CHAPTER ONE
FINANCIAL SYSTEMS AND MARKETS

1.1 INTRODUCTION

A system that aims at establishing and providing a regular, smooth, efficient and cost effective linkage between depositors and investors is known as financial system. The functions of financial system are to channelize the funds from the surplus units to the deficit units. An efficient financial system not only encourages savings and investments, it also efficiently allocates resources in different investment avenues and thus accelerates the rate of economic development. The financial system of a country plays a crucial role of allocating scare resources to productive uses. Its efficient functioning is of critical importance to the economy.

1.2 Concept of Financial System

Financial system is one of the industries in an economy. It is a particularly important industry that frequently has a far reaching impact on society and the economy. But if its occult trappings are stripped it is like any industry, a group of firms that combine factors of production (land, labor and capital) under the general direction of a management team and produce a product or cluster of products for sale in financial market. The product of the financial industry is not tangible rather it is an intangible service.

Financial industry as a whole, produces a wide range of services but all these services are related directly or indirectly to assets and liabilities, that is, claims on people, organization, institutions, companies and government. These are the forms in which people accumulate much of their wealth. In simple terms we are referring to paper assets; shares, debentures, deposits, mortgages and other securities.

Thus, financial system performs certain essential functions for the economy, including maintenance of payment system (through which purchasing power is transferred from one participant to another i.e. from buyer to seller), collection and allocation of the savings of society, and creation of a variety of stores of wealth to suit the preferences of

savers. This brief sketch of functions of financial system gives us its general idea. Performance of these functions pre-supposes the existence of financial assets, financial institutions (intermediaries) and financial markets. Combinations of these three constitute financial system.

To interpret the financial system and evaluate its performance, it requires an understanding of its functions in an economy. Financial system in fact has the following functions:

a) Capital formation function

This is the process of diversion of the productive capacity of the economy to the making of capital goods which increase future productive capacity. Process of capital formation involves three distinct but inter-dependent activities: savings, finance and investment.

b) Allocative function

The financial system in process of capital formation has to decide as to how capital is to be used. Poor choice in deciding which economic projects are to be embarked upon, leads to wastage of resources. The better the quality of judgment exercised in allocation, the more rapid economic progress will be.

c) Service function

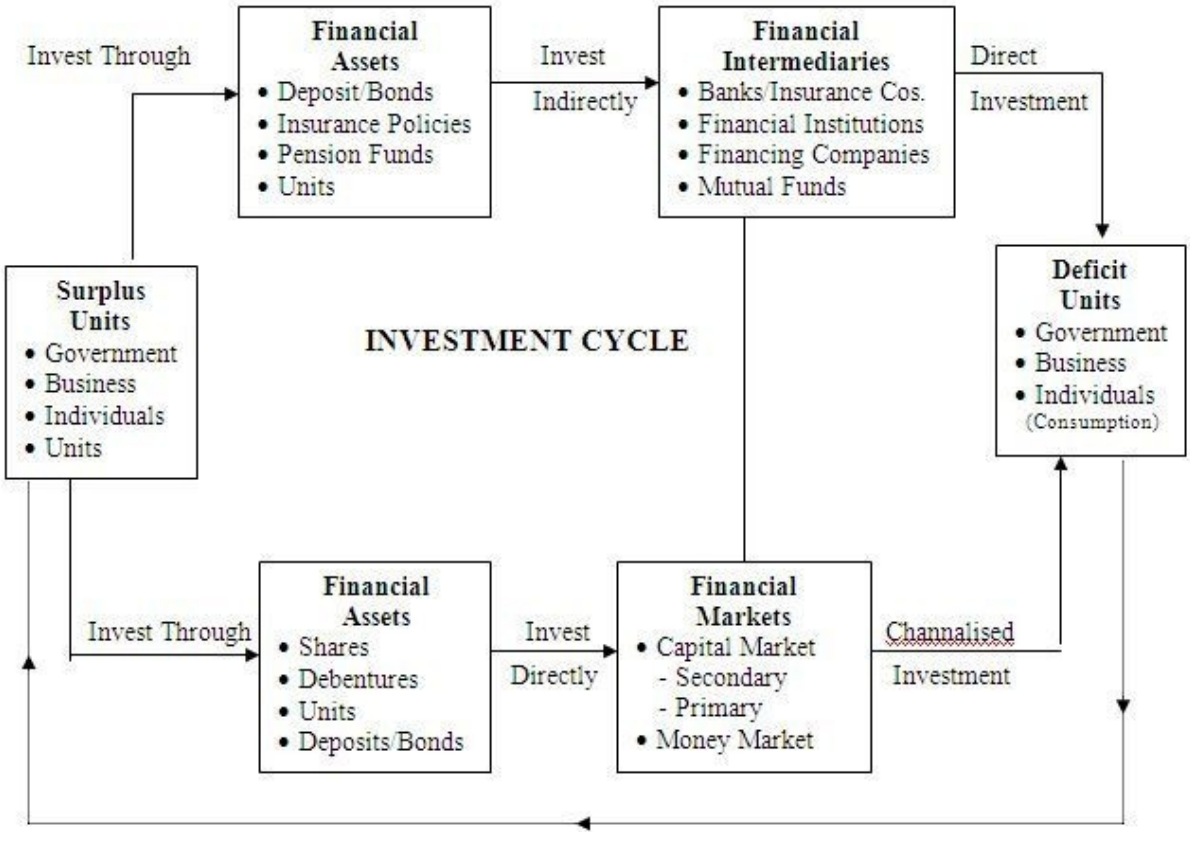
An effective financial system offers the economic segments services in form of providing opportunities to hold wealth in secured and convenient way so that they pay a positive rate of return. The availability of these services of the financial system contributes importantly, if in an intangible way, to the satisfaction of consumers.

