore, the rate of interest on long-term securities is higher than that of short-term securities. For holding long-term securities, which are poor substitute for money and are not readily marketable a liquidity premium has to be paid. However, the expectation theory and liquidity premium theory has been combined together to have a theory of term structure of interest rate.

The main proponent of this theory is J.R.Hicks. The basic proposition of this theory is that the long-term securities are more risky than the short-term securities. If it is assumed that, the stability of capital is valued more than stability of interest the long-term security involves a net risk disadvantage. The investors will accept the additional risk only when the long-term securities are priced in such a way as to offer high yield, otherwise the investors will prefer to lend in short-term securities. The borrowers on the other hand prefer to have long-term borrowing in order to reduce the financial risk. Since, the lenders have a physiological disinclination to hold long-term securities a positive liquidity or risk premium must be offered to induce them to purchase long-term securities. The premium should above the current and expected short-term rate. The premium needs to be paid to investors to induce them to take greater risk and not to part with liquidity. It is assumed that investors are risk adventures. The longer maturity assets are more risky. Therefore, these should command higher liquidity premium. The longer maturity rates are determined by two components- expectation component and premium component As a matter of fact, the lender runs the risk of income loss if the duration of loan is shorter than the requirement (encashment) period. Similarly, they runes the risk of capital loss if the duration of loan exceeds the requirement (encashment) period. In other words, very short term runs the risk of income loss and very long-term loan involves capital loss. Both these losses can be avoided if maturity period of loan coincide with the requirement period.

ii. *Segment Market Theory*

The basic postulates of this theory are that the lenders and borrowers like to match (hedge) the maturity structure of their assets and liabilities. The short-term liabilities are matched with short-term assets and long-

term liabilities with long-term assets. Different interest rates are essential for holding securities of different maturities. Therefore, loans of different maturities are imperfect substitutes for different lender borrower group. Thus, the entire loan market is segmented into various sub-markets. In each sub-market, there would be particular interest rate. Since the lender and borrower hedge (match) their assets and liabilities of a particular maturity the theory is also called as theory of hedging.

The behavior of different lender and borrower group are in conformity with this theory. For instance, Banks have short-term assets as they have short-term liabilities. Insurance companies have long-term assets as they have long-term liabilities. The consumers finance durable consumer goods with short-term loans and long-term assets like house with loan term loans.

This theory is also called as theory of risk avoidance. According to this theory, investors are risk averters or minimizes. The way to avoid risk is to match (hedge) maturity of assets and liabilities or to match maturity with holding period. If the lender can know exactly how long his money will be available for investment he can calculate the maturity period in such a way that he can avoid the risk of income loss and risk of capital loss. In the matter of matching the assets and liabilities the entire capital market can be divided into a number segments in which the demand for and supply of securities of each given maturity will determine the rate of interest irrespective of what is happening in other segment. However, these segments are not totally independent. However, it is difficult to accept the view that the lenders and borrowers are dominated by the idea of avoiding risk. In actual practice the investors are also for interested for returns. They are not prepared to avoid risk at any cost. Sometimes, risk may be undertaken when there is possibility of good return.

iii. ***Portfolio Behaviors Theory***

The portfolio behavior of institutional investors, who utilize a major part of community savings into productive channel, influences to a significant extent the return structure of rate of interest. The portfolio demand and supply of securities of different maturities considerably influences the term structure of rate of interest by influencing the security market. The investors are interested in having an optimum portfolio, which combines maximum returns and satisfaction with minimum risk.

iv. Expectation Theory

The preposition of this theory is that the rate of interest is determined by the expectation of lenders and borrowers concerning the future rate of interest. The theory is based on the assumption that: All investors have expectation regarding the future short-term rate of interest.

Investment and disinvestment in securities do not involve any cost. The main objective of the investor is to maximize the expected profit and for this, the conversion of funds from one maturity period to other is possible. The theory states that long-term expectation is less volatile than short-term expectations. The long-term rates are more stable and less sensitive than short-term rates. According to this theory the short-term and long-term securities are comparable in all respects except for maturity. However, if we drop the assumption of perfect certainty of expectation of investors the whole show of the expectation theory is spoiled.

CHAPTER SUMMARY

- The concept of present value tells you that a dollar in the future is not as valuable to you as a dollar today because you can earn interest on this dollar. Specifically, a dollar received n years from now is worth only Br. $1/(1+i)^n$ today. The present value of a set of future payments on a debt instrument equals the sum of the present values of each of the future payments. The yield to maturity for an instrument is the interest rate that equates the present value of the future payments on that instrument to its value today. Because the procedure for calculating the yield to maturity is based on sound economic principles, this is the measure that economists think most accurately describes the interest rate.
- Our calculations of the yield to maturity for a variety of bonds reveal the important fact that current bond prices and interest rates are negatively related: When the interest rate rises, the price of the bond falls, and vice versa.
- The return on a bond, which tells you how good an investment it has been over the holding period, is equal to the yield to maturity in only one special case: when the holding period and the maturity of the bond are identical. Bonds whose term to maturity is longer than the holding period are subject to interest-rate risk: Changes in interest rates lead to capital gains and losses that produce substantial differences between the return and the yield to maturity known at the time the bond is purchased. Interest-rate risk is especially important for long-term bonds, where the capital gains and losses can be substantial. This is why long-term bonds are not considered to be safe assets with a sure return over short holding periods.
- The risk structure of interest rates (the relationship among interest rates on bonds with the same maturity) is explained by three factors: default risk, liquidity, and the income tax treatment of the bond's interest payments. As a bond's default risk increases, the risk premium on that bond (the spread between its interest rate and the interest rate on a default-free Treasury bond) rises. The greater liquidity of Treasury bonds also explains why their interest rates are lower than interest rates on less liquid bonds. If a bond has a favorable tax treatment, as do municipal bonds, whose interest payments are exempt from federal income taxes, its interest rate will be lower.

- The theory of asset demand tells us that the quantity demanded of an asset is (a) positively related to wealth, (b) positively related to the expected return on the asset relative to alternative assets, (c) negatively related to the riskiness of the asset relative to alternative assets, and (d) positively related to the liquidity of the asset relative to alternative assets.
- The supply and demand analysis for bonds, frequently referred to as the loanable funds framework, provides one theory of how interest rates are determined. It predicts that interest rates will change when there is a change in demand because of changes in income (or wealth), expected returns, risk, or liquidity or when there is a change in supply because of changes in the attractiveness of investment opportunities, the real cost of borrowing, or government activities.

MODEL EXAM QUESTIONS

PART I: MULTIPLE CHOICE QUESTIONS

1. Which of the following is/are false?
   A. For simple loan the simple interest rate equals the yield to maturity.
   B. A bond with default risk will always have a positive risk premium.
   C. The depression period on the economy of one country indicates a very high rate of business failure interest rates of different security with the same maturity.
   D. None
2. From the following alternatives select the statements is/are not an economic function of interest?
   A. Regulates the activity of lending and borrowing.
   B. It allocates funds between surplus spending units and deficit omits
   C. Maintains the balance of investment.
   D. None
3. The federal government of Ethiopia guarantees today that it will pay creditors if the ETC goes bankrupt in the future. What will happen to interest rates on a corporation's bonds of ETC because of the government action made?
   A. The interest rate will rise
   B. The interest rate will fall
   C. The action has no any effect.
   D. None
4. Which of the following is not true the regarding classical theory of interest rates?
   A. Interest rates are the premium for inducing the people to save.
   B. The change of supply of money will direct effect price revel

C. The more the demand for saving in the market implies interest rates must rise to make equilibrium.

D. Rate of interest is not directly, affected by change of supply of money.

5. All are correct except,
   A. The fact that two bonds have the same term to maturity does not mean that they have the same interest-rate.
   B. An increase in the riskiness of alternative financial assets causes the demand for bonds to rise and a fall in its interest rate.
   C. An increased liquidity of alternative financial assets causes the demand for bonds and its interest rate to fall.
   D. Even though a bond has a substantial initial interest rate, its return can turn out to be negative if interest rates rise.

DISCUSSION QUESTIONS

1. Would a dollar tomorrow be worth more to you today when the interest rate is 20% or when it is 10%?
2. If the interest rate is 10%, what is the present value of a security that pays you Br. 1,100 next year, Br. 1,210 the year after, and Br. 1,331 the year after that?
3. What is the yield to maturity on a simple loan for Br 1 million that requires a repayment of Br 2 million in five years' time?
4. Explain why you would be more or less willing to buy long-term AT&T bonds under the following circumstances:
   a. Trading in these bonds increases, making them easier to sell.
   b. You expect a bear market in stocks (stock prices are expected to decline).
   c. . Brokerage commissions on stocks fall.
   d. You expect interest rates to rise.
   e. Brokerage commissions on bonds fall.
5. Why should a rise in the price level (but not in expected inflation) cause interest rates to rise when the nominal money supply is fixed?

ANSWER KEY

MULTIPLE CHOICE QUESTIONS

1. D 2. D 3. B 4. C 5. C

DISCUSSION QUESTIONS

1. Less. It would be worth 1/ (1+0.20) = Br.0.83 when the interest rate is 20%, rather than 1/ (1 + 0.10) = Br.0.91 when the interest rate is 10%.

2. Br.1, 100/ (1 + 0.10) + Br.1, 210/ $(1 + 0.10)^2$+ Br.1, 331/ $(1 + 0.10)^3$ = Br.3, 000.

4.(a) More, because they have become more liquid; (b) more ,because their expected return has risen relative to stocks; (c) less, because they have become less liquid relative to stocks; (d) less, because their expected return has fallen; (e) more, because they have become more liquid.

5.When the price level rises, the quantity of money in real terms falls (holding the nominal supply of money constant); to restore their holdings of money in real terms to their former level, people will want to hold a greater nominal quantity of money. Thus the money demand curve M_d shifts to the right and the interest rate rises.

CHAPTERFOUR

FINANCIAL MARKETS IN THE FINANCIAL SYSTEM

Chapter objectives

Dear learner, you are now at the forth chapter of the module. The main objective of this chapter is to introduce the nature and role of Financial Markets in the financial system, to understand the different financial market instruments and the classification of financial market. Therefore, after completing of this chapter you are expected to:

- ✓ Define what financial market mean
- ✓ Explain Functions of financial markets and the different Structure of Financial Markets
- ✓ Distinguish and Explain the different financial markets instruments
- ✓ Distinguish and explain the different type's financial markets and identify the different instrument issued in those markets.

INTRODUCTION

Dear learner, in this chapter, we will see the nature and role of Financial Markets in the financial system, the different financial market instruments and the classification of financial market. We will discuss how the financial market organized, classified, and what financial instruments are issued. We'll also see how the different financial market instruments are used to decline or eliminate the different risks that may result because of issuing or purchasing others instruments and how one financial market instrument is different from the other.

4.1. THE NATURE AND ROLE OF FINANCIAL MARKETS

4.1.1. WHY STUDY FINANCIAL MARKETS?

Dear learner, why we need to Study Financial Markets and what does mean when we say financial market?

Financial markets are markets in which funds are transferred from people who have an excess of available funds to people who have a shortage. Financial markets such as bond and stock markets are crucial to promoting greater economic efficiency by channeling funds from people who do not have a productive use for them to those who do. Indeed, well-functioning financial markets are a key factor in producing high

economic growth, and poorly performing financial markets are one reason that many countries in the world remain desperately poor. Activities in financial markets also have direct effects on personal wealth, the behavior of businesses and consumers, and the cyclical performance of the economy.

Thus, a financial market is an institution or arrangement that facilitates the exchange of financial instruments including deposits & loans, stocks, bonds etc. In short, a financial market is a market where in financial assets are traded.

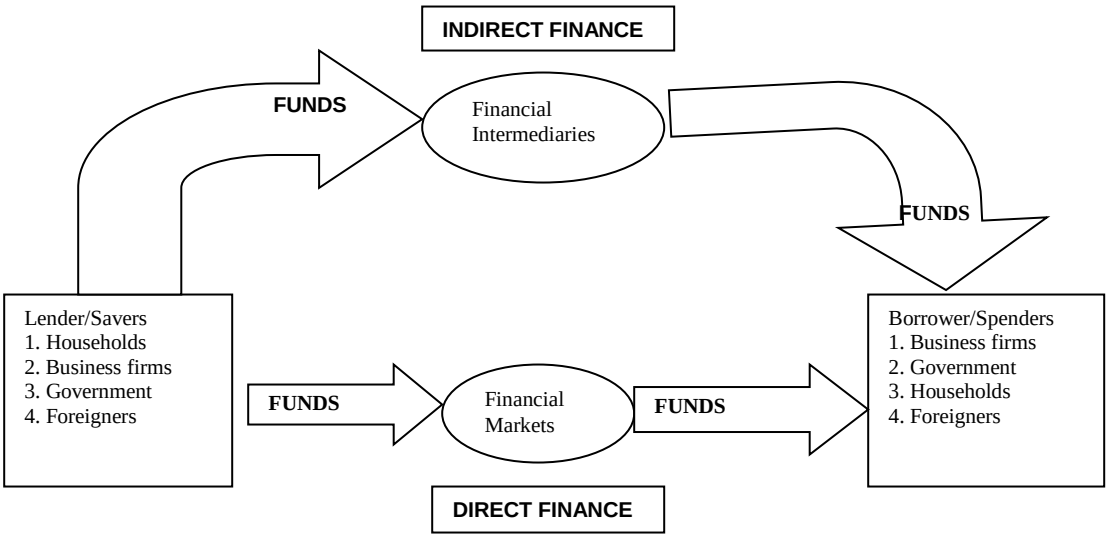
A financial market may or may not have a particular physical existence. As for example: NYSE (New York Stock Exchange) is physically located on Wall Street in New York City. Whereas, The OTC (Over-The-Counter) market for stocks has no fixed place of existence. In general, financial markets are the meeting place for people, corporations and institutions that either need money or have money to lend or invest. In broad context it is a vast global net work of individuals and financial institutions that may be lenders, borrowers or owners of public companies worldwide.

4.1.2. FUNCTIONS OF FINANCIAL MARKETS.

Dear learner, why we need Financial Markets, what does they perform in the economy and what are party that involve or make the financial market to perform?

Financial markets perform the essential economic function of channeling funds from households, firms, and governments that have saved surplus funds by spending less than their income to those that have a shortage of funds because they wish to spend more than their income. This function is shown schematically in ***Figure 1,*** below**.** Those who have saved and are lending funds, the lender-savers, are at the left and those who must borrow funds to finance their spending, the borrower-spenders, are at the right.

FIGURE 1 Flow of Funds through the Financial System



The principal lender/savers are households, but business enterprises and the government (particularly state and local government), as well as foreigners and their governments, sometimes also find themselves with excess funds and so lend them out.

The most important borrower/spenders are businesses and the government (particularly the federal government), but households and foreigners also borrow to finance their purchases of cars, furniture, and houses. The arrows show that funds flow from lender-savers to borrower-spenders via two routes.

In direct finance (the route at the bottom of Figure 1), borrowers borrow funds directly from lenders in financial markets by selling them securities (also called financial instruments), which are claims on the borrower's future income or assets. Securities are assets for the person who buys them but liabilities (IOUs or debts) for the individual or firm that sells (issues) them. For example, if General Motors needs to borrow funds to pay for a new factory to manufacture electric cars, it might borrow the funds from savers by selling those bonds, debt securities that promise to make payments periodically for a specified period of time.