Finance is the flowing blood in the body of financial system. It is a link between savings and investments by providing the mechanism through which savings (claims to resources) of savers are pooled and are put into the hands of those able and willing to invest by financial intermediaries. Financial intermediaries create assets that have property of liquidity or convertibility into a fixed amount of money on demand. Liquidity refers to cash, money and nearness to cash. Liquidity is the most significant aspect of

financial intermediation while holding essentially illiquid assets themselves, intermediaries are able to create liquid assets to be held by the ultimate savers in the economy. Illiquid assets refer to credit creation. In Ethiopian economy National Bank (NBE) performs the function of cash creation where as financial institutions create credit.

Flow of finance in the system takes place between two segments i.e. Surplus Unit and Deficit Unit as shown in Chart I. Surplus unit, having excess of income over current consumption can be public surplus unit or private surplus unit. The former have savings through normal budgetary channels and the retained earnings of public sector enterprises. The latter refer to household savings and non-corporate sector savings but corporate sector savings are dominating in volume. Corporate sector savings depend mainly on profitability and distribution policy of the enterprise. On the other hand size of household savings is a function of capacity, ability and willingness of the people to save which in return depends on numerous factors like psychological, social, and economic. On the other end of flow of fund, we have deficit unit which seeks funds for investment or consumption purposes.

WORKING OF FINANCIAL SYSTEM



Their investment and sometimes consumption pattern is outcome of their strategy about future earnings. This in turn is a function of existing stock of capital, state of industry and economy, government policies, potentials of opportunity for new investments. Government and business sector are the major borrowers whose investment normally surpasses their savings.

The role of financial system is thus, to promote savings and their channelization in the economy through financial assets that are more productive than the physical assets. The fund flows in an efficient financial system from less productive to more productive purpose, from unproductive/less productive activities to productive activities and from idle balance to active balances. Thus, ultimate objective is to add value through flow of fund in the system. This means that the operations of financial system are vital to the pace and structure of the growth of the economy. However we must not forget that some of the transfers are to households to acquire consumer goods and services and to government for assorted purposes, including collective consumption. This system plays a significant role in accelerating the rate of economic development which leads to improving general standard of living and higher social welfare.

There is another way to look at financial system. Financial system makes it easier to trade. People trade because they differ in what they have and in what they want. Trade may be ***trade in lending*** (giving up purchasing power now in exchange for purchasing power in the future), ***trade in risk*** (reducing economic burden of risks through insurance and forward transactions) and ***trade in goods***. Trade benefits everyone. Thus, financial system is concerned with every one and every one is interacting with the system, consciously or unconsciously. Financial system makes trade easier through its *technology of payments* (whether through credit or cash), ***technology of lending*** (through financial market or direct lending) and ***technology of risk*** (taking up insurance policy or contracting in futures market). Technology basically refers to network of institutions, markets and instruments of financial system.

Financial system is changing very fast. Changes are due to two types of innovations. First category of innovation facilitates serving existing needs in new ways. An example is leasing, which enables the user to use the asset without buying it. Second category of innovation uses existing technology to serve new needs. Securitizations of financial assets is an example here. Funds extended in form of loans are tied up. To make use of such tied up funds these financial assets are securitized and liquid resources are raised to extend more loans.

Another dimension of financial system in an economy is the government. It is the government which lays down the rules of the game for financial system i.e. directs how the markets operate, which are permissible instruments and what are operating constraints of financial intermediaries. Intervention of government has two facets: one is ***ensuring efficiency*** in the system and second is providing ***stability and building confidence***. A financial system is said to be efficient when the sum of all gains from lending, payment and trade in risk are as large as they can be. An immature financial system needs higher degree of intervention and vice-versa. Government also intervenes in financial system to provide its stability in absence of which the system breaks down and it can be disastrous. There has to be a limit to governmental intervention. Excessive intervention mars innovations.

Innovations in financial system are the result of attempts to get out of the restrictive regulations. It is essential to appreciate role of financial system or sector in an economy. As the economy grows, the set up and operations of these systems changes. The major role as discussed earlier has been resources mobilization. An efficient financial system facilitates raising huge amount through even small contributions from large number of investors. A firm can raise Birr. 100 million through issue of 10 million shares being subscribed by investors with minimum contributions of Birr. 2000 being issue of minimum 200 shares of Birr. 10 each or through a mutual fund or financial institutions. Large amount can be mobilized from small investors. The instruments issued to raise fund may have maturity patterns which are different for the investor’s need. To over come such situation secondary markets emerge as special part of financial system. To

minimize the risk associated with investment, financial system offers a wide variety of investment opportunities enabling investor to diversify their investment hence risk.

1.3 Financial Concepts

An understanding of the financial system requires an understanding of the following concepts:

(i) Financial assets

(ii) Financial intermediaries

(iii) Financial markets

(iv) Financial rates of return

(v) Financial instruments

1.3.1 Financial Assets

In any financial transaction, there should be a creation or transfer of financial assets. Hence, the basic product of any financial system is the financial asset. A financial asset is one which is used for production or consumption or for further creation of assets. For instance, a buys equity shares and these shares are financial assets since they earn income in future.

In this context, one must know the distinction between financial assets and physical assets. Unlike financial assets, physical assets are not useful for further production of goods or for earning income. For example X purchases land and building, or gold or silver. These are physical assets since they cannot be used for further production. Many physical assets are useful for consumption only.

It is interesting to note that the objective of investment decides the nature of the asset. For instance if a building is bought for residence purpose, it becomes a physical asset. If the same is bought for hiring, it becomes a financial asset.

1.3.2 Classification of Financial Assets

Financial assets can be classified differently under different circumstances. One such classification is :

(i) Marketable assets

(ii) Non-marketable assets

Marketable Assets: Marketable assets are those which can be easily transferred from one person to another without much hindrance. Examples are shares of listed companies, Government securities, bonds of public sector undertakings etc.

Non-Marketable Assets: On the other hand, if the assets cannot be transferred easily, they come under this category. Examples are bank deposits, provident funds, pension funds, National Savings Certificates, insurance policies etc.

Yet another classification is as follows:

(i) Money or cash asset

(ii) Debt asset

(iii) Stock asset

Cash Asset: In Ethiopia, all coins and currency notes are issued by the NBE and the Ministry of Finance, Government of Ethiopia. Besides, commercial banks can also create money by means of creating credit. When loans are sanctioned, liquid cash is not granted. Instead an account is opened in the borrower's name and a deposit is created. It is also a kind of money asset.

Debt Asset: Debt asset is issued by a variety of organizations for the purpose of raising their debt capital. Debt capital entails a fixed repayment schedule with regard to interest and principal. There are different ways of raising debt capital. Examples are issue of debentures, raising of term loans, working capital advance, etc.

Stock Asset: Stock is issued by business organizations for the purpose of raising their fixed capital. There are two types of stock namely equity and preference. Equity shareholders are the real owners of the business and they enjoy the fruits of ownership and at the same time they bear the risk as well. Preference shareholders, on the other hand get a fixed rate of dividend (as in the case of debt asset) and at the same time they retain some characteristics of equity.

1.3.3 Financial Intermediaries

The term financial intermediary includes all kinds of organizations which intermediate and facilitate financial transactions of both individual and corporate customers. Thus, it refers to all kinds of financial institutions and investing institutions which facilitate financial transactions in financial markets. They may be in the organized sector or in the unorganized sector. They may also be classified into two:

(i) Capital market intermediaries

(ii) Money market intermediaries

Capital Market Intermediaries: These intermediaries mainly provide long term funds to individuals and corporate customers. They consist of term lending institutions like financial corporations and investing institutions.

Money Market Intermediaries : Money market intermediaries supply only short term funds to individuals and corporate customers. They consist commercial banks, co-operative banks, etc.

1.3.4 Financial Markets

Generally speaking, there is no specific place or location to indicate a financial market. Wherever a financial transaction takes place, it is deemed to have taken place in the financial market. Hence financial markets are pervasive in nature since financial transactions are themselves very pervasive throughout the economic system. For instance, issue of equity shares, granting of loan by term lending institutions, deposit of money into a bank, purchase of debentures, sale of shares and so on.

However, financial markets can be referred to as those centers and arrangements which facilitate buying and selling of financial assets, claims and services. Sometimes, we do find the existence of a specific place or location for a financial market as in the case of stock exchange.

Classification of Financial Markets

(a)Unorganized Markets

In these markets there are a number of money lenders, indigenous bankers, traders etc., who lend money to the public. Indigenous bankers also collect deposits from the public, whose activities are not controlled by the NBE.

(b)Organized Markets

In the organized markets, there are standardized rules and regulations governing their financial dealings. There is also a high degree of institutionalization and instrumentalisation. These markets are subject to strict supervision and control by the NBE or other regulatory bodies.

These organized markets can be further classified into two. They are :

(i) Capital market

(ii) Money market

Capital Market: The capital market is a market for financial assets which have a long or indefinite maturity. Generally, it deals with long term securities which have a maturity period of above one year. Capital market may be further divided into three namely:

(i) Industrial securities market

(ii) Government securities market and

(iii) Long term loans market

I. Industrial securities market

As the very name implies, it is a market for industrial securities namely: (i) Equity shares or ordinary shares, (ii) Preference shares, and (iii) Debentures or bonds. It is a market where industrial concerns raise their capital or debt by issuing appropriate instruments. It can be further subdivided into two. They are :

(i) Primary market or new issue market

(ii) Secondary market or Stock exchange

Primary Market: Primary market is a market for new issues or new financial claims. Hence it is also called New Issue market. The primary market deals with those securities which are issued to the public for the first time. In the primary market, borrowers exchange new financial securities for long term funds. Thus, primary market facilitates capital formation.

There are three ways by which a company may raise capital in a primary market. They are:

(i) Public issue

(ii) Rights issue

(iii) Private placement

The most common method of raising capital by new companies is through sale of securities to the public. It is called public issue. When an existing company wants to raise additional capital, securities are first offered to the existing shareholders on a pre-emptive basis. It is called rights issue. Private placement is a way of selling securities privately to a small group of investors.

Secondary Market: Secondary market is a market for secondary sale of securities. In other words, securities which have already passed through the new issue market are traded in this market. Generally, such securities are quoted in the stock exchange and it provides a continuous and regular market for buying and selling of securities.

II. Government Securities Market

It is otherwise called Gilt-Edged securities market. It is a market where Government securities are traded. In Ethiopia there are Government Securities-short term and long term. Long term securities are traded in this market while short term securities are traded in the money market.

The secondary market for these securities is very narrow since most of the institutional investors tend to retain these securities until maturity.