Dear learner, Why is this channeling of funds from savers to spenders so important to the economy?

The answer is that the people who save are frequently not the same people who have profitable investment opportunities available to them, the entrepreneurs. Let's first think about this on a personal level. Suppose that you have saved Br. 1,000 this year, but no borrowing or lending is possible because there are no financial markets. If you do not have an investment opportunity that will permit you to earn income with your savings, you will just hold on to the Br. 1,000 and will earn no interest. However, Abebe, the Carpenter has a productive use for your Br. 1,000: He can use it to purchase a new tool that will shorten the time it takes him to build a house, thereby earning an extra Br. 200 per year. If you could get in touch with Abebe, you could lend him the Br. 1,000 at a rental fee (interest) of Br. 100 per year, and both of you would be better off. You would earn Br. 100 per year on your Br. 1,000, instead of the zero amounts that you would earn otherwise, while Abebe would earn Br. 100 more income per year (the Br. 200 extra earnings per year minus the Br. 100 rental fee for the use of the funds).

In the absence of financial markets, you and Abebe, the Carpenter, might never get together. Without financial markets, it is hard to transfer funds from a person who has no investment opportunities to one who has them; you would both be stuck with the status quo, and both of you would be worse off. Financial markets are thus essential to promoting economic efficiency.

The existence of financial markets is also beneficial even if someone borrows for a purpose other than increasing production in a business. Say that you are recently married, have a good job, and want to buy a

house. You earn a good salary, but because you have just started to work, you have not yet saved much. Over time, you would have no problem saving enough to buy the house of your dreams, but by then you would be too old to get full enjoyment from it. Without financial markets, you are stuck; you cannot buy the house and must continue to live in your tiny apartment.

If a financial market were set up so that people who had built up savings could blend you the funds to buy the house, you would be more than happy to pay them some interest in order to own a home while you are still young enough to enjoy it. Then, over time, you would pay back your loan. The overall outcome would be such that you would be better off, as would the persons who made you the loan. They would now earn some interest, whereas they would not if the financial market did not exist.

Now we can see why financial markets have such an important function in the economy. They allow funds to move from people who lack productive investment opportunities to people who have such opportunities. Thus financial markets are critical for producing an efficient allocation of capital, which contributes to higher production and efficiency for the overall economy.

Well-functioning financial markets also directly improve the well-being of consumers by allowing them to time their purchases better. They provide funds to young people to buy what they need and can eventually afford without forcing them to wait until they have saved up the entire purchase price. Financial markets that are operating efficiently improve the economic welfare of everyone in the society.

4.1.3. STRUCTURE OF FINANCIAL MARKETS

Dear learner, how financial markets are organized and how they perform the channeling of funds in their different structure?

Now that we understand the basic function of financial markets, let's look at their structure. The following descriptions of several categorizations of financial markets illustrate essential features of these markets.

i. Debt and Equity markets

Dear learner, what the difference between debt and equity markets?

A firm or an individual can obtain funds in a financial market in two ways. The most common method is to issue a debt instrument, such as a bond or a mortgage, which is a contractual agreement by the borrower to pay the holder of the instrument fixed Birr amounts at regular intervals (interest and principal payments) until a specified date (the maturity date), when a final payment is made. The maturity of a debt instrument is the number of years (term) until that instrument's expiration date. A debt instrument is short-term if its

maturity is less than a year and long-term if its maturity is ten years or longer. Debt instruments with a maturity between one and ten years are said to be intermediate-term.

The second method of raising funds is by issuing equities, such as common stock, which are claims to share in the net income (income after expenses and taxes) and the assets of a business. If you own one share of common stock in a company that has issued one million shares, you are entitled to 1 one-millionth of the firm's net income and 1 one-millionth of the firm's assets. Equities often make periodic payments (dividends) to their holders and are considered long-term securities because they have no maturity date. In addition, owning stock means that you own a portion of the firm and thus have the right to vote on issues important to the firm and to elect its directors.

The main disadvantage of owning a corporation's equities rather than its debt is that an equity holder is a residual claimant; that is, the corporation must pay all its debt holders before it pays its equity holders. The advantage of holding equities is that equity holders benefit directly from any increases in the corporation's profitability or asset value because equities confer ownership rights on the equity holders. Debt holders do not share in this benefit, because their Birr payments are fixed

ii. Primary and Secondary Markets

Dear learner, what the difference between Primary and Secondary Markets?

A primary market is a financial market in which new issues of a security, such as a bond or a stock, are sold to initial buyers by the corporation or government agency borrowing the funds. A secondary market is a financial market in which securities that have been previously issued (and are thus secondhand) can be resold.

The primary markets for securities are not well known to the public because the selling of securities to initial buyers often takes place behind closed doors. An important financial institution that assists in the initial sale of securities in the primary market is the investment bank. It does this by underwriting securities: It guarantees a price for a corporation's securities and then sells them to the public.

Securities brokers and dealers are crucial to a well-functioning secondary market. Brokers are agents of investors who match buyers with sellers of securities; dealers' link buyers and sellers by buying and selling securities at stated prices.

When an individual buys a security in the secondary market, the person who has sold the security receives money in exchange for the security, but the corporation that issued the security acquires no new funds. A corporation acquires new funds only when its securities are first sold in the primary market. Nonetheless, secondary markets serve two important functions. First, they make it easier and quicker to sell these financial

instruments to raise cash; that is, they make the financial instruments more liquid. The increased liquidity of these instruments then makes them more desirable and thus easier for the issuing firm to sell in the primary market. Second, they determine the price of the security that the issuing firm sells in the primary market. The investors that buy securities in the primary market will pay the issuing corporation no more than the price they think the secondary market will set for this security. The higher the security's price in the secondary market, the higher will be the price that the issuing firm will receive for a new security in the primary market, and hence the greater the amount of financial capital it can raise. Conditions in the secondary market are therefore the most relevant to corporations issuing securities.

iii. Exchanges and Over-the-Counter Markets

Dear learner, what the difference between Exchanges and over-the Counter Markets and how Secondary Markets are organized?

Secondary markets can be organized in two ways. One is to organize exchanges, where buyers and sellers of securities (or their agents or brokers) meet in one central location to conduct trades. The New York and American stock exchanges for stocks and the Chicago Board of Trade for commodities (wheat, corn, silver, and other raw materials) are examples of organized exchanges.

The other method of organizing a secondary market is to have an over-the-counter (OTC) market, in which dealers at different locations who have an inventory of securities stand ready to buy and sell securities "over the counter" to anyone who comes to them and is willing to accept their prices. Because over-the-counter dealers are in computer contact and know the prices set by one another, the OTC market is very competitive and not very different from a market with an organized exchange

iv. Money and Capital Markets

Dear learner, what the difference between Money and Capital Markets?

Another way of distinguishing between markets is on the basis of the maturity of the securities traded in each market. The money market is a financial market in which only short-term debt instruments (generally those with original maturity of less than one year) are traded; the capital market is the market in which longer-term debt (generally those with original maturity of one year or greater) and equity instruments are traded. Money market securities are usually more widely traded than longer-term securities and so tend to be more liquid. In addition, short-term securities have smaller fluctuations in prices than long-term securities, making them safer investments. As a result, corporations and banks actively use the money market to earn interest on surplus funds that they expect to have only temporarily. Capital market securities, such as stocks and long-

term bonds, are often held by financial intermediaries such as insurance companies and pension funds, which have little uncertainty about the amount of funds they will have available in the future.

Activity 4.1.

1. Explain the different structure of financial markets
2. Explain the functions' of financial markets

4.2. FINANCIAL MARKET INSTRUMENTS

Dear learner, what do you understand about financial instruments and what are those financial instruments traded in the financial market?

Here we examine the securities (instruments) traded in financial markets. We first focus on the instruments traded in the money market and then turn to those traded in the capital market.

A. *MONEY MARKET INSTRUMENTS*

Dear learner, what does mean money market instruments and what are financial instruments included under this category?

Those markets are dealing with short-term securities that have a life of one year or less. Because of their short terms to maturity, the debt instruments traded in the money market undergo the least price fluctuations and so are the least risky investments.

The principal money market instruments are:

i. Treasury Bills

These short-term debt instruments of the government are issued in 3-, 6-, and 12-month maturities to finance the federal government. Treasury bills are the most liquid of all the money market instruments, because they are the most actively traded. They are also the safest of all money market instruments, because there is almost no possibility of default, a situation in which the party issuing the debt instrument (the federal government, in this case) is unable to make interest payments or pay off the amount owed when the instrument matures. The federal government is always able to meet its debt obligations, because it can raise taxes or issue currency (paper money or coins) to pay off its debts. Treasury bills are held mainly by banks, although small amounts are held by households, corporations, and other financial intermediaries.

They pay a set amount at maturity and have no interest payments, but they effectively pay interest by initially selling at a discount, that is, at a price lower than the set amount paid at maturity. For instance, you might pay Br. 9,000 in May 2004 for a one year Treasury bill that can be redeemed in May 2005 for Br. 10,000.

Illustration: Assume Ethiopia government issued 91 days Treasury-Bill of face Value of Birr 100 at a yield of 6%. What was the issue Price?

Sol:

Given: Maturity period……91 days

Face value…… Birr 100

Yield Rate…… 6% or 0.06

Since, Treasury-Bill is Issued at discounted value and redeemed at face value, and

$$\text{Discount rate} = \frac{\text{face value – issue price}}{\text{Issue price}} * \frac{365}{91} * 100$$

Let the issue price of T-Bill be 'X'.

Then,

$$0.06 = \frac{100-X}{X} \times \frac{365}{91} \times 100 = \frac{100-X}{X} \times 4.011$$

$0.06X = 401.10 - 4.011X$

$4.011X + 0.06X = 401.10$

$4.071X = 401.10$

So, $X = 401.10 / 4.071 = 98.526161 = \underline{98.53}$

Hence, The Issue of Price of Treasury-Bill was Birr **98.53**

ii. Negotiable Bank Certificates of Deposit

A certificate of deposit (CD) is a debt instrument, sold by a bank to depositors, that pays annual interest of a given amount and at maturity, pays back the original purchase price. CDs are an extremely important source of funds for commercial banks, from corporations, money market mutual funds, charitable institutions, and government agencies.

Illustration. ABC Co. Ltd. has to make payment of Birr 20,000,000 on 16th. April 2007. It has surplus money today i.e., 15th. January, 2007 and the company has decided to invest in Certificate of Deposits (CDs) of a leading nationalized bank at 8% p.a. What money is required to be invested now?

Solutions:

Given:

Amount required for making payment on 16th. April, 2007 = Birr 20,000,000

Investment in Certificate of Deposits (CDs) on 15th, January, 2007

Rate of Interest = 8% per annum

No. of days to Maturity = 91 days

Interest on Birr 1 for 91 days (0.08 X 91/ 365) = 0.0199452

Amount to be received for Birr 1 = 1.0199452

Invested now, Value after 91 days = (Birr 1.00 + Birr 0.0199452)

So, amount to be invested now to get Birr 20,000,000 after 91 days would be

$$= \frac{\text{Birr } 20{,}000{,}000}{\text{Birr } 1.0199452} = \underline{\text{Birr } 19,\ 608,\ 896.63}$$

iii. Commercial Paper

Commercial paper is a short-term debt instrument issued by large banks and well-known corporations, selling to other financial intermediaries and corporations for their immediate borrowing needs; in other words, they engage in direct finance.

iv. Bankers' Acceptances

These money market instruments are created in the course of carrying out international trade and have been in use for hundreds of years. A banker's acceptance is a bank draft (a promise of payment similar to a check) issued by a firm, payable at some future date, and guaranteed for a fee by the bank that stamps it "accepted." The firm issuing the instrument is required to deposit the required funds into its account to cover the draft. If the firm fails to do so, the bank's guarantee means that it is obligated to make good on the draft. The advantage to the firm is that the draft is more likely to be accepted when purchasing goods abroad, because the foreign exporter knows that even if the company purchasing the goods goes bankrupt, the bank draft will still be paid off. These "accepted" drafts are often resold in a secondary market at a discount and are therefore similar in function to Treasury bills. Typically, they are held by many of the same parties that hold Treasury bills

v. Repurchase Agreements.

Repurchase agreements, or repos, are effectively short-term loans (usually with a maturity of less than two weeks) in which Treasury bills serve as collateral, an asset that the lender receives if the borrower does not pay back the loan. Repos are made as follows: A large corporation, such as General Motors, may have some idle funds in its bank account, say Br. 1 million, which it would like to lend for a week. GM uses this excess Br. 1 million to buy Treasury bills from a bank, which agrees to repurchase them the next week at a price

slightly above GM's purchase price. The effect of this agreement is that GM makes a loan of Br. 1 million to the bank and holds Br. 1 million of the bank's Treasury bills until the bank repurchases the bills to pay off the loan. The most important lenders in this market are large corporations.

vi. Federal (Fed) Funds

These are typically overnight loans between banks of their deposits at the Federal Reserve. The federal funds designation is somewhat confusing, because these loans are not made by the federal government or by the Federal Reserve, but rather by banks to other banks. One reason why a bank might borrow in the federal funds market is that it might find it does not have enough deposits at the Fed to meet the amount required by regulators. It can then borrow these deposits from another bank, which transfers them to the borrowing bank using the Fed's wire transfer system. This market is very sensitive to the credit needs of the banks, so the interest rate on these loans, called the federal funds rate, is a closely watched barometer of the tightness of credit market conditions in the banking system and the stance of monetary policy; when it is high, it indicates that the banks are strapped for funds, whereas when it is low, banks' credit needs are low.

Activity 4.2.

1. Ato Anteneh Ltd. has to make a payment on 30th, January, 2008 of Birr 160, 00,000. It has surplus cash right now i.e. 31st.October, 2007, and has decided to invest sufficient cash in a bank's Certificate of Deposits Scheme (CDs) offering a yield of 8% p.a. on simple interest basis. What is the amount to be invested now?
2. What the difference between Commercial Paper and Federal Funds?

B. CAPITAL MARKET INSTRUMENTS

Dear learner, what does mean capital market instruments and what are financial instruments included under this category?

Capital market instruments are debt and equity instruments with maturities of greater than one year. They have far wider price fluctuations than money market instruments and are considered to be fairly risky investments. The principal capital market instruments are:

i. Stocks

Stocks are equity claims on the net income and assets of a corporation. A share of a stock in a corporation represents ownership. A stockholder owns a proportionate interest in the company consistent with the percentage of outstanding stocks held. Stockholder is an owner in contrast with the bondholder who is a creditor of the firm.

Investor can get return from a stock in two ways: The price of the stock raise over time and the corporation pays the stock dividend. Being owners they have the right of residual claim and right to vote. There are two type of stock: Preferred Stock and Common Stock.

ii. Mortgages

Mortgages are loans to households or firms to purchase housing, land, or other real structures, where the structure or land itself serves as collateral for the loans. Savings and loan associations and mutual savings banks have been the primary lenders in the residential mortgage market, although commercial banks may enter this market. The majority of commercial and farm mortgages are made by commercial banks and life insurance companies. The federal government plays an active role in the mortgage market that provides funds to the mortgage market by selling bonds and using the proceeds to buy mortgages. An important development in the residential mortgage market in recent years is the mortgage-backed security; i.e. a major change in the residential mortgage market in recent years has been the creation of an active secondary market for mortgages. Because mortgages have different terms and interest rates, they were not sufficiently liquid to trade as securities on secondary markets

iii. Corporate Bonds

These are long-term bonds issued by corporations with very strong credit ratings. The typical corporate bond sends the holder an interest payment and pays off the face value when the bond matures. Some corporate bonds, called convertible bonds, have the additional feature of allowing the holder to convert them into a specified number of shares of stock at any time up to the maturity date. This feature makes these convertible bonds more desirable to prospective purchasers than bonds without it, and allows the corporation to reduce its interest payments, because these bonds can increase in value if the price of the stock appreciates sufficiently. Because the outstanding amount of both convertible and nonconvertible bonds for any given corporation is small, they are not nearly as liquid as other securities such as government bonds.