The Government securities are in many forms. These are generally:

(i) Promissory Notes

(ii) Bearer Bonds which can be discounted.

Government securities offer a good source of raising inexpensive finance for the Government exchequer and the interest on these securities influences the prices and yields in this market. Hence this market also plays a vital role in monetary management.

III. Long Term Loans Market

Development banks and commercial banks play a significant role in this market by supplying long term loans to corporate customers. Long term loans market may further be classified into:

(i) Term loans market

(ii) Mortgages market

(iii) Financial Guarantees market

Term Loans Market: In Ethiopia, many industrial financing institutions have been created by the Government both at the national and regional levels to supply long term and medium term loans to corporate customers directly as well as indirectly. These development banks dominate the industrial finance in Ethiopia. Institutions like DBE, CBBE, and other state financial corporations come under this category. These institutions meet the growing and varied long-term financial requirements of industries by supplying long term loans. They also help in identifying investment opportunities, encourage new entrepreneurs and support modernization efforts.

Mortgages Market : The mortgages market refers to those centers which supply mortgage loan mainly to individual customers. A mortgage loan is a loan against the security of immovable property like real estate. The transfer of interest in a specific immovable property to secure a loan is called mortgage. This mortgage may be equitable mortgage or legal one. Again it may be a first charge or second charge. Equitable mortgage is created by a mere deposit of title deeds to properties as security whereas in the case of legal mortgage the title in the property is legally transferred to the lender by the borrower. Legal mortgage is less risky.

Similarly, in the first charge, the mortgager transfers his interest in the specific property to the mortgagee as security. When the property in question is already mortgaged once to another creditor, it becomes a second charge when it is subsequently mortgaged to somebody else. The mortgagee can also further transfer his interest in the mortgaged property to another. In such a case, it is called a sub-mortgage.

The mortgage market may have primary market as well secondary market. The primary market consists of original extension of credit and secondary market has sales and re-sales of existing mortgages at prevailing prices.

In Ethiopia residential mortgages are the most common ones. The Business and Construction Bank (CBBE) play a dominant role in financing residential projects.
Financial Guarantees Market : A Guarantee market is a center where finance is provided against the guarantee of a reputed person in the financial circle. Guarantee is a contract to discharge the liability of a third party in case of his default. Guarantee acts as a security from the creditor's point of view. In case the borrower fails to repay the loan, the liability falls on the shoulders of the guarantor. Hence the guarantor must be known to both the borrower and the lender and he must have the means to discharge his liability.

Though there are many types of guarantees, the common forms are : (i) Performance Guarantee, and (ii) Financial Guarantee. Performance guarantees cover the payment of earnest money, retention money, advance payments, non-completion of contracts etc. On

the other hand financial guarantees cover only financial contracts. In Ethiopia, the market for financial guarantees is not yet organized.

Importance of Capital Market

Absence of capital market acts as a deferent factor to capital formation and economic growth. Resources would remain idle if finance are not funneled through capital market. The importance of capital market can be briefly summarized as follows:

(i) The capital market serves as an important source for the productive use of the economy's savings. It mobilizes the savings of the people for further investment and thus avoids their wastage in unproductive uses.

(ii) It provides incentives to saving and facilitates capital formation by offering suitable rates of interest as the price of capital.

(iii) It provides an avenue for investors, particularly the household sector to invest in financial assets which are more productive than physical assets.

(iv) It facilitates increase in production and productivity in the economy and thus enhances the economic welfare of the society. Thus, it facilitates "the movement of stream of command over capital to the point of highest yield" towards those who can apply them productively and profitably to enhance the national income in the aggregate.

(v) The operations of different institutions in the capital market induce economic growth. They give quantitative and qualitative directions to the flow of funds and bring about rational allocation of scarce resources.

(vi) A healthy capital market consisting of expert intermediaries promotes stability in values of securities representing capital funds.

(vii) Moreover, it serves as an important source for technological up gradation in the industrial sector by utilizing the funds invested by the public.

Thus, a capital market serves as an important link between those who save and those who aspire to invest these savings.

Money Market

Money market is a market for dealing with financial assets and securities which have a maturity period of upto one year. In other words, it is a market for purely short term funds. The money market may be subdivided into four. They are:

(i) Call money market

(ii) Commercial bills market

(iii) Treasury bills market

(iv) Short term loan market

Call Money Market: The call money market is a market for extremely short period loans say one day to fourteen days. So, it is highly liquid. The loans are repayable on demand at the option of either the lender or the borrower.

Commercial Bills Market: It is a market for bills of exchange arising out of genuine trade transactions. In the case of credit sale, the seller may draw a bill of exchange on the buyer. The buyer accepts such a bill promising to pay at a later date specified in the bill. The seller need not wait until the due date of the bill. Instead, he can get immediate payment by discounting the bill.

Treasury Bills Market: It is a market for treasury bills which have 'short-term' maturity. A treasury bill is a promissory note or a finance bill issued by the Government. It is highly liquid because its repayment is guaranteed by the Government. It is an important instrument for short term borrowing of the Government. There are two types of treasury bills namely (i) ordinary or regular and (ii) adhoc treasury bills popularly known as 'adhocs'.

Ordinary treasury bills are issued to the public, banks and other financial institutions with a view to raising resources for the Central Government to meet its short term financial needs. Adhoc treasury bills are issued in favor of the NBE only. They are not sold through tender or auction. They can be purchased by the NBE only. Adhocs are not

marketable in Ethiopia. Financial intermediaries can park their temporary surpluses in these instruments and earn income.

Short-Term Loan Market: It is a market where short-term loans are given to corporate customers for meeting their working capital requirements. Commercial banks play a significant role in this market. Commercial banks provide short term loans in the form of cash credit and overdraft. Overdraft facility is mainly given to business people whereas cash credit is given to industrialists. Overdraft is purely a temporary accommodation and it is given in the current account itself. But cash credit is for a period of one year and it is sanctioned in a separate account.

Foreign Exchange Market

The term foreign exchange refers to the process of converting home currencies into foreign currencies and vice versa. "Foreign exchange is the system or process of converting one national currency into another, and of transferring money from one country to another".

The market where foreign exchange transactions take place is called a foreign exchange market. It does not refer to a market place in the physical sense of the term. In fact, it consists of a number of dealers, banks and brokers engaged in the business of buying and selling foreign exchange. It also includes the central bank of each country and the treasury authorities who enter into this market as controlling authorities.

Functions: The most important functions of this market are :

(i) To make necessary arrangements to transfer purchasing power from one country to another.

(ii) To provide adequate credit facilities for the promotion of foreign trade.

(iii) To cover foreign exchange risks by providing hedging facilities.

The foreign exchange business has a three-tiered structure consisting of:

(i) Trading between banks and their commercial customers.

(ii) Trading between banks through authorized brokers.

(iii) Trading with banks abroad.

Brokers play a significant role in the foreign exchange market. Apart from authorized dealers, the NBE has permitted licensed hotels and individuals (known as Authorised Money Changers) to deal in foreign exchange business.

1.3.5 Financial Rates of Return

Most households in Ethiopia still prefer to invest on physical assets like land, buildings, gold, silver etc. But, studies have shown that investment in financial assets like equities in capital market fetches more return than investments on gold. It is imperative that one should have some basic knowledge about the rate of return on financial assets also.

The return on Government securities and bonds are comparatively less than on corporate securities due to lower risk involved therein. The Government and the NBE determine the interest rates on Government securities. Thus, the interest rates are administered and controlled. The peculiar feature of the interest rate structure is that the interest rates do not reflect the free market forces. They do not reflect the scarcity value of capital in the country also. Most of these rates are fixed on an ad hoc basis depending upon the credit and monetary policy of the Government.

Generally the interest rate policy of the Government is designed to achieve the following:

(i) To enable the Government to borrow comparatively cheaply.

(ii) To ensure stability in the macro-economic system.

(iii) To support certain sectors through preferential lending rates.

(iv) To mobilize substantial savings in the economy.

The interest rate structure for bank deposits and bank credits is also determined by the NBE. The interest rate structure should allocate scarce capital between alternative uses. Unfortunately, in Ethiopia the administered interest rate policy of the Government fails to perform the role of allocating scarce sources between alternative uses.

Thus, all attempts are being taken to adopt a realistic interest rate policy so as to give positive return in real terms adjusted for inflation. The proper functioning of any financial system requires a good interest rate structure.

1.3.6 Financial Instruments

Financial instruments refer to those documents which represent financial claims on assets. As discussed earlier, financial asset refers to a claim to the repayment of a certain sum of money at the end of a specified period together with interest or dividend. Examples are Bill of exchange, Promissory Note, Treasury Bill, Government Bond, Deposit Receipt, Share, Debenture, etc. Financial instruments can also be called financial securities. Financial securities can be classified into:

(i) Primary or direct securities.

(ii) Secondary or indirect securities.

Primary Securities: These are securities directly issued by the ultimate investors to the ultimate savers, e.g. shares and debentures issued directly to the public.

Secondary Securities: These are securities issued by some intermediaries called financial intermediaries to the ultimate savers.

Again these securities may be classified on the basis of duration as follows :

(i) Short-term securities

(ii) Medium-term securities

(iii) Long-term securities

Short-term securities are those which mature within a period of one year. For example, Bill of Exchange, Treasury Bill, etc. Medium-term securities are those which have a maturity period ranging between one and five years like Debentures maturing within a

period of 5 years. Long-term securities are those which have a maturity period of more than five years. For example, Government Bonds maturing after 10 years.

Characteristic Features of Financial Instruments

Generally speaking, financial instruments possess the following characteristic features:

(i) Most of the instruments can be easily transferred from one hand to another without many cumbersome formalities.

(ii) They have a ready market i.e., they can be bought and sold frequently and thus trading in these securities is made possible.

(iii) They possess liquidity, i.e., some instruments can be converted into cash readily. For instance, a bill of exchange can be converted into cash readily by means of discounting and rediscounting.

(iv) Most of the securities possess security value, i.e., they can be given as security for the purpose of raising loans.

(v) Some securities enjoy tax status, i.e., investment in these securities are exempted from Income Tax, Wealth Tax, etc., subject to certain limits.

(vi) They carry risk in the sense that there is uncertainty with regard to payment of principal or interest or dividend as the case may be.

(vii) These instruments facilitate future trading so as to cover risks due to price fluctuations, interest rate fluctuations etc.

(viii) These instruments involve less handling costs since expenses involved in buying and selling these securities are generally much less.

(ix) The return on these instruments is directly in proportion to the risk undertaken.

(x) These instruments may be short-term or medium term or long-term depending upon the maturity period of these instruments.