The behavior of the corporate bond market is probably far more important to a firm’s financing decisions than the behavior of the stock market because, although the size of the corporate bond market is substantially smaller than that of the stock market, the volume of new corporate bonds issued each period is substantially

greater than the volume of new stock issues. The principal buyers of corporate bonds are life insurance companies; pension funds and households are other large holders.

iv. Government Securities

These long-term debt instruments are issued by the Government Treasury to finance the deficits of the federal government. Because they are the most widely traded bonds in the market, they are the most liquid security traded in the capital market. They are held by the Federal Reserve, banks, households, and foreigners.

v. State and Local Government Bonds

State and local bonds, also called municipal bonds, are long-term debt instruments issued by state and local governments to finance expenditures on schools, roads, and other large programs. An important feature of these bonds is that their interest payments are exempt from federal income tax and generally from state taxes in the issuing state. Commercial banks, with their high income tax rate, holders consist of wealthy individuals in high income brackets, and insurance companies are the biggest buyers of these securities.

vi. Consumer and Bank Commercial Loans

These are loans to consumers and businesses made principally by banks, but—in the case of consumer loans—also by finance companies. There are often no secondary markets in these loans, which makes them the least liquid of the capital market instruments.

Activity 4.3.

1. Explain the different capital market instruments based on their liquidity.
2. Who is the basic issuer of stock and corporate bonds? For what purpose they are issued and what are their basic differences?

4.3. FINANCIAL MARKET CLASSIFICATION

Dear learner, how do you classify financial market and what are the bases you may used to classify?

As we have been noticed in chapter 1, the classification of financial market can be made on different bases.

Dear learner, under this section we will focus mainly on financial market that are used for hedging different risks on our investment on different instruments by looking first money and capital market overview.

A. MONEY MARKET

Those markets dealing with short-term securities that have a life of one year or less (i.e. the trade in low risk securities that have a life of one year or less). Money market is the term obligation to include the financial institutions which handle the purchase, sale & transfers of short term credit instruments i.e., it is a centre where the demand for and supply of short-term funds meet. It may be defined as "a centre for organized dealings in negotiable securities and evidences of debt which have a short life to maturity, the bulk of the money required to finance the holding of these assets being drawn from that part of the community's cash reserves which are available for employment for short periods of time. The constituents of the money market comprise those institutions and individuals whose main function is to deal actively in short-term negotiable debts usually borrowed money. The bulk of these debts usually consist of bills of exchange in respect of which the underlying transactions are either the purchase or sale of goods, or treasury bills or short-term government bonds representing borrowings of the government for financing current expenditure. Thus, a money market is not a single homogenous market but comprises several distinct sub-markets dealing in a different type of short-term credit. Although, in a narrow sense in which it is used, the term 'money market' includes only dealings in call money market, banker's acceptance, commercial papers, treasury bill, and the like which are in a strict sense instruments of short-term credit, it should be borne in mind that the activities of a money market are related to the capital market, the commodity market etc. which rely on the money market at some stage or the other for financial accommodation. In general, it includes the entire machinery for the channelizing of short term funds.

B. CAPITAL MARKET

That market where securities which have a life of more than one year are sold or traded. Capital market is a market for long term securities as opposed to short term money market. Capital Market is a financial market where financial assets that have an original maturity greater than 1 year are traded. The primary issuer of capital market securities is Federal and Local Government and corporations. Federal and local governments issue long-term notes and bonds. Corporations issues bonds and stock. The largest purchasers of capital market securities are households. Frequently individuals and households invest in financial institutions such as mutual funds and pension funds that use the fund to invest in capital market instruments.

Capital market trading usually occurs in primary market or secondary market. The secondary market in which it can be (a) Organized Securities Exchange….has a building where securities trade. There are so

many Organized exchanges throughout the world e.g., NYSE, London Stock exchange, Tokyo Stock Exchange etc. Only securities listed in a particular exchange will be traded there. A firm must file an application form and fulfill the criteria imposed by the exchange to list the securities for trading, and (b) Over-The-Counter Exchange (OTC)……is another type of exchange. In this market dealers who have inventory of securities stands ready to buy and sell the securities over-the-counter to anyone who come to them and willing to accept their price. This market is not organized in the sense it has no specific building or location where trading takes place instead trading occur through supplicated telecommunication network. OTC is much popular among small investors and regionally popular securities of small companies.

C. FINANCIAL DERIVATIVES

Dear learner, what is derivative, for what purpose we involve in such market and what types of instruments are issued in those markets?

In industrialized countries, apart from money market and capital market securities, a variety of other securities known as DERIVATIVES has now become available for investment and trading. There is a demand in different country to introduce these securities and to take policy measures to develop markets.

Derivatives or derivative securities are contracts which are written between two parties (counter parties) and whose value is derived from the value of underlying widely-held and easily marketable assets such as agricultural and other physical (tangible) commodities or currencies or short-term or long-term financial instruments or intangible things like commodities price index (inflation rate), equity price index, bond price index. The counter parties to such contracts are those other than the original issuer (holder) of the under of the underlying assets. Derivatives are also known as "deferred delivery or deferred payment instruments". In a sense, they are similar to securitized asset, but unlike the latter, they are not the obligations which are backed by the original issuer of the underlying asset or security. The value of derivatives and those of their underlying assets are closely related. Usually, in trading derivatives, the taking or making of delivery of underlying assets is not involved; the transactions are mostly settled by taking offsetting positions in the derivatives themselves.

SERVICES PROVIDED BY DERIVATIVES

- To control, shift, avoid, reduce, eliminate, and manage efficiently various types of risks through hedging, arbitraging, and acquiring insurance against them. In times of erratic trading, volatile interest rates and exchange rates, monetary chaos, national income turbulence and volatile markets,

derivatives are said to enable investors to modify suitably the risk characteristics of their portfolios or to shift the risk on to those (speculators who are willing to assume it for higher profits. They increase the capability of the markets to absorb risk, and this has a beneficial effect on the level of commercial and industrial activity. In their absence, the cost of risk of economy would be higher, and it would, therefore, be worse off.

- To help in disseminating information which enables the society to discover or form suitable correct/ true/ equilibrium prices. They serve as barometers of future trends in prices which resulting the formation of correct prices on the spot markets now and in future. They provide for centralized trading where information about fundamental supply and demand conditions are efficiently assimilated and acted on. The economic and social benefits of accurate and equilibrium prices thus arrived at are many, the superior allocation of resources being one of them.

- To enhance liquidity and reduce transaction costs in the markets for underlying assets.
- To enable individuals and managers of large pools of funds to devise or design strategies for proper asset allocation, yield enhancement, and achieving other portfolio goals. They provide opportunities for using certain kinds of special knowledge to obtain portfolio which offer higher expected returns than other portfolios comprising common stock, bonds, etc with the same degree of risk.

- To smoothen out price fluctuations, to narrow down the price spread, to integrate price structure at different points of time, and to avoid gluts and shortages in the markets. The existence of speculation, competitive trading, and differing risk-taking preferences of the market operators help in achieving these results.

- To act as "starter form of investment" this results in a wider participation in the securities markets. They attract young investors, who would not otherwise invest in stocks, to the securities industry. They act as catalyst to the growth of stock markets.
- To offer important advantages of diversification and enable the society to reach the position of Pareto optimally by developing "complete markets". Given the total return in its each state, the financial market is said to be Pareto optimal or efficient if no other set of securities can make some investors better off without making at least one other investor worse off. The securities market said to be complete if the patterns of returns of all additional securities are spanned by the already existing securities in it, or if it provides so many securities that no additional security can be created whose returns cannot be duplicated by a portfolio of existing securities.

Dear learner, In this section, we look at the most important financial derivatives that managers of financial institutions use to reduce risk by hedging: Forward contracts, Financial futures, Options, and Swaps. We examine not only how markets for each of these financial derivatives work but also how they can be used by financial institutions to manage risk.

Activity 4.4

1. Explain how financial instruments are valued in the derivative market
2. Explain services provided by derivative market

FINANCIAL DERIVATIVES AS HEDGING

Dear learner, how financial derivatives are used as hedging and what are the risks that they hedge? And what are instruments that are issued?

Financial derivatives are so effective in reducing risk because they enable financial institutions to hedge; that is, engage in a financial transaction that reduces or eliminates risk. When a financial institution has bought an asset, it is said to have taken a ***long position,*** and this exposes the institution to risk if the returns on the asset are uncertain. On the other hand, if it has sold an asset that it has agreed to deliver to another party at a future date, it is said to have taken a ***short position***, and this can also expose the institution to risk. Financial derivatives can be used to reduce risk by invoking the following basic principle of hedging: Hedging risk involves engaging in a financial transaction that offsets a long position by taking an additional short position, or offsets a short position by taking an additional long position. In other words, if a financial institution has bought a security and has therefore taken a long position, it conducts a hedge by contracting to sell that security (take a short position) at some future date. Alternatively, if it has taken a short position by selling a security that it needs to deliver at a future date, then it conducts a hedge by contracting to buy that security (take a long position) at a future date. We look at how this principle can be applied using forward and futures contracts.

A. FORWARD CONTRACTS

Dear learner, what is Forward Contracts and for what purpose financial institutions are used?

Forward contracts are agreements by two parties to engage in a financial transaction at a future (forward) point in time. It is a particularly simple derivative in which is an agreement obligates the holder to buy or sell an asset at a predetermined delivery price during a specified future time period. It is traded in the O-T-C market-usually between two financial institutions or between financial institution and its client.

The forward contract involves no money transaction at the time of signing the deal and the whole gain or loss is realized at the end of the life of the contract. For instance, if a farmer enters into the contract, forward contract safeguards and eliminates the price risk at a future date. But the forward market has the problem of (a) Lack of centralization of trading (b) Liquidity and (c) Counterparty Risk. As the contract takes place between two individuals and the contracts are non-tradable, there is no centralization of trade. As there is no third party guarantee or organization involved in the transaction and if one of the two sides chooses to declare bankruptcy, the other suffers. Now a day, Forward contracts on interest-rate and foreign exchange are very popular.

Let first, focus on forward contracts that are linked to debt instruments, called interest-rate forward contracts; and then, we will discuss forward contracts for foreign currencies.

i. Hedging with Interest-Rate Forward Contracts

Dear learner, how Forward Contracts is used to hedge the risks on interest rate?

Forward contracts that are linked to debt instruments, called interest-rate forward contracts. Interest-rate forward contracts involve the future sale of a debt instrument and have several dimensions: (1) specification of the actual debt instrument that will be delivered at a future date, (2) amount of the debt instrument to be delivered, (3) price (interest rate) on the debt instrument when it is delivered, and (4) date on which delivery will take place. ***Fore instance***, assume the National Bank of Ethiopia made an agreement with Niala Insurance Company, to sell one year from today, Br. 5 million face value of the 8s of 2023 Treasury bonds (that is, coupon bonds with an 8% coupon rate that mature in 2023) at a price that yields the same interest rate on these bonds as today's, say 8%. Because Niala Insurance will buy the securities at a future date, it is said to have taken a ***long position,*** while the National Bank, which will sell the securities, has taken a ***short position.***

Dear learner, why the National Bank want to enter into this forward contract with Niala Insurance Company in the first place?. To understand this, suppose that you are the manager of the National Bank and have bought Br. 5 million of the 8s of 2023 Treasury bonds. The bonds are currently selling at par value, so their yield to maturity is 8%. Because these are long-term bonds, you recognize that you are exposed to substantial interest-rate risk: If interest rates rise in the future, the price of these bonds will fall and result in a substantial capital loss that may cost you your job. ***So how do you hedge this risk?***

Knowing the basic principle of hedging, you see that your long position in these bonds can be offset by a short position with a forward contract. That is, you need to contract to sell these bonds at a future date at the current par value price. As a result, you agree with another party—in this case, Niala Insurance Company—to sell them the Br.5 million of the 8s of 2023 Treasury bonds at par one year from today. By entering into this forward contract, you have successfully hedged against interest-rate risk. By locking in the future price of the bonds, you have eliminated the price risk you face from interest-rate changes.

And why would Niala Insurance Company want to enter into the contract with the National Bank? Niala Insurance expects to receive premiums of Br. 5 million in one year's time that it will want to invest in the 8s of 2023, but worries that interest rates on these bonds will decline between now and next year. By using the forward contract, it is able to lock in the 8% interest rate on the Treasury bonds that will be sold to it by the National Bank.

ii. Hedging Foreign Exchange Risk with Forward Contracts

Dear learner, how Forward Contracts is used to hedge the risks on Foreign Exchange?

Forward markets in foreign exchange have been highly developed by commercial banks and investment banking operations that engage in extensive foreign exchange trading and so are widely used to hedge foreign exchange risk.

Let illustrate this on the exchange rate between the Ethiopia Birr and the U.S. dollar:

Let Spot and Forward quotes for the Birr/USD exchange rate, August 16, 2001 were as follow:

	Bid	Offer
Spot	10.4452	10.4456
1-month forward	10.4435	10.4440
3-month forward	10.4402	10.4407
6-month forward	10.4353	10.4359
12-month or 1 year forward	10.4262	10.4268

This Table provides the quotes on the exchange rate between the U.S. dollar and the Ethiopia Birr that might be made by a large international bank on August 16, 2001. The quote is for the number of BIRR per USD. The first quote indicates that the bank is prepared to buy USD in the spot market (i.e., for virtually immediate delivery) at the rate of Br. 10.4452 per USD and sell USD in the spot market at Br. 10.4456 per USD. The second quote indicates that the bank is prepared to buy USD in one month at Br. 10.4435 per USD and sell USD in one month at Br. 10.4440 per USD; the third quote indicates that it is prepared to buy USD in three months at Br. 10.4402 per USD and sell USD in three months at Br. 10.4407 per USD; and so on.

Here, the Forward contracts can be used to hedge foreign currency risk. Suppose that on August 16, 2001, the treasurer of an Ethio-corporation knows that the corporation will pay Br. 1 million in six months (on February 16, 2002) and want to hedge against exchange rate moves. In the above Table, the treasurer can agree to buy Br. 1 million six months forward at an exchange rate of 10.4359. The corporation then has a long forward contract on USD. It has agreed that on February 16, 2002, it will buy Br. 1 million from the bank for Br. 10.4359 million. The bank has a short forward contract on USD. It has agreed that on February 16, 2002, it will sell Br. 1 million for Br. 10.4359 million.

- ***Payoffs from Forward Contract:***

Dear learner, what are the Payoffs from Forward Contract? Is it positive or negative? If it is positive or negative, for which party it is positive/negative?

First, it is important to distinguish between the forward price and delivery price. The forward price is the market price that would be agreed to today for delivery of the asset at a specified maturity date. The forward price is usually different from the spot price and varies with the maturity date as shown in the above table.