1.4 Summary

A system that aim at establishing and providing a regular smooth, efficient and cost effective linkage between depositors and investors in known as financial system. A financial system companies of financial institutions, financial services, financial markets and financial instruments. These constituents are closely related and work in conjunction with each others. A financial asset is one which is used for production or consumption or for further creation of assets. Financial intermediaries include all kinds of financial institutions and investing institutions which facilitate financial transaction in financial markets. Financial markets facilitate buying and selling of financial claims, assets, services and securities. Financial market is classified into organized and unorganized markets. Financial claims such as financial assets and securities dealt in a financial market are referred to as financial instruments. Financial instruments can be classified into primary and secondary securities. With the adoption of the theory of mixed economy, the development of the financial system took a different turn as to fulfill the socio-economic and political objectives. The Government has started creating new financial institutions so that the flow of the finance might be in the right direction.

1.5 Derivative markets

A derivative instrument is an asset whose performance is based on (derived from) the behavior of the value of an underlying asset (‘***underlying***’). Most common underlings are commodities, shares, bonds, share indices, currencies and interest rates. Derivatives are ***contracts*** which give the right, and sometimes the obligation, to buy or sell a quantity of the underlying, or benefit in another way from a rise or fall in the value of the underlying. It is the legal right that becomes an asset, with its own value, and it is the right that is purchased or sold.

Derivatives can be used either to reduce risks or to speculate. Suppose an importer's costs rise and its net income falls when the dollar falls relative to the yen. That company could reduce its risk by purchasing derivatives whose values increase when the dollar declines. This is a *hedging operation*, and its purpose is to reduce risk exposure. Speculation, on the other hand, is done in the hope of high returns, but it raises risk exposure.

Traders are always trying to find ways to get a higher return with less risk. Therefore, innovative derivatives of basic stocks and bonds are often developed. Stock options allow you to trade in stocks without actually buying them upfront. For a small fee, you can buy a call option to purchase the stock at a certain date at a certain price. If the stock price goes up, you exercise your option and purchase the stock at your lower negotiated price, then immediately resell it for the higher actual price.

A put option gives you the right to sell the stock at an agreed upon price. If the stock price is actually lower that day, you buy it and make a profit by selling it at the agreed upon, higher price. Futures contracts are derivatives based on commodities, such as oil, pork bellies, or even currencies. Like options, you pay a small fee (called a margin) to get the right to buy or sell the commodities for an agreed-upon price in the future. However, futures are more dangerous because, rather than buying options that you can choose to ignore, you are entering into an actual contract that you must fulfill.

Asset-backed securities are derivatives whose values are based on the returns from bundles of underlying assets, usually bonds. The most familiar are mortgage-backed securities, which helped create the subprime mortgage crisis. Others include asset-backed commercial paper, which are corporate loan bundles backed by assets such as commercial real estate or autos. Collateralized debt obligations (CDOs) take these securities and divide them into tranches, or slices, with similar risk. Auction-rate securities were derivatives whose values were determined by weekly auctions of corporate bonds. Investors thought the returns were as safe as the underlying bonds.

However, the securities' returns were actually set according to weekly or monthly auctions run by broker-dealers. Since this was a more shallow market, the securities were actually more risky than the bonds themselves.

Review Exercises

1. Identify three different ways capital is transferred between savers and borrowers.
2. Distinguish between physical asset and financial asset markets.
3. Distinguish between money and capital markets.
4. Why are financial markets essential for a healthy economy and economic growth?
5. What is a derivative, and how is its value related to that of an “underlying asset”?
6. Define financial instruments? What are their characteristics?
7. Discuss the classification financial markets and explain the features of each market.
8. Indicate whether the following instruments are examples of money market or capital market transactions.
    a. Treasury bills
    b. Long-term corporate bonds
    c. Common stocks
    d. Preferred stocks
    e. Dealer commercial paper

CHAPTER TWO
Overview of Market Participants and Financial Innovation

2.1 Financial Intermediaries

The term financial intermediary includes all kinds of organizations which intermediate and facilitate financial transactions of both individual and corporate customers. Thus, it refers to all kinds of financial institutions and investing institutions which facilitate financial transactions in financial markets. They may be in the organized sector or in the unorganized sector. They may also be classified into two:

(i) Capital market intermediaries

(ii) Money market intermediaries

Capital Market Intermediaries: These intermediaries mainly provide long term funds to individuals and corporate customers. They consist of term lending institutions like financial corporations and investing institutions.

Money Market Intermediaries: Money market intermediaries supply only short term funds to individuals and corporate customers. They consist of commercial banks, co-operative banks, etc.

2.2 The role of financial intermediaries

Financial intermediaries are predominantly concerned with recycling of funds from surplus to deficit agents; that is facilitating the transfer of funds from those that wish to save to those that wish to borrow. A financial market is defined as a market where financial assets are traded and exchanged. Financial assets are predominantly exchanged for other financial assets or money; however, they can and frequently are exchange for commodities or even good and services.

The most important function of a financial intermediary is to assist in the transfer of funds from surplus agents to deficit agents, and in assisting this process a financial intermediary undertakes several economic functions:

1. The provisions of a payments mechanism;
2. Maturity transformations;
3. Risk transformations;
4. Liquidity provisions; and
5. Reduction of transaction, information and search costs.

These are briefly discussed below

2.2.1 Provision of a payments mechanism role

In many industrialized countries, most payments no longer involved the direct exchange of cash between agents. Certain financial intermediaries, especially commercial banks, facilitate the payments of funds by non-cash means such as cheques, credit cards, electronic transfers, debit cards and so forth. Increasingly many of these services are offered by non-bank financial intermediaries that can compete both on price and quality with commercial banks. There is little doubt that the provision of an effective payments system is essential to the health of a modern economy. These days economic transactions involve very significant transfers not only between domestic agents but also between domestic and foreign residents.