As for example: The forward price on August 16, 2001, is 10.4359 for a contract maturing on February 16, 2002. The corporation enters into a contract and 10.4359 becomes the delivery price for the contract. As we move through time the delivery price for the corporation's contract does not change, but the forward price for a contract maturing on February 16, 2002, is likely to do so. For example, if USD strengthens relative to BIRR in the second half of August the forward price could rise to 10.4500 by September 1, 2001.

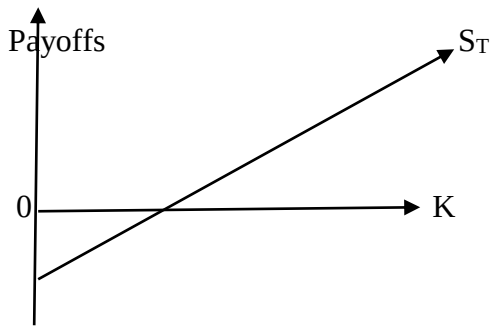
Now let consider the position of the corporation in the above exchange rate between the U.S. dollar (USD) and Ethiopia Birr trade to illustrate the possible outcomes or Payoffs from Forward Contract. The forward contract obligates the corporations to buy Br. 1 million for Br. 10,435,900. If the spot exchange rate rose to, say, 10.5000, at the end of the six months the forward contract would be worth Br. 64,100, (= Br. 10,500,000 - Br. 10,435,900), for the corporation. It would enable Br. 1 million to be purchased at 10.4359 rather than 10.5000. Similarly, if the spot exchange rate fell to 10.4000 at the end of the six months, the forward contract

would have a negative value to the corporation of Br. 35,900(Br. 10,400,000- Br. 10,435,900), because it would lead to the corporation paying Br. 35,900 more than the market price for the USD.

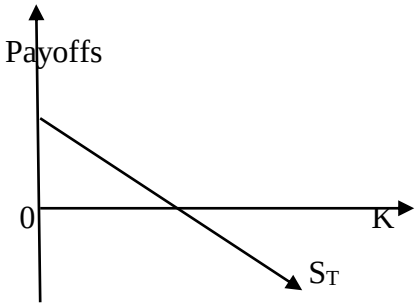
In general, the payoff from a long position in a forward contract on one chapterof an asset is the difference between spot price of the asset at maturity of the contract (S_T) and the delivery price (K). This is because the holder of the contract is obligated to buy an asset worth S_T for K. Similarly, the payoff from a short position in a forward contract on one chapterof an asset is K-S_T; Where K is the delivery price and S_T is the spot price of the asset at maturity of the contract

Because it costs nothing to enter into a forward contract, the payoff from the contract is also the trader's total gain or loss from the contract. Thus, these payoffs can be positive or negative. In other words, if the spot price of the asset at maturity of the contract (S_T) is greater than the delivery price (K), there is a positive payoff for the party which has a long forward contract. But if the delivery price (K) is greater than the spot price of the asset at maturity of the contract (S_T), there is a positive payoff for the party which has a short forward contract. These can be expressed graphically as follow

Payoffs from forward contract (a) long position and (b) short position



(a) Long position



(b) Short position

Forward contract can also used to hedge risk on commodity exchange. For instance, let consider forward contracts on gold. We assume that there is no storage costs associated with gold and that gold earns no income and suppose that the spot price of gold is Br. 300 per ounce and risk free interest rate for investment lasting one year is 5% per annum. What is a reasonable value for the one-year forward price of gold?

Suppose first that one year forward price is Br. 340 per ounce. A trader can immediately take the following actions:

Borrow Br. 300 at 5% for one year.

Buy one ounce of gold.

Enter into a short forward contract to sell the gold for Br. 340 in one year.

The interest on the Br. 300 that is borrowed (assuming annual compounding) is Br. 15. The trader can,

therefore, use Br. 315 that is obtained for the gold in one year to repay the loan. The remaining Br. 25 is profit. Any one-year forward price greater than Br. 315, will lead to this arbitrage trading strategy being profitable.

Suppose next that the forward price is Br. 300. An investor who has a portfolio that includes gold can:

Sell the gold for Br. 300 per ounce.

Invest the proceeds at 5%.

Enter into a long forward contract to repurchase the gold in one year for Br. 300 per ounce.

When this strategy is compared with the alternative strategy of keeping the gold in the portfolio for one year, we see that the investor is better off by Br. 15 per ounce. In any situation where the forward price is less than Br. 315, investors holding gold have an incentive to sell the gold and enter into a long forward contract in the way that he again repurchase at Br. 300 in one year.

The first strategy is profitable when the one-year forward price of gold is greater than Br. 315. As more traders attempt to take advantage of this strategy, the demand for short forward contracts will increase and the one-year forward price of gold will fall, as shown above in the Payoffs graph (b) on Short position.

The second strategy is profitable for all investors who hold gold in their portfolio when the one year forward price of gold is less than Br. 315. As these investors attempt to take advantage of this strategy, the demand for long forward contracts will increase and the one-year forward price of gold will rise, as shown above in the Payoffs graph (a) on long position.

Activity 4.5.

Explain what forward contract and how it used for hedging different risks

Explains the different problem may face on forward contract

FUTURE CONTRACTS AND MARKETS

Dear learner, what is Future Contracts and for what purpose financial institutions are used?

Given the default risk and liquidity problems in the interest-rate forward market, another solution to hedging interest-rate risk was needed. This solution was provided by the development of financial futures contracts.

A financial futures contract is similar to an interest-rate forward contract; in that it specifies that a financial instrument must be delivered by one party to another on a stated future date. However, it differs from an interest-rate forward contract in several ways that overcome some of the liquidity and default problems of forward markets. In line with the terminology used for forward contracts, parties who have bought a futures contract and thereby agreed to buy (take delivery of) the bonds are said to have taken a long position, and parties who have sold a futures contract and thereby agreed to sell (deliver) the bonds have taken a short position.

Dear learner, to make our understanding of this contract more concrete, let's consider what happens when you buy or sell a Treasury bond futures contract. Let's say that on February 1, you sell one Br. 100,000 June contract at a price of 115 (that is, Br. 115,000). By selling this contract, you agree to deliver Br. 100,000 face value of the long-term Treasury bonds to the contract's counterparty at the end of June for Br. 115,000. By buying the contract at a price of 115, the buyer has agreed to pay Br. 115,000 for the Br. 100,000 face value of bonds when you deliver them at the end of June. If interest rates on long-term bonds rise, so that when the contract matures at the end of June, the price of these bonds has fallen to 110 (Br. 110,000 per Br. 100,000 of face value), the buyer of the contract will have lost Br. 5,000, because he or she paid Br. 115,000 for the bonds but can sell them only for the market price of Br. 110,000. But you, the seller of the contract, will have gained Br. 5,000, because you can now sell the bonds to the buyer for Br. 115,000 but have to pay only Br. 110,000 for them in the market.

It is even easier to describe what happens to the parties who have purchased futures contracts and those who have sold futures contracts if we recognize the following fact: At the expiration date of a futures contract, the price of the contract is the same as the price of the underlying asset to be delivered. To see why this is the case, consider what happens on the expiration date of the June contract at the end of June when the price of the underlying Br. 100,000 face value Treasury bond is 110 (Br. 110,000). If the futures contracts is selling below 110 — say at 109—a trader can buy the contract for Br. 109,000, take delivery of the bond, and immediately sell it for Br. 110,000, thereby earning a quick profit of Br. 1,000. Because earning this profit involves no risk, it is a great deal that everyone would like to get in on. That means that everyone will try to buy the contract, and as a result, its price will rise. Only when the price rises to 110 will the profit opportunity cease to exist and the buying pressure disappear. Conversely, if the price of the futures contract is above 110—say at 111—everyone will want to sell the contract. Now the sellers get Br. 111,000 from selling the futures contract but have to pay only Br. 110,000 for the Treasury bonds that they must deliver to the buyer of the contract, and the Br. 1,000 difference is their profit. Because this profit involves no risk, traders will continue to sell the futures contract until its price falls back down to 110, at which price there are no longer any profits to be made. The elimination of riskless profit opportunities in the futures market is referred to as arbitrage and it guarantees that the price of a futures contract at expiration equals the price of the underlying asset to be delivered. In actuality, futures contracts sometimes set conditions for delivery of the underlying assets that cause the price of the contract at expiration to differ slightly from the price of the underlying assets.

Armed with the fact that a futures contract at expiration equals the price of the underlying asset makes it even easier to see who profits and who loses from such a contract when interest rates change. When interest rates have risen so that the price of the Treasury bond is 110 on the expiration day at the end of June, the June Treasury bond futures contract will also have a price of 110. Thus if you bought the contract for 115 in February, you have a loss of 5 points, or Br. 5,000 (5% of Br. 100,000). But if you sold the futures contract at 115 in February, the decline in price to 110 means that you have a profit of 5 points, or Br. 5,000.

Hedging with Interest-Rate future Contracts

Dear learner, how Forward Contracts is used to hedge the risks on interest rate?

As financial forward contracts used to hedge the interest rate risk, futures contracts can be used to hedge the risk on the interest rate. Let take the above illustration on forward agreement between National Bank of Ethiopia and Niala Insurance Company. National Bank can also use financial futures contracts to hedge the interest rate risk on its holdings of Br. 5 million of the 8s of 2023. To see how, suppose that in March 2004, the 8s of 2023 are the long-term bonds that would be delivered in the Ethio- Board of Trade's T-bond futures contract expiring one year in the future, in March 2005. Also suppose that the interest rate on these bonds is expected to remain at 8% over the next year, so that both the 8s of 2023 and the futures contract are selling at par (i.e., the Br. 5 million of bonds is selling for Br. 5 million and the Br. 100,000 futures contract is selling for Br. 100,000). The basic principle of hedging indicates that you need to offset the long position in these bonds with a short position, and so you have to sell the futures contract. But how many contracts should you sell? The number of contracts required to hedge the interest-rate risk is found by dividing the amount of the asset to be hedged by the Birr value of each contract, i.e.

$$NC = VA/VC$$

Where, NC = number of contracts for the hedge

VA = value of the asset

VC = value of each contract

Given that the 8s of 2023 are the long-term bonds that would be delivered in the Ethio- Board of Trade's T-bond futures contract expiring one year in the future and that the interest rate on these bonds is expected to remain at 8% over the next year, so that both the 8s of 2023 and the futures contract are selling at par, how many contracts must National sell to remove its interest-rate exposure from its Br. 5 million holdings of the 8s of 2023? Since VA = Br. 5 million and VC=Br.100, 000:

NC = Br. 5 million/ Br.100, 000 = 50

You therefore hedge the interest-rate risk by selling 50 of the Treasury bond futures contracts.

Now suppose that over the next year, interest rates increase to 10% due to an increased threat of inflation.

The value of the 8s of 2023 that the National Bank is holding will then fall to Br. 4,163,508, (note that, the value of the bonds can be calculated using a financial calculator as: FV =Br. 5,000,000, I = 10%, N = 19, PV = Br. 4,163,508), in March 2005. Thus, the loss from the long position in these bonds is Br. 836,492:

Value on March 2005 @ 10% interest rate	Br. 4,163,508
Less Value on March 2004 @ 8% interest rate	(5,000,000)
Loss	Br. 836,492

However, the short position in the 50 futures contracts that obligate you to deliver Br. 5 million of the 8s of 2023 on March 2004 have a value equal to Br. 4,163,568…. the value of the Br. 5 million of bonds after the interest rate has risen to 10%, as we have seen before. Yet when you sold the futures contract, the buyer was obligated to pay you Br. 5 million on the maturity date. Thus the gain from the short position on these contracts is also Br. 836,492:

Amount paid to you on March 2005, agreed upon in March 2004	Br. 5,000,000
Less Value of bonds delivered on March 2005 @ 10% interest rate	(4,163,508)
Gain	Br. 836,492

Therefore the net gain for the National Bank is zero, indicating that the hedge has been conducted successfully.

Several features of futures contracts were designed to overcome the liquidity problem inherent in forward contracts. The first feature is that, in contrast to forward contracts, the quantities delivered and the delivery dates of futures contracts are standardized, making it more likely that different parties can be matched up in the futures market, thereby increasing the liquidity of the market. In the case of the Treasury bond contract, the quantity delivered is Br. 100,000 face value of bonds, and the delivery dates are set to be the last business day of March, June, September, and December. The second feature is that after the futures contract has been bought or sold, it can be traded (bought or sold) again at any time until the delivery date. In contrast, once a forward contract is agreed on, it typically cannot be traded. The third feature is that in a futures contract, not just one specific type of Treasury bond is deliverable on the delivery date, as in a forward contract. Instead, any Treasury bond that matures in more than 15 years and is not callable for 15 years is eligible for delivery. Allowing continuous trading also increases the liquidity of the futures market, as does the ability to deliver a range of Treasury bonds rather than one specific bond.

Another reason why futures contracts specify that more than one bond is eligible for delivery is to limit the possibility that someone might corner the market and “squeeze” traders who have sold contracts. To corner the market, someone buys up all the deliverable securities so that investors with a short position cannot obtain from anyone else the securities that they contractually must deliver on the delivery date. As a result,

the person who has cornered the market can set exorbitant prices for the securities that investors with a short position must buy to fulfill their obligations under the futures contract. The person who has cornered the market makes a fortune, but investors with a short position take a terrific loss. Clearly, the possibility that corners might occur in the market will discourage people from taking a short position and might therefore decrease the size of the market. By allowing many different securities to be delivered, the futures contract makes it harder for anyone to corner the market, because a much larger amount of securities would have to be purchased to establish the corner. Corners are a concern to both regulators and the organized exchanges that design futures contracts.

Trading in the futures market has been organized differently from trading in forward markets to overcome the default risk problems arising in forward contracts. In both types, for every contract, there must be a buyer who is taking a long position and a seller who is taking a short position. However, the buyer and seller of a futures contract make their contract not with each other but with the clearinghouse associated with the futures exchange. This setup means that the buyer of the futures contract does not need to worry about the financial health or trustworthiness of the seller, or vice versa, as in the forward market. As long as the clearinghouse is financially solid, buyers and sellers of futures contracts do not have to worry about default risk.

A final advantage that futures markets have over forward markets is that most futures contracts do not result in delivery of the underlying asset on the expiration date, whereas forward contracts do. A trader who sold a futures contract is allowed to avoid delivery on the expiration date by making an offsetting purchase of a futures contract. Because the simultaneous holding of the long and short positions means that the trader would in effect be delivering the bonds to itself, under the exchange rules the trader is allowed to cancel both contracts. Allowing traders to cancel their contracts in this way lowers the cost of conducting trades in the futures market relative to the forward market in that a futures trader can avoid the costs of physical delivery, which is not so easy with forward contracts.

Activity 4.6

Explain the basic difference between forward and future contract

What are the problems in the forward that are solved by future contract?

OPTIONS

Dear learner, what is options, how it is different from others derivative instruments and how they are issued and for what purpose?

Another vehicle for hedging interest-rate and stock market risk involves the use of options on financial instruments. Options are contracts that give the purchaser the option, or right, to buy or sell the underlying

financial instrument at a specified price, called the exercise price or strike price, within a specific period of time (the term to expiration). The seller (sometimes called the writer) of the option is obligated tobuy or sell the financial instrument to the purchaser if the owner of the option exercises the right to sell or buy.

Two basic instruments traded in the options market are, call and puts. A Call option entitles the holder to buy an underlying asset at a stated price on or before a fixed expiration date. A put option entitles the holder to sell an underlying asset at a stated price on or before a fixed expiration date. Thus, the option to buy an asset is known as a call option and the option to sell an asset is called a put option. The price at which option can be exercised is called the striking or exercise price, (i.e. Because the right to buy or sell a financial instrument at a specified price has value, the owner of an option is willing to pay an amount for it called a premium), and The asset on which the put or call option is created is referred to as the underlying asset.

These option contract features are important enough to be emphasized: The owner or buyer of an option does not have to exercise the option; he or she can let the option expire without using it. Hence the owner of an option is not obligated to take any action, but rather has the right to exercise the contract if he or she so chooses. The seller of an option, by contrast, has no choice in the matter; he or she must buy or sell the financial instrument if the owner exercises the option.

So, Dear learner, when will an option holder exercise his/her right? He/she will exercise his/her option when doing so provides him/her a benefit over buying or selling the underlying asset from the market at the prevailing price. Hence, having initiated opening transactions by either buying or writing an option, the investor has three alternative actions to take on the expiration date. These are:

i) When an option IN-THE- MONEY (ITM)

A put or a call option is said to in-the-money when it is advantageous for the investor to exercise it. In the case of in-the-money call options, the exercise price is less than the current value of the underlying asset, while in the case of the in-the-money put options; the exercise price is higher than the current value of the underlying asset. Thus, when it is worthwhile to exercise the option, it is said to be IN-THE- MONEY.

ii) When an option OUT-OF-THE- MONEY (OTM)

A put or a call option is said to Out-of--the-money when it is not advantageous for the investor to exercise it. In the case of the Out-of--the-money call options, the exercise price is higher than the current value of the underlying asset, while in the case of the out-of--the-money put options; the exercise price is lower than the current value of the underlying asset. Thus, when the price of underlying asset makes the exercise of an option worthless, the option is said to be OUT-OF-MONEY.

iii) When an option AT-THE-MONEY (ATM)

When the holder of a put or a call option does not lose or gain whether or not he/she exercise his/her option,

the option is said to be AT-THE-MONEY. In the case of the at-the-money options the exercise price is equal to the current value of the underlying asset. Thus, when the underlying asset is close to the exercise price the potion is said to be AT-THE-MONEY.

Dear learner, To make more understandable on when an option holder exercise his/her right, suppose investor DANI has purchased a call option on IBM stock with an exercise price of Br. 125 and investor BOKA has purchased a put option on Xerox stock with an exercise price of Br. 60.

If the IBM stock price at the expiration date is less than the exercise price of Br.125, there is no point in exercising the call, since it is cheaper to buy the stock in the market for investor DANI. The rational investor will let the call expire. The loss to the buyer, and the profit to the writer of the option, is the premium at which the initial transaction was priced. If on the other hand, the IBM stock price at expiration is greater than Br. 125, the investor DANI will exercise the call. The difference between the exercise price and the stock price can be realized by selling the stock in the market.

For investor BOKA, if the Xerox Stock price at the expiration date is greater than Br. 60, he will let the put expire, since more can be earned by selling the stock in the market. Whenever the stock price at expiration is less than the exercise price, BOKA will exercise the put and earn the difference as a return on investment in the put option.

OPTION CONTRACTS INSTRUMENTS

Dear learner, what are different option instrument and what right they give for the owner?

CALL OPTION

Dear learner, what is call option, what right it gives, when it is exercised and what payoffs it results for the owner and seller?

A call option is a contract that gives the owner the right to buy a financial instrument at the exercise price within a specific period of time.

Note that every call option contract has two sides: (a) Long Position… this position is taken by an investor who has bought the call option, and (b) short position…. it is taken by an investor who has sold or written the call option. Thus, one party may have a long position or short position

Exercising the Right and Pay-Off on Call Option

A call buyer exercises his/her right only when outcomes are favorable to him/her. The seller of a call option, being the owner of the asset, gives away the good outcomes in favor of the option buyer. The buyer of a call option must, therefore, pay up-front a price, called call premium, to the call seller to buy the option. The call premium is a cost to the option buyer and a gain to the call seller. So, when will the holder of call option

exercise his/her right and what are the net pay-off of the buyer and the seller of a call option, (a) when the call premium (that the buyer has to pay to the seller) is not involved and (b) when it is involved?

Call Option Pay-off: when the call premium is not involved

Suppose that the current share price (S) of Satyam Computer's share is Br. 130. You expect that a price in a 3 month period will go up to Br. 150. But you do fear that the price may also fall down Br. 130. To reduce the chance of your risk and at the same time to have an opportunity of making profit, instead of buying the share, you can buy a 3 month call option on Satyam's share at an agreed exercise price (E) to say, Br.125. Ignoring the option premium, taxes, transaction costs and the time value of money:

i. Will you exercise your option if the price of the share is Br. 130 in three months?

You will exercise your option since you get a share worth Br. 130 by paying an exercise price of Br. 125. You will gain Br. 5; that is, the pay-off or the value of your call option at expiration (Ct) is Br. 5. Your Call option is in-the-money at maturity.

ii. What will you do if the price of the share is Br. 120 when the call option on Satyam's share expires?

Obviously, you will not exercise the option. You gain nothing. Your call option is worthless, and it is out-of-the-money at expiration. You may notice that the value of your call option can never be less than ZERO.

Thus, you should exercise call option when: current Price at expiration (Cp)> Exercise Price (E), and do not Exercise call option when: Price at expiration (Cp) < Exercise Price (E)

Hence, Value of call option at expiration = Maximum [current Price - Exercise Price, 0]

$$Ct = Max [Cp – E, 0]$$

This expression indicates that the value of a call option at expiration is the maximum of the current price minus the exercise price or zero. The call option holder's opportunity to make profits is unlimited. It depends on what the actual market price of the underlying share is when the option is exercised. The greater the market value of the underlying asset, the larger is the value of the option. The figure (a) below shows the pay-off or value of a call option.

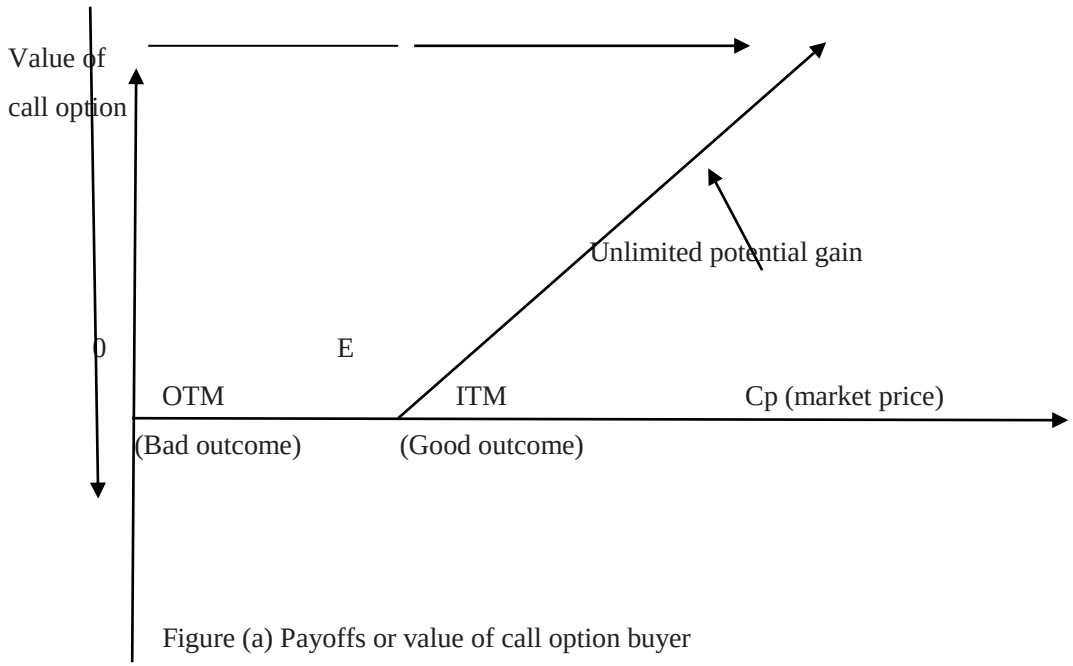


Figure (a) Payoffs or value of call option buyer

It may be observed from the above figure (a) the call buyer's potential pay-off is unlimited once the price of the share (the underlying asset) goes beyond the exercise price. If the market price is on or below the exercise price, the call buyer will not exercise his/her option. Thus, his/her pay-off will be zero since the option is worth nothing.

It may also be observed from the above figure (a) that the possible outcomes can be divided into two parts: one, above the exercise price and other, below the exercise price. The outcomes above the exercise price are said to be in-the-money and are beneficial to the option holder but not the outcomes below the exercise price that are said to be out-of-the money. It is the exercise price that divides the good and bad outcomes.

The figure (b) below shows seller position as a mirror image of the call buyer's position. The call buyer's gain is call seller's loss. The seller of the call option will not incur any loss when the price of the share (underlying asset) is less than the exercise price since the buyer will not exercise his option. However, if the share price rises and goes beyond the beyond the exercise price, the potential loss of the call seller is very high.

Indeed, options do not come free. They involve cost. The option premium is the price that the holder of an option has to pay for obtaining a call option. The price will have to be paid, generally in advance, whether or not the holder exercise s his/her option. So, how is the call buyer's and seller (or the writer) of a call option potential pay-off when the call premium is involved and affected by the value of the underlying asset changes?

As for example, assume The share of Telco is selling for Br.104. Ato Bulcha buys a 3 months call option at a premium of Br. 5. The exercise price is Br. 105.

i. What is Ato Bulcha's pay-off if the share price is Br. 100, or Br. 105, or Br. 110, or Br. 115 or Br. 120 at the time the option is exercised? This can be analyzed as in table below:

The Call Option Holder's Pay-Off at Expiration:

	Br.	Br.	Br.	Br.	Br.
Share Price (Cp)	100	105	110	115	120
Buyer's Inflow:					
Sale of Share	-----	-----	110	115	120
Buyer's Outflow:					
Exercise price	-----	-----	105	105	105
Call Premium	5	5	5	5	5
Net Pay-off	-5	-5	0	+5	+10

Note- The call option is not exercised when Cp<E

As calculated in this Table and also shown in Figure (c) given below. Ato Bulcha will exercise his option for any price above the exercise price Br. 105. Since the exercise price is Br. 105 and Ato Bulcha (the buyer) has to pay a premium of Br. 5, his pay-off will be zero when the share price rises to Br. 110. Thus, Br. 110 is a break-even price (i.e. the exercise price plus the call premium) for him. The exercise price, Br. 105, separates the good outcomes from the bad outcomes. The seller of the call option (the asset owner) is being paid call premium, Br. 5, for giving up the good outcomes in favor of the buyer of the call option.

Value of
Call option

E Unlimited potential gain

Limited loss area

0 100 105 110 115 120 Cp (market price)

Premium

-5

Breakeven point

-10 At the money area

ii. What is the pay-off of the seller of the call option if the share price is Br. 100, or Br. 105, or Br. 110, or Br. 115 or Br. 120 at the time the option is exercised?

The position of the call option seller will be the opposite to that of the buyer as shown in the Table given below. If the buyer (Ato Bulcha) exercises his option, the seller will lose. His/her (seller's) potential loss is very high, and profit is limited to Br. 5 (call premium). If the above figure (c) turned upside down, the call seller's position can be depicted graphically as in figure – (d) shown below. Thus, the net pay-off for the seller at expiration would be:

The Call-Option Seller's Pay-Off at Expiration:

	Br.	Br.	Br.	Br.	Br.
Share Price (Cp)	100	105	110	115	120
Seller's Inflow:					
Exercise Price	-----	-----	105	105	105
Call Premium	5	5	5	5	5
Seller's Outflow:					
Share Price	-----	-----	110	115	120
Net Pay-off	5	5	0	-5	-10

Note- The call option is not exercised when Cp<E

Premium (Limited gain) Breakeven point

5

0 105 110

Cp (market price) Unlimited potential loss At the money area

E

Value of

Call option Figure (d) Payoffs or value of call option seller

Activity 4.7.

Define the call option

When does the call option shall exercise?

PUT OPTION

Dear learner, what is put option, what right it gives, when it is exercised and what payoffs it results for the owner and seller?

A put option is a contract that gives the holder a right to sell (or put) a specified an asset at an agreed exercise price on or before a given maturity period. Like the call option the contract contains: (a) The name of the company asset to be sold (b) The number of the asset to be sold and (c) The expiration date of the option and also like call option one party may has: (a) Long Position… taken by an investor who has sold or written the call option, and (b) short position…. taken by an investor who has bought the call option

Thus, A put Options resembles the short sales in certain respects. Both of them gain in the bearish market when the price

falls, the short seller and put buyer. But there is difference since Put buyer has the right to sell the asset at the prefixed price even if the price falls. In other words, when the price increases, the short seller has to pay the whole amount, but the put buyer has to pay the premium alone and his/her liability is limited to the premium amount he has paid.

Exercising the Right and Pay-Off on put Option

A put buyer exercises his right only when outcomes are favorable to him. The seller of a put option gives away the good outcomes in favor of the option buyer. The buyer of a put option must, therefore, pay up-front a price, called call premium, to the put seller to buy the option. The put premium is a cost to the option buyer and a gain to the put seller. So, when will the holder of put option exercise his/her right and what are the net pay-off of the buyer and the seller of a put option, (a) when the put premium (that the buyer has to pay to the seller) is not involved and (b) when it is involved?

Pay-Off for a put option buyer and seller when premium is not involved

To understand this, suppose you expect price of HPL's share to fall in a near future. Therefore, you buy a 3 month put option at an exercise price (E) of Br. 50. The current market price of HPL's share (S) is Br. 48. If the price actually falls to (St) Br. 35 after three months, you will exercise your option. You will buy the share for Br. 35 from the market and deliver it to the put option seller (writer) to receive Br. 50. Your gain is Br. 15, ignoring the put option premium, transaction costs and taxes. You will forgo your put option if the share price rises above the exercise price; the put option is worthless for you and its value is zero. Thus, a put buyer, your, gains when the share price falls below the exercise price. Ignoring the cost of buying the put option (called put premium), your loss will be zero when the share prices rises above the exercise price since you will not exercise your option. Thus, exercise the put option

The expression above indicates that the value of a put option at expiration is the maximum of the exercise price minus the market price or zero. The put option holder's opportunity to make profits is limited. It depends on what the actual market price of the underlying asset when the option is exercised. The greater the market value of the underlying asset, the larger is the value of the option. These can be expressed graphically as below.