2.2.2 Maturity transformation role

Surplus agents typically wish to have their surplus funds redeemable at short notice, while deficit agents typically wish to borrow funds over much longer-term horizons. A financial intermediary such as a commercial bank typically accepts investors' fund on a short-term basis of less than a year, and transforms these liabilities into longer-term assets such as loans. The process of converting short-term liabilities into longer- term assets is known as maturity transformation.

One of the most important reasons as to why financial institutions are able to perform maturity transformation is because they deal with a large number of deficit and surplus agents. This means that their inflow and outflow of funds is fairly predictable, so they can operate with a relatively low level of liquid reserves.

The maturity transformation process is vital since it provides both surplus and deficit agents with a greater choice in how to save and borrow funds. In the absence of financial intermediary there would less exchange between surplus and deficit agents since the short-term liquidity requirements of surplus agents would fail to coincide with the long-term capital requirements of deficit agents. Were there no financial intermediaries, it is likely that the borrowing requirements of deficit agents could be met only by paying a higher rate of interest to induce agents with surplus funds to lend long. Consequently, financial intermediaries help to increase fund transfers and reduce the cost of long-term capital for an economy.

2.2.3 Risk transformation role

Agents with surplus funds typically have a high preference for safety in their investments; they often require complete protection for their capital although they may be prepared to accept some degree of risk if there are sufficient prospective returns to compensate. This contrasts with the requirements of many borrowers who require finance for inherently risky investment project. A surplus agent could lend directly to a deficit to a deficit agent; however, this would leave the surplus agent heavily exposed to the to the risk of default by the deficit agent.

In principle the problem could be overcome by lending to a number of deficit agents, however , for the vast majority of surplus agents this is not a feasible option as the sums of money they possess are too small to make diversification a realistic cost-effective option . In the absence of financial intermediaries, firms might find it very difficult to obtain the risk finance that they require, as savers would be reluctant to put their funds at risk. Financial intermediaries can play an important part in transforming the low risk requirement of savers into meeting the risk- finance requirements of firms.

A financial intermediary that receives funds from many surplus agents can pool these funds for on-lending to a large number of deficit agents. Via this diversification of funds a financial intermediary can considerably reduce its risk exposure. Effective risk

reduction is achieved by making a relatively large number of small loans rather than a small number of large loans.

In addition a financial intermediary will tend to lend funds to different sectors of the economy, so that it will not be unduly affected by problems in any particular sector. Another way in which financial institutions can reduce risk is though specialist risk management. Since financial intermediaries have considerable experience in dealing with borrowers, they are then better equipped than individual agents to screen out high-risk cases. A financial intermediary can obtain information on the purpose of the loan and better relate the size of the loan to the ability to repay. In addition, a financial intermediary is likely to be more skilled in charging an appropriate interest rate to compensate for the risk involved.

Financial intermediaries also have their own capital base which provides investors with a protective barrier for their saving should there be losses incurred on the institution's activities. Intermediaries maintain, or are required to maintain, some ratio of capital to their asst portfolio, and this ratio will usually rise according to the friskiness of their asset portfolio.

Another important role played by financial institutions in relation to risk a management is formal insurance provision. Most economic agents are concerned about the effects of unforeseen quite low probability events inflicting a significant negative effect on their wealth and /or income stream. Hence, they are prepared to pay a fee premium to an agency prepared to insure them to some degree against such eventualities. Although the fee premium will exceed the expected payout (that is the payout times the probability of the insured-against even occurring), risk-averse economic agents are usually prepared to undertake some degree of insurance protection provided the price is reasonable

2.2.4 Liquidity provision role

Surplus agents usually require a high degree of liquidity; that is the ability to convert their saving in financial assets into money at short notice at low cost or a fair price. The provision of liquidity is one of the key tasks performed by financial intermediaries and financial markets. Many savings assts, for example corporate and government bonds, have a long term to maturity and in the case of equity no term the maturity. Surplus agent would not be willing to hold these assets unless they also have the ability to on-sell them at shot notice at a fair market price.

Financial intermediaries and market bring together numerous potential buyers and sellers of a financial asset, enabling those who wish to sell to obtain a best price according to market conditions. In addition to agents wishing to buy, some financial intermediaries known as market-makers will continuously quote prices at which they will either buy (bid price) to sell (the ask price) a security. Competition between market –makers for business helps ensure that savers are able to sell their securities speedily, and with confidence that they are not being taken advantage of.

In the case of deposit –accepting institutions such as bank and building societies, savers demand highly liquid access to their savings. Deposit-taking institutions ensure almost instant access to their funds, although penalties are applied if savings are withdrawn before a deposit reaches its term to maturity. Deposit-accepting institutions are able to provide liquidity by maintaining liquid balances after forecasting their net outflow/ inflow of funds. Since they have a large number of depositors, the withdrawal of funds is reasonably predictable and the inflow of fund is also reasonably predictable based on the maturity structure of the loan portfolio. Deposit-taking institutions are therefore able to ensure liquidity provision without maintaining large balances in relation to total deposits.

2.2.5 Reduction of contacting, search and information costs role

Most surplus agents lack the time, skill and resources to find and analyse prospective deficit agents and draw up and enforce the necessary legal contracts. Financial intermediaries provide a convenient place of business for both borrows and lenders of

funds. In addition, financial intermediaries benefit from considerable economies of scale; because they are looking for many prospective investment opportunities, they can devote resources to recruiting and training high-quality staff to assist in the process of finding suitable deficit agents.