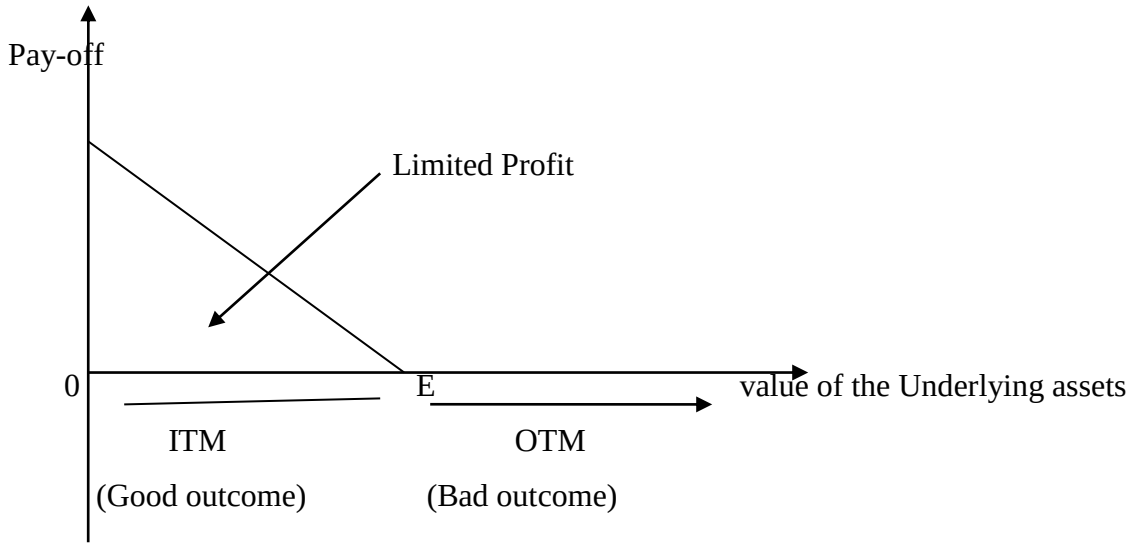


Figure- (e) Pay-Off for a put option buyer

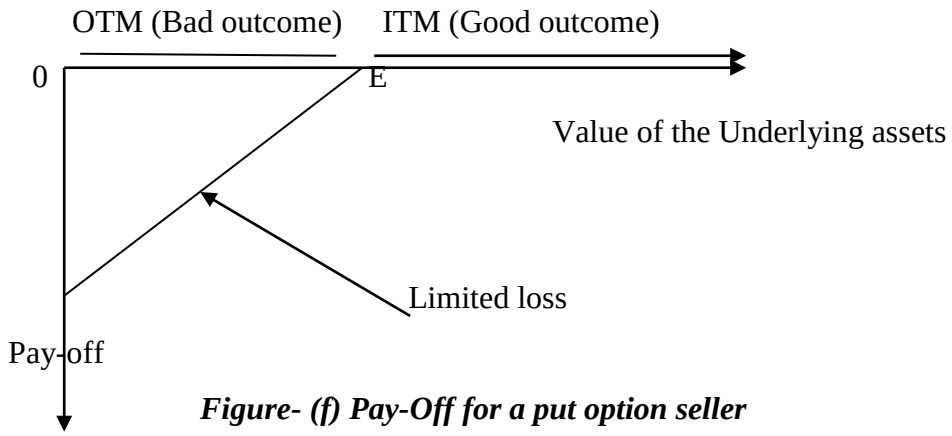


Figure- (f) Pay-Off for a put option seller

The above figure (e) shows that the value of the put option for the option holder depends on the value of the underlying assets. The value of the put option is zero when it is At-the- money. You may observe from the Figure- (e) that the potential profit of the put option buyer is limited since asset price cannot fall below zero. The exercise price again is the dividing point between the good and bad outcomes. The put option buyer's gain is the seller's loss. The seller insures the buyer from the bad outcomes. In the above, Figure (f) shows the pay-off of the seller of a put option. It should be clear from the Figure-(f) that the potential loss of the put option seller is limited to the exercise price.

(a) Pay-Off for a put option buyer and seller *when premium is involved*

Like the call option, put option do not come free. The put option premium is the price that the holder of an option has to pay for obtaining a put option. The price will have to be paid in advance whether or not the holder exercises his put option. Therefore, since the buyer has to pay a premium to the seller for purchasing a put option, the potential profit of the buyer and the potential loss of the seller will reduce by the amount of premium. Let us illustrate this point assuming an investor hopes that the price of HEL's share will fall after three months. Therefore, he purchases a put option on HEL's share with a maturity of three months at a premium of Br. 5 and the exercise price is Br. 30. The current market price of HEL's share is Br. 28. Then,

i. How much is profit or loss of the put buyer if the price of the share at the time of the maturity of the option turns out to be Br. 18, or Br. 25, or Br. 28, or Br. 30, or Br. 40?

The put buyer's net pay-off is shown below in Table and Figure (g). It can be noticed from Figure (g) that the buyer's maximum loss is confined to Br. 5; that is, the put premium. His/her profit is equal to exercise price less the sum of share price and premium. Since the share price cannot fall below zero, he/she has a limited profit potential. The put buyer will always exercise his option if the exercise is more than the share price. His/her break even share is Br. 25, that is, the exercise price less premium.

The Put-Option Holder's Pay-Off at Expiration:

	Br.	Br.	Br.	Br.	Br.
Share Price (S_t)	18	25	28	30	40
Buyer's Benefit:					
Exercise Option	30	30	30	----	----
Buyer's Cost:					
Put Premium	5	5	5	5	5
Buy Share	18	25	28	----	----
Net Pay-off (Profit)	7	0	-3	-5	-5

Note- The put option is not exercised when Cp>E

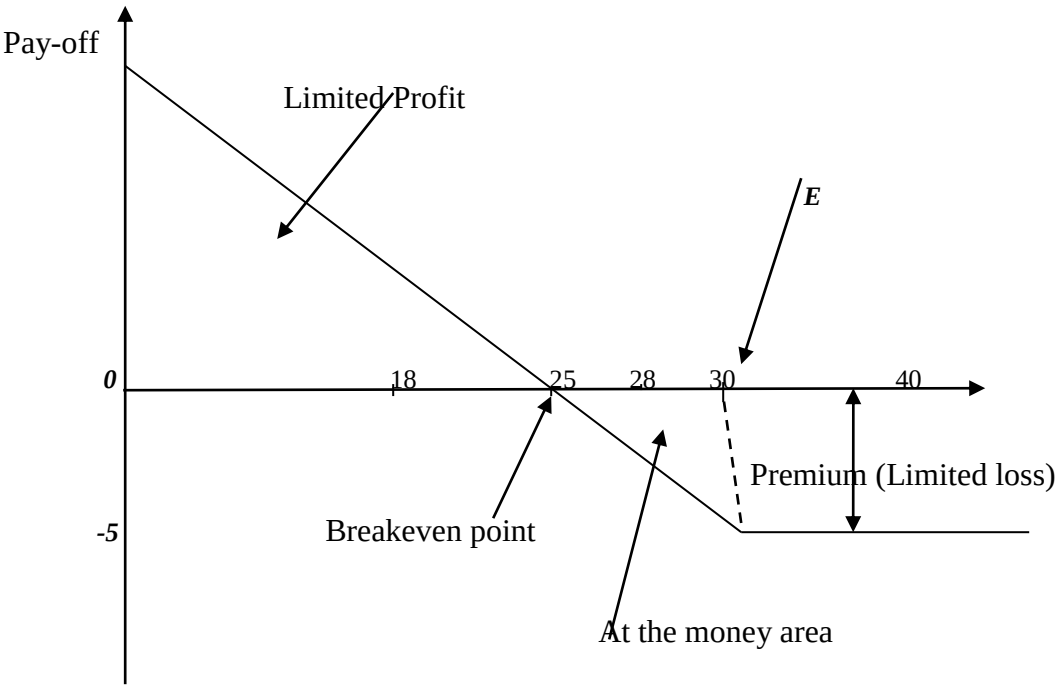


Figure- (g) Pay-Off for a put option buyer

ii. How much is profit or loss of the put seller if the price of the share at the time of the maturity of the option turns out to be Br. 18, or Br. 25, or Br. 28, or Br. 30, or Br. 40?

For the seller of a put option, the profit will be limited to Br. 5…. the amount of premium. His loss potential depends on the price of the share (the underlying asset). But it cannot exceed Br. 25, that is, the difference between the exercise price, Br. 30 and the premium, Br. 5. The pay-off for the put seller is shown below in Table and Figure (h).

The Put-Option Seller's Pay-Off at Expiration:

	Br.	Br.	Br.	Br.	Br.
Share Price (Cp)	18	25	28	30	40
Seller's Benefit:					
Put Premium	5	5	5	5	5
Sale Share	18	25	28	----	----
Seller's Cost:					
Exercise Option	30	30	30	----	----
Net Pay-off (Profit)	-7	0	3	5	5

Note- The put option is not exercised when Cp>E

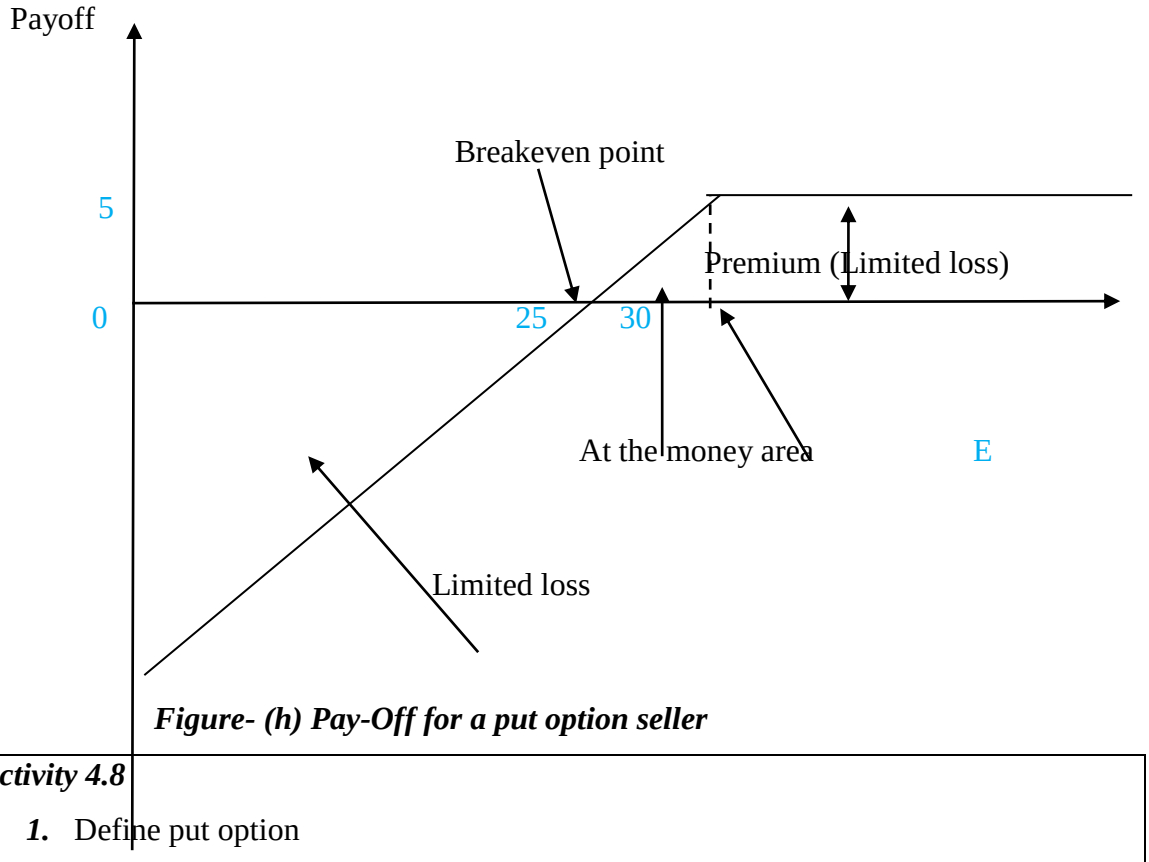


Figure- (h) Pay-Off for a put option seller

Activity 4.8

1. Define put option
2. Differentiate the put option from call option on the bases of their exercising condition

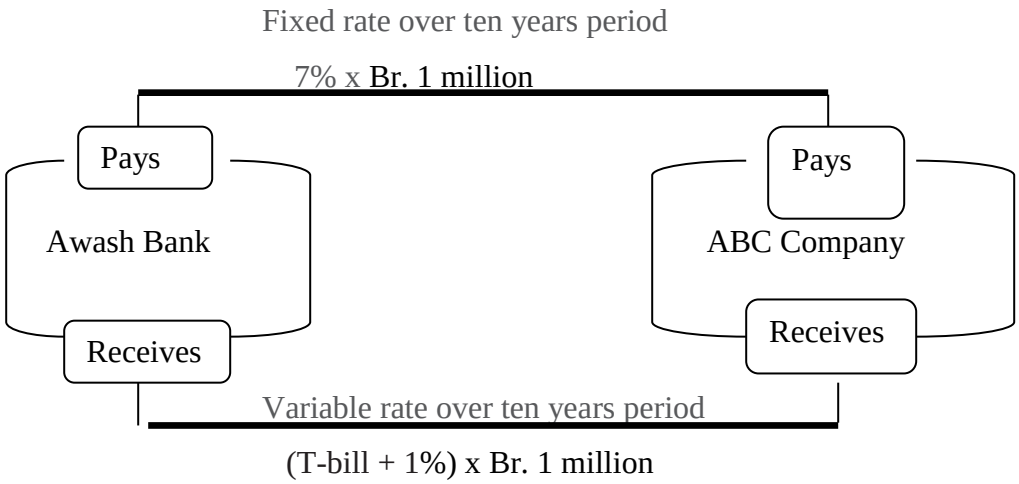
C. INTEREST-RATE SWAPS

Dear learner, what is swaps, how it is different from others derivative instruments and how it is used for hedging risk on interest rate?

In addition to forwards, futures, and options, financial institutions use one other important financial derivative to manage risk. Swaps are financial contracts that obligate each party to the contract to exchange (swap) a set of payments (not assets) it owns for another set of payments owned by another party. There are two basic kinds of swaps: Currency swaps involve the exchange of a set of payments in one currency for a set of payments in another currency. Interest-rate swaps involve the exchange of one set of interest payments for another set of interest payments, all denominated in the same currency

Interest-rate swaps are an important tool for managing interest-rate risk. The most common type of interest-rate swap (called the plain vanilla swap) specifies (1) the interest rate on the payments that are being exchanged; (2) the type of interest payments (variable or fixed-rate); (3) the amount of notional principal, which is the amount on which the interest is being paid; and (4) the time period over which the exchanges continue to be made. There are many other more complicated versions of swaps, including forward swaps and swap options (called swaptions), but here we will look only at the plain vanilla swap. ***Figure D_1*** illustrates an interest-rate swap between the Awash Bank and the ABC Company. Awash Bank agrees to pay ABC a fixed rate of 7% on Br. 1 million of notional principal for the next ten years, and ABC agrees to pay Awash Bank the one-year Treasury bill rate plus 1% on Br. 1 million of notional principal for the same period. Thus, as shown in ***Figure D_1***, every year the Awash Bank would be paying the ABC Company 7% on Br. 1 million, while ABC would be paying Awash Bank the one-year T-bill rate plus 1% on Br. 1 million.

FIGURE D_1: Interest-Rate Swap Payments



Dear learner, you might wonder why these two parties find it advantageous to enter into this swap agreement. The answer is that it may help both of them hedge interest-rate risk.

Suppose that the Awash Bank, which tends to borrow short term and then lend long-term in the mortgage market, has Br. 1 million less of rate-sensitive assets than it has of rate-sensitive liabilities. Hence, this situation means that as interest rates rise, the rise in the cost of funds (liabilities) is greater than the rise in interest payments it receives on its assets, many of which are fixed-rate. The result of rising interest rates is thus a shrinking of Awash Banks' net interest margin and a decline in its profitability. To avoid this interest-rate risk, Awash Bank would like to convert Br. 1 million of its fixed-rate assets into Br. 1 million of rate-sensitive assets, in effect making rate-sensitive assets equal rate-sensitive liabilities, thereby eliminating the gap. This is exactly what happens when it engages in the interest-rate swap. By taking Br. 1 million of its fixed-rate income and exchanging it for Br. 1 million of rate-sensitive Treasury bill income, it has converted income on Br. 1 million of fixed-rate assets into income on Br. 1 million of rate-sensitive assets. Now when interest rates increase, the rise in rate-sensitive income on its assets exactly matches the rise in the rate-sensitive cost of funds on its liabilities, leaving the net interest margin and bank profitability unchanged.

The ABC Company, which issues long-term bonds to raise funds and uses them to make short-term loans, finds that it is in exactly the opposite situation to Awash Bank: It has Br. 1 million more of rate-sensitive assets than of rate-sensitive liabilities. It is therefore concerned that a fall in interest rates, which will result in a larger drop in income from its assets than the decline in the cost of funds on its liabilities, will cause a decline in profits. By doing the interest-rate swap, it eliminates this interest-rate risk because it has converted Br. 1 million of rate-sensitive income into Br. 1 million of fixed-rate income. Now the ABC Company finds that when interest rates fall, the decline in rate-sensitive income is smaller and so is matched by the decline in the rate-sensitive cost of funds on its liabilities, leaving its profitability unchanged.

Dear learner, what are Advantages and Disadvantages of Interest-Rate Swaps?

- ***Advantages of Interest-Rate Swaps***

To eliminate interest-rate risk, both the Awash Bank and the AB Company could have rearranged their balance sheets by converting fixed-rate assets into rate-sensitive assets, and vice versa, instead of engaging in an interest-rate swap. However, this strategy would have been costly for both financial institutions for several reasons. The first is that financial institutions incur substantial transaction costs when they rearrange their balance sheets. Second, different financial institutions have informational advantages in making loans to certain customers who may prefer certain maturities. Thus, adjusting the balance sheet to eliminate interest-rate risk might result in a loss of these informational advantages, which the financial institution is unwilling to give up. Interest-rate swaps solve these problems for financial institutions, because in effect, they allow the institutions to convert fixed-rate assets into rate-sensitive assets without affecting the balance

sheet. Large transaction costs are avoided, and the financial institutions can continue to make loans where they have an informational advantage.

We have seen that financial institutions can also hedge interest-rate risk with other financial derivatives such as futures contracts and futures options. Interest-rate swaps have one big advantage over hedging with these other derivatives: They can be written for very long horizons, sometimes as long as 20 years, whereas financial futures and futures options typically have much shorter horizons, not much more than a year. If a financial institution needs to hedge interest-rate risk for a long horizon, financial futures and option markets may not do it much good. Instead it can turn to the swap market.

- ***Disadvantages of Interest-Rate Swaps***

Although interest-rate swaps have important advantages that make them very popular with financial institutions, they also have disadvantages that limit their usefulness. Swap markets, like forward markets, can suffer from a lack of liquidity. Let's return to looking at the swap between the Awash Bank and the ABC Company. As with a forward contract, it might be difficult for the Awash Bank to link up with the ABC Company to arrange the swap. In addition, even if the Awash Bank could find a counterparty like the ABC Company, it might not be able to negotiate a good deal because it couldn't find any other institution with which to negotiate.

Swap contracts also are subject to the same default risk that we encountered for forward contracts. If interest rates rise, the ABC Company would love to get out of the swap contract, because the fixed-rate interest payments it receives are less than it could get in the open market. It might then default on the contract, exposing Awash Bank to a loss. Alternatively, the ABC Company could go bust, meaning that the terms of the swap contract would not be fulfilled.

- ***Financial Intermediaries in Interest-Rate Swaps***

Dear learner, what are financial intermediaries that may involve in Interest-Rate Swaps?

As we have just seen, financial institutions do have to be aware of the possibility of losses from a default on swaps. As with a forward contract, each party to a swap must have a lot of information about the other party to make sure that the contract is likely to be fulfilled. The need for information about counterparties and the liquidity problems in swap markets could limit the usefulness of these markets. However, when informational and liquidity problems crop up in a market, financial intermediaries come to the rescue. That is exactly what happens in swap markets. Intermediaries such as investment banks and especially large commercial banks have the ability to acquire information cheaply about the creditworthiness and reliability

of parties to swap contracts and are also able to match up parties to a swap. Hence large commercial banks and investment banks have set up swap markets in which they act as intermediaries.

CHAPTER SUMMARY

- The basic function of financial markets is to channel funds from savers who have an excess of funds to spenders who have a shortage of funds. Financial markets can do this either through direct finance, in which borrowers borrow funds directly from lenders by selling them securities, or through indirect finance, which involves a financial intermediary that stands between the lender-savers and the borrower-spenders and helps transfer funds from one to the other. This channeling of funds improves the economic welfare of everyone in the society, because it allows funds to move from people who have no productive investment opportunities to those who have such opportunities, Thereby contributing to increased efficiency in the economy. In addition, channeling of funds directly benefits consumers by allowing them to make purchases when they need them most.
- Financial markets can be classified as debt and equity markets, primary and secondary markets, exchanges and over-the-counter markets, and money and capital markets.
- Interest-rate forward contracts, which are agreements to sell a debt instrument at a future (forward) point in time, can be used to hedge interest-rate risk. The advantage of forward contracts is that they are flexible, but the disadvantages are that they are subject to default risk and their market is illiquid.
- A financial futures contract is similar to an interest-rate forward contract, in that it specifies that a debt instrument must be delivered by one party to another on a stated future date. However, it has advantages over a forward contract in that it is not subject to default risk and is more liquid. Forward and futures contracts can be used by financial institutions to hedge (protect) against interest-rate risk.
- An option contract gives the purchaser the right to buy (call option) or sell (put option) a security at the exercise (strike) price within a specific period of time The profit function for options is nonlinear—profits do not always grow by the same amount for a given change in the price of the underlying financial instrument. The nonlinear profit function for options explains why their value (as reflected by the premium paid for them) is negatively related to the exercise price for call options, positively related to the exercise price for put options, positively related to the term to expiration for both call and put options, and positively related to the volatility of the prices of the underlying financial instrument for both call and put options. Financial institutions use futures options to hedge interest-rate risk in a similar fashion to the way they use financial futures and forward contracts. Futures options may be preferred for macro hedges because they suffer from fewer accounting problems than financial futures.

- Interest-rate swaps involve the exchange of one set of interest payments for another set of interest payments and have default risk and liquidity problems similar to those of forward contracts. As a result, interest-rate swaps often involve intermediaries such as large commercial banks and investment banks that make a market in swaps. Financial institutions find that interest-rate swaps are useful ways to hedge interest rate risk. Interest-rate swaps have one big advantage over financial futures and options: They can be written for very long horizons.

MODEL EXAM QUESTIONS

MULTIPLE CHOICE QUESTIONS

1. A dealer has just entered into a derivative position with a customer. The customer is obligated to sell the underlying asset to the dealer if the spot price at expiration is more than K, whereas the dealer has the right to sell the underlying asset to the customer if the spot price at expiration is less than K. Which of the followings describes the derivative trading?
   A. The dealer purchases a K-strike call and a K-strike put
   B. The dealer sells a K-strike call and purchases a K-strike put
   C. The dealer purchases a K-strike call and sells a K-strike put
   D. The dealer sells a K-strike call and a K-strike put
   E. The dealer enters into a long forward contract
2. Suppose that you buy a call option on a Br.100,000 stock futures contract, for 1,000 shares, with an exercise price of 110 for a premium of Br.1,500. If on expiration the futures contract has a price of 111, what is your profit or loss on the contract?
   A. Br.500 profit C. Br.500 loss
   B. Br.1,000 loss D. NONE
3. Which of the following statement/s is/are incorrect?
   A. Long Position in the derivative is a position of owing a good that you plan to sell in the future
   B. If more traders want to go long than to go short in the future contract, the price goes up
   C. The purchaser of a call option is hoping that the price of underlying assets will increase
   D. The issuer of a put option is hoping that the price of underlying asset will decrease.
4. Put Option
   A. Gives the seller the right to sell an asset or any security to the buy
   B. Gives the owner the right to buy an asset
   C. Gives the owner the right to sell an asset

D. Obligates the seller to sell an asset

E. C and D are correct

5. The value of call option is higher when

   A. The striking price is higher than the market price

   B. The striking price is lower than market price

   C. The option period is shorter

   D. The option period is longer and the striking price is lower.

6. The put option buyer gain:

   A. In the bullish market C. In the stable market

   B. In the bearish market. D. When the strike price is lower than stock price

7. An investor who anticipates fall in price of ETC share after an year could hedge his risk by

   A. buying put option contracts now

   B. selling call option contracts now

   C. buying future contracts now

   D. all of the above

8. Ato Abera paid a premium of Birr 5 per share for a 6 month call option contract (total of Birr 500 for 100) share of ABC Corporation. At the time of purchase ABC Corporation's stock was selling for Birr 57 per share and the exercise price of the call option was Birr 56. What is Ato Abera's profit or loss if the price of ABC Corporation's stock is Birr 60; assume the involvement of initial investment?

   A. Birr 400 loss C. Birr 100 loss

   B. Birr 400 gain D. Birr 100 gain

9. Which of the following statement/s is/are correct?

   A. The call premium is a gain to the party who is on the side of long position in the contract

   B. The call buyer's potential pay-off is limited once the price of the underlying asset goes beyond the exercise price

   C. The seller of the call option will not incur any loss when the price of the underlying asset is less than the exercise price

   D. if the buyer exercise his/her option, the potential loss of the seller is unlimited

10. Which of the following derivative instrument needs more attention on how closely buyers and sellers must match on amount, quality, and delivery dates to enter into contract?

    A. Forward contract C. Option contract

    B. Future contract D. Put option contract

Answers for Model Exam Questions

1. A 2. B 3. D 4. E 5. D 6. B 7. D 8. C 9.C 10.A

CHAPTER FIVE

THE REGULATION OF FINANCIAL MARKETS AND INSTITUTIONS

Chapter Objectives: - At the end of this chapter, learners are expected to:
Understand what mean that regulation and importance of financial regulation. Explain of the different purpose of financial regulation.
Describe the who are the financial regulators, and different forms of financial regulation.

5.1 What is Regulation?

Regulation is a rule or order or directive or act or law or ordinance or pronouncement or proclamation made by the government. It can be defined as "A rule of order having the force of law, prescribed by a superior or competent authority, relating to the actions of those under the authority's control.

What is Financial Regulation?

Financial regulation is a form of regulation or supervision, which subjects financial markets and institutions to certain requirements, restrictions and guidelines, aiming to maintain the integrity of the financial system. This may be handled by either a government or non-government organization or a body established by a government for this purpose.

5.2. The Importance of Financial Regulations:

Financial regulations of a country can play an integral part in the growth of its economy. An economy's strength is measured by the amount of finance it possesses. Hence, a country with adequate finances is considered strong enough to deal with the changing global economic patterns whereas a country with inadequate finances is dependent upon the boom and recession of the markets for its profits and losses.

These regulations form guidelines and policies set by the government as part of the law. Applying to all public and private financial institutions in a country, these restrictions are set forward to balance a state's integrity.

A) Implementation of Laws:

Laws regarding financial transactions and other like issues are enforced to make sure that no institution goes out of its way. These regulations ensure the flow of cash within a country and save its institutions from being bankrupt by too much outflow of funds. The credibility of these institutions remains intact due to law enforcement of the country.

B) Bringing Defaulters to Trial:

Trials are conducted for institutions or owners who fail to comply with the regulations set forth by the government. Prosecution of cases involving misconduct will become an example for future defaulters and they refrain from breaking the law

C) Providing Licenses:

Only those financial institutions and the company form organizations that are structured in compliance to financial regulations provided by the government get licenses. These licenses allow them to continue their proceedings without any disturbances from the authorities**.**

5.3. Purpose of Financial Regulation:

The main objectives of financial regulations are:

- To maintain market confidence – to maintain confidence in the financial system
- To promote financial stability – contributing to the protection and enhancement of stability of the financial system
- To protect the interests of Investors or Consumers – securing the appropriate degree of protection for consumers.
- To reduce financial crime – reducing the extent to which it is possible for a regulated business to be used for a purpose connected with financial crime.
- Regulating foreign participation in the financial markets

1. **Market confidence:** Financial regulations' main aim is to maintain market confidence. This objective can be achieved by promoting competition and fairness (transparency) in the trading of financial securities. This means that there should be no barriers to entry and exit from markets and financial systems. The market should be open to a wide range of participants who meet specified eligibility criteria. In addition, the markets should provide an effective mechanism for the circulation of securities, the right conditions for investment and promote economic development. The markets are not possible without investors, individuals and entities that have spare cash and want to invest in securities.
2. **Promote Financial Stability:** A key objective for financial regulation is to increase the effective functioning of the financial system in order to enhance the ability to absorb or overcome financial instability. There are four main factors that can initiate financial instability: a) increase in interest rates b) increase in uncertainty c) negative shocks to firms' balance sheets d) a deterioration in financial

intermediaries' balance sheets. Examples of financial instability a) Asian crisis of second half of 1990 b) U.S. market crisis of 2007 c) European markets crisis of 2010.

3. **Consumer protection:** It is the ultimate objective of all of the above of regulations to protect consumers in one or the other way. Some companies may conceal relevant information or give wrong financial picture to attract investments from people and investors. Financial regulations prevent issuers of securities from defrauding investors. Consumer protection also refers to arrangements to protect depositors (or like arrangements for other classes of investors) in the event of the failure of a financial institution to pay their deposits back.
4. **Reduction of Financial crime:** Financial regulations also require reducing financial crime of market participants. Various companies and other financial institutions involve in inflating their financial information to attract investments. Companies often involve in illegal **insider trading** and violation of laws.
    a) **Insider trading:** Insider trading is defined as a malpractice wherein trade of a company's securities is undertaken by people who by virtue of their work has access to the otherwise nonpublic information which can be crucial for making investment decisions. When insiders, e.g. key employees or executives who have access to the strategic information about the company, use the same for trading in the company's stocks or securities, it is called insider trading and it is highly discouraged by the securities exchange commission. Insider trading is an unfair practice, wherein the other stock holders are at great disadvantage due to lack of important insider non-public information.

5. **Regulating foreign participation:** Especially for under developed countries, regulating foreign participation in the domestic markets may be necessary to protect the financial interests of the country and its economy. In such cases, some countries may restrict activities of foreign concerns in the domestic markets and institutions. Otherwise, these countries may limit the roles of foreign firms on domestic markets and their ownership control of financial institutions.

5.4. Who are the financial regulators?

The financial regulation agencies are also called as financial regulators. Generally every country has its own financial system and like thus has/have financial regulators. Financial regulation agencies or bodies or regulators differ from country to country. In some countries, governments directly engage in financial regulation activity whereas in other countries, governments may appoint one or more such regulation bodies. These financial bodies or regulators are responsible to frame Regulatory Framework for the working of

financial markets and institutions in that country. Whenever need arises to re-assess the regulatory framework, financial regulators re-assess and bring new regulations to protect the interests of financial markets and institutions and investors.

Generally, financial regulators include:

a) Ministry of Finance of the central government
b) Federal Reserve Bank or central bank of the country
c) Securities Exchange Commission
d) Insurance Regulatory Authority
e) Banking Regulation Authority etc.

5.5. Forms of Financial Regulations (Types of Regulations):

1. **Disclosure Regulations:** Disclosure regulations require all the market participants i.e., all financial institutions and companies which participate in the financial markets, to disclose or furnish true and fair financial statements every year. These regulations protect innocent investors, who lack knowledge about the true financial status about the market participants, from fraudulent activities of the companies and financial institutions.

2. **Regulation of financial institutions:** Regulations of financial institutions include restricting activities of financial institutions in the area of lending, borrowing and funding.

3. **Regulation of foreign participation:** These regulations specify the role of foreign firms in the domestic financial markets. These regulations may allow foreign firms to participate in the domestic markets or may limit to a certain percentage of investment only or may completely abandon the foreign participation.
4. **Financial activity regulations:** These regulations are concerned with the type of financial activities that should take place in the financial markets. For example rules of trading by the companies, types of financial assets that should be traded on the markets, not allowing insider trading etc.

Arguments over Regulations: These are comments or opinions expressed on financial regulations by the financial analysts, industry experts and economists etc.

A) Arguments in favor of Regulations:

1. **Ensures safety of the public funds:** Elaborate government rules controlling what financial institutions can and cannot do arise from multiple causes. One is a concern about the **safety of the**

public funds, especially the safety of the savings owned by millions of individuals and families. The reckless management and ultimate loss of personal savings can have devastating consequences for a family's future economic well-being and lifestyle, particularly at retirement. While savers have a responsibility to carefully evaluate the quality and stability of a financial institution before committing their savings to it, governments have long expressed a special concern for small savers who may lack the financial expertise and access to quality information necessary to be able to judge the true condition of a financial institution correctly. Moreover, many of the reasons that cause financial institutions to fail – such as fraud, embezzlement, deteriorating loans, or manipulation of the books by insiders – are often concealed from the public.

Related to the desire for safety is a government's goal of promoting public confidence in the financial system. Unless the public is confident enough in the safety and security of their funds placed under the management of financial institutions, they will withdraw their savings and thereby reduce the volume of funds available for productive investment to construct new buildings, purchase new equipment, set up new businesses, and create new jobs. The economy's growth will slow and, over time, the public's standard of living will fall.

2. **Help in the development of disadvantaged sectors:** Regulations are often justified as the most direct way to aid so called "**disadvantaged sectors"** in the economy. Examples include farmers, small traders, new home buyers, and low-income families. Governments often place high social value and give importance for up-lifting these groups by guaranteeing loans made if possible with lower interest rates. If regulations are not there, this may not be possible for the governments. Governments also check the regional imbalance with regulations.
3. **Help to check inflation:** Financial institutions have the ability of creating money in the form credit cards, checkable deposits, and other accounts that can be used to make payments for the purchase of goods and services. History has shown that the creation of money is closely associated with inflation. Thus, the regulation of money creation has become a key objective of government activity in the financial sector.
4. **Help in supporting Governments for funds and services:** Finally, the enforcement of regulations for financial institutions has arisen because of governments depend upon financial institutions for funds and important services. Governments borrow money and depend upon financial institutions to buy a substantial proportion of government IOUs. Financial institutions also aid governments in the

collection of tax revenue. Thus, governments frequently regulate financial institutions simply to ensure that these important benefits will continue to be provided to them.

Arguments against Regulations:

1. **Creates moral hazard:** Regulations cause depositors as well as financial institutions especially banks to behave less cautiously on the belief that the central bank is there to protect them in case of financial deterioration.
2. **Agency capture:** Regulators are ex-practitioners who share the same value as practitioners, and hence may be biased towards banks and insurance companies rather than money savers.
3. **Increases cost of financial services:** Adherence to regulations increase the costs to financial institutions and these costs may be passed on to clients in the form of financial services costs.
4. **Gives room for monopolies to emerge:** Regulations may restrain the entry of new companies and financial institutions. If the entry of new firms is restrained, true competition may not prevail in the markets. This situation gives room for monopolies to emerge. Because of monopolistic situation in the markets, consumers may not get quality services in spite of high cost of service they are paying.
5. **Leads to market inefficiency:** Regulations sometimes not only restrain competition but also prevents mergers and acquisitions. This allows inefficient firms to stay in the markets.

CHAPTER SIX

FINANCIAL INSTITUTIONS AND CAPITAL MARKETS IN ETHIOPIA

Chapter Objectives: - At the end of this chapter, learners are expected to:

- **Identify the formal financial institution Ethiopia.**
- **Describe financial institution in Ethiopia and banking system.**
- **Describe insurance company and other financial institution**
- **Explain micro finance institution, and informal financial system.**

Introduction

Do you think that the concepts are applicable in the context of Ethiopia?

You are right most of the concepts are applicable; however the level of sophistication and the existences of all parts of the financial system discussed in the previous units cannot be found as the country is among the many known least developed nations in the world. As discussed on unit one in this module, different writer in this subject argued that financial system development is usually linked with the entire development of a nation.

The reason for such an argument is very easy to understand, in least developed economies the financial sector is at the lowest level of development and may not have various types of institutions and markets in which different financial assets are traded and/or exchanged, as a result mobilizing and channeling the scarce financial recourses from the ultimate saver (where there is surplus fund) to ultimate investors (where there is shortage of fund) is a very difficult task.

To put it in summary it is better to see the following two paragraphs:

(1) Summarized the link between growth in financial system, specially financial market and economic growth as, “Indeed, well-functioning financial markets are a key factor in producing high economic growth, and poorly performing financial markets are one reason that many countries in the world remain desperately poor.”

(2) And it is also explained the same case using a particular emphasis on countries in Africa : African countries, particularly those in Sub-Saharan Africa (SSA) remain the only developing region in which development assistance flows exceeds private capital flows. Except a few countries (such as South Africa, Mauritius, Botswana), most of the economies in the SSA region are not still doing anything good. This phenomenon can in part be attributed to lack of a well developed financial sector (such as

capital markets, banks, and other financial institutions) and the poor economic policies and incompetent "institutions" in African countries.

To visualize consider the practical reality here in Ethiopia, as you all know in Ethiopia there exist a lucrative investment and business development opportunities in agriculture, mining, industry, construction, service and other sector along with cheap labor and attractive government incentives to investors; however, still the number and amount of investment made by local investor and the flow of foreign direct investment still not at lower level. As a cause for this low investment among other things an acute shortage of finance is raised as the dominant problem as mobilizing and channeling resources to productive sector of the economy is hardly possible in Ethiopia neither formal capital market nor well financial system. Had it been the case that, the financial system is well developed could provide alternative financing schemes other than bank credit, the number of new investment projects and expansion made by local investors as well as the flow of foreign direct investment in Ethiopia would have been more than the current level.

As far as you understood how the development of financial institution directly hampered overall economic development of least developing nation and the need for improving the financial system from the discussion made above, on the following parts of this unit you are provided with the financial system in Ethiopia: the formal and informal financial institutions and the prospects and challenges of developing financial markets.

Activities 6.1:

1. Can you explain how the overall level of growth in Ethiopian economy is affected by the level of development in the finical sector?

6.1. The Formal Financial Sector in Ethiopia

In the formal financial sector of Ethiopia banks take the dominant position financing the economy, however not large in number as well as in kind there are also non bank financial institutions mainly insurance companies and microfinance institutions. The financial system is also known with non existence formal capital market where long term equity and debt securities are traded. The Treasury bill market is the main financial market in Ethiopia in which 28 and 98 days government treasury bills are offered for auction to the general public, however the participants are mostly existing commercial banks. There is also an interbank money market in which the existing commercial banks are taking part and a foreign exchange market also functional in Ethiopia. The commodity market in which few major agricultural products are formally traded is the new phenomenon of the Ethiopian financial system.

6.1.1Financial institutions in Ethiopia

6.1.1.1. The Banking System

Modern banking in Ethiopia began in 1905 with the Bank of Abyssinia, a private company controlled by the Bank of Egypt. In 1931 it was liquidated and replaced by the Bank of Ethiopia which was the bank of issue until the Italian invasion of 1936.

During the Italian occupation, Bank of Italy banknotes formed the legal tender. Under the subsequent British occupation, Ethiopia was briefly a part of the East Africa Currency Board. In 1943, the State Bank of Ethiopia was established, with 2 departments performing the separate functions of an issuing bank and a commercial bank. In 1963, these functions were formally separated and the National Bank of Ethiopia (the central and issuing bank) and the Commercial Bank of Ethiopia were formed.

In the period to 1974, several other financial institutions emerged including the state owned:

- The Agricultural and Industrial Development Bank (established largely to finance state owned enterprises)
- The Savings and Mortgage Corporation of Ethiopia
- The imperial Savings and Home Ownership Public Association (which provided savings and loan services)

Major Private commercial institutions, many of which were foreign owned, included

- The Addis Ababa Bank
- The Banco di Napoli
- The Banco di Roma

The last two were foreign owned banks

The shift to Marxist government in 1975 brought several changes to the banking system, and saw the nationalization of private banks and insurance companies. The major 3 commercial banks were merged under the Addis Ababa Bank, and the National Bank of Ethiopia was given oversight over all financial institutions.

During the centrally planned (command) economic system, the Ethiopian financial sector as was composed of the National Bank of Ethiopia (NBE – the central bank), the Commercial Bank of Ethiopia (CBE), Housing and Savings Bank (HSB), Rural and Industrial Development Bank (AIDB), the Ethiopian Insurance Corporation (EIC) and the Pension and Social Security Authority (PSSA). All of them were state owned as private financial institutions were not allowed to operate.

The growth of the banking sector and other institutions in the derg regime was hampered as the operations of private financial institutions were banned by policy. However, the change of government in May 1991 was

followed by the introduction and implementation of the Economic Reform Program in 1992 that brought a structural change in the economy in general and in the financial system in particular. The frameworks of the measures taken under the reform program include:

a) Devaluation of the Birr

b) Introduction of foreign exchange auction

c) Restructuring and recapitalization of state owned banks and insurance companies

d) Issuing of proclamation No. 83/1994 on the Licensing and Supervision of Banking and Insurance Business which allowed the establishment of private financial institutions.

e) Banks are allowed to set lending rates freely

f) Issuing of the proclamation for the licensing and Supervision of Micro financing Business.

Currently The Bank system consists of one central bank, the NBE, twelve commercial banks: one development bank in only one is state owned. However it is a single bank the state owned commercial bank is still dominate in branch coverage as well as asset size. The other typical characteristics of the current banking system is that still the sector is closed to foreign investors as to some authors this by itself hinders the expected growth of the sector after the reform. By denying foreigners any role in the Ethiopian banking industry, the government has closed and obvious sources of much- needed capital as well as discourage foreign direct investment in other sectors as well.

6.1.1.2. Insurance companies and other financial institutions

The other types of financial institutions in Ethiopia are grouped as insurances and other finical institution in which the seconded category is mostly refers to Microfinance institutions.

Like other financial institutions the insurance industry is also under developed. Before the Marxist regime there were private insurance companies operating in the country; however, 1975 all were nationalized and form the only giant Ethiopian Insurance Corporation (EIC) in the industry. Currently EIC still remained as the giant state owned insurance companies however 10 private banks have been in operation, in the insurance industry starting from the 1992 economic reform.

6.1.1.3. Microfinance Institutions

Since the issuance of proclamation 40/1996, this provides the establishment of microfinance institutions in Ethiopia MFIs has started offering saving and credit service to the rural urban poor that has been denied access by the commercial banks. The Microfinance institutes have been growing remarkably in both urban and rural areas and there number as per the NBE Annual Report 2008/09 stood 28 having total capital and asset of birr1.71 nd 1.66 billion birr respectively.

6.1.1.4. Informal financial systems

The Ethiopian financial sector is characterized by strong culture of informal financial system. The informal financial sector has two main features (1) as the formal financial sector is less developed the money lenders are charging an extremely high amount interest on people seeking credit. (2) There are two major indigenous informal financial institutions iddir and iqqub. Iqqub in which large people are a member is a kind rotating credit and saving association. On the other hand Iddir is just like life insurance in which members are regularly paying a fixed sum of money expecting benefit from iddir upon the death of them or any one of their family member or close relatives.

Summary

The Ethiopian financial system is still under developed as a result the real economic sector cannot obtain the entire benefit that could have been obtained from the system. The financial institution in Ethiopia consists of both formal and informal financial institutions. The formal financial institutions includes banks, insurance companies and other financial institutions mainly microfinance institutions. The financial market in Ethiopia is undeveloped in which there is no capital market where long term securities are traded. The informal financial sectors that includes money lenders (which is illegal), Iddir and Iqqub are serving the large majority of the community in both rural and urban Ethiopia.

Individual Assignment (to be submitted)

Part I: Multiple Choice Questions: Select the best answer from the given alternatives (1.5 points each).

1. Which one of the following is correct about money market instruments except;
   A. Are the main sources of short-term financial requirement
   B. Are securities with maturities of more than one year
   C. Are highly liquid
   D. None of the above

2. _____is a market where outstanding financial instruments are bought and sold among investors refers
   A. Money market
   C. Primary market
   B. New Issues Market
   D. Secondary market

3. Which one of the following is false about future contracts?
   A. Requires margin payment
   C. Traded on organized markets
   B. Traded on over the counter
   D. More liquid than forwards

4. One of the following is false about the importance of financial regulations
   A. Implementation of laws
   C. Maximizing their profitability
   B. Bringing defaulters to trial
   D. Providing licenses

5. A financial market that serves geographically dispersed groups of traders who are linked to one another Via telecommunication system refers
   A. Stock market
   C. Private placement
   B. Over-the-counter
   D. Initial public offering

6. _____is a money market instrument issued by the corporations to meet their working capital requirements.
   A. Treasury Bills
   C. Commercial paper
   B. Certificates of deposits
   D. All of the above

7. ___is the method of floating new issue of financial instruments to the general public in the primary market.
   A. Primary market
   C. Private Placement
   B. Initial Public Offering
   D. Trading securities in the secondary market

8. Money market instruments are subject to price fluctuation than capital market instruments.
   A. False
   B. True

9. A market where financial instruments with maturities of less than one year are traded refers
   A. Primary market
   C. Money market
   B. Secondary market
   D. Capital market

10. Which one of the following is/are odd
   A. Treasury Bills
   C. Commercial Paper
   B. Corporate bond
   D. Certificate of deposit

11. Preferred shareholders have the preference right over common stockholders in getting dividend and capital at the time of winding-up.
   A. True
   B. False

12. Is a standardized contract between two parties to buy or sell an asset at a certain time in the future at a price agreed today?
   A. Forward Contract
   C. Option
   B. Future contracts
   D. All of the above

13. The economic function of financial intermediaries that transforms riskier assets into less risky ones are called _____.
   A. Diversification
   C. Information processing costs
   B. Maturity intermediation.
   D. Providing payment mechanisms

Part II: Answer the following Questions Accordingly

1. _____ entitles the holder to sell an underlying asset at a stated price on or before a fixed expiration date, whereas _____ entitles the holder to buy an underlying asset at a stated price on or before a fixed expiration date. And the price at which option can be exercised is called_____and the asset on which the option is created is referred to as_____ (**2 points each)**
2. **Clearly explain at least six functions of financial markets. (6 points)**
3. **List down and explain at least five main objective of financial regulations. (5 points)**
4. **Describe at least six basic activities of National Bank of Ethiopia. (6 points)**
5. **Take one component of Ethiopian financial system and describe its six main activities (with the exception of National Bank of Ethiopia). (6 points)**

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