They draw up standardized contracts and can devote the time and resources to monitor and enforce them, through reducing the search, contracting and information costs, a financial intermediary reduce the costs and risk for surplus agents and also the borrowing costs for deficit agents. Both borrowers and lenders of funds can feel confident that the intermediary will fulfil its side of the contract, whereas less confidence would exist in direct contracts between surplus and deficit agents.

There can be little doubt that maturity transformation, risk transformation, liquidity provision, pricing , reduction in transaction, information and search costs are important roles preformed by financial intermediaries. They encourage greater amounts of saving and investment over the longer term. It is true that greater deregulation can in general improve the access of people to credit facilities and reduce saving in the short term, but over the longer term the better functioning of financial intermediaries encourages people to save by increasing the rage of products available so that saver's preferences are better met.

Although it has evolved over time to reflect changing circumstances in the economy and markets, in its simplest form, asset/liability management entails managing assets and cash inflows to satisfy various obligations. It is a form of risk management, whereby one endeavors to mitigate or hedge the risk of failing to meet these obligations. Success in the process may increase profitability to the organization, in addition to managing risk.

Some practitioners prefer the phrase "surplus optimization" as better to explain the need

to maximize assets available to meet increasingly complex liabilities. Alternatively, surplus is known as net worth, or the difference between the market value of assets and the present value of the liabilities and their relationship. The discipline is conducted from a long-term perspective that manages risks arising from the interaction of assets and liabilities; as such, it is more strategic than tactical.

A monthly mortgage is a common example of a liability that a consumer has to fund out of his or her current cash inflow. Each month, the individual faces the task of having sufficient assets to pay that mortgage. Financial institutions have similar challenges, but on a much more complex scale. For example, a pension plan must satisfy contractually established benefit payments to retirees, while at the same time sustain an asset base through prudent asset allocation and risk monitoring, from which to generate these ongoing payments.

As you can assume, the liabilities of financial institutions can be quite complex and varied. The challenge is to understand their characteristics and structure assets in such a way as to be able to satisfy them. This may result in an asset allocation that would appear suboptimal (if only assets were being considered). Asset and liabilities need to be thought of as intricately intertwined, rather than separate concepts. Here are some examples of the asset/liability challenges of various financial institutions and individuals.

Bank, as financial intermediaries between the customer and the endeavor that it is looking to fund, banks take in deposits on which they are obligated to pay interest (liabilities) and make loans on which they receive interest (assets). Besides loans, securities portfolios comprise the assets of banks. Banks need to manage interest rate risk, which can lead to a mismatch of assets and liabilities.

A bank's net interest margin – the difference between the rate that it pays on deposits and the rate that it receives on its assets (loans and securities) – is a function of interest rate sensitivity and the volume and mix of assets and liabilities. To the extent that a bank

borrows short term and lends long term, it has a mismatch that it needs to address through restructuring of assets and liabilities or using derivatives (swaps, options and futures) to satisfy the latter.

The scope of the ALM function to a larger extent covers the hereafter processes:

1. Liquidity risk : the current and prospective risk arising when the bank has the inability to meet its obligation as they come due without adversely affecting the bank's financial conditions. In ALM perspective, the focus is on the funding liquidity risk of the bank meaning its ability to meet its current and future cash-flow obligations and collateral needs, both expected and unexpected. This mission thus includes the bank liquidity's benchmark price in the market.
2. Interest rate risk : The risk of losses resulting from movements in interest rates and their impact on future cash-flows. Generally because a bank may have a disproportionate amount of fixed or variable rates instruments on either side of the balance-sheet. One of the primary causes is mismatches in terms of a bank deposits and loans.
3. Currency risk management: The risk of losses resulting from movements in exchanges rates. To the extent that cash-flows assets and liabilities are denominated in different currencies.
4. Funding and capital management: As all the mechanism to ensure the maintenance of adequate capital on a continuous basis. It is a dynamic and ongoing process considering both short-and longer term capital needs and is coordinated with a bank's overall strategy and planning cycles (usually a prospective time-horizon of 2 years)
5. Profit planning and growth
6. In addition, ALM is dealing with aspects related to credit risk as this function is also to manage the impact of the entire credit portfolio (including cash, investments and loans) on the balance sheet. The credit risk, specifically in the loan portfolio, is handled by a separate risk management function and represents one of the main data contributors to the ALM team.

2.3.1 Asset Liability Management (ALM) core functions

Managing gaps

The objective is to measure the direction and extent of asset-liability mismatch through the funding or maturity gap. This aspect of ALM stresses the importance of balancing maturities as well as cash-flows or interest rates for a particular set time horizon.

For the management of interest rate risk it may take the form of matching the maturities and interest rates of loans and investments with the maturities and interest rates of deposit, equity and external credit in order to maintain adequate profitability. In other words, it is the management of the spread between interest rate sensitive assets and interest rate sensitive liabilities.

Liquidity risk management

The role of the bank in the context of the maturity transformation that occurs in the banking book (as traditional activity of the bank is to borrow short and lend long) lets inherently the institution vulnerable to liquidity risk and can even conduct to the so-call risk of 'run of the bank' as depositors, investors or insurance policy holders can withdraw their funds/ seek for cash in their financial claims and thus impacting current and future cash-flow and collateral needs of the bank (risk appeared if the bank is unable to meet in good conditions these obligations as they come due).

This aspect of liquidity risk is named funding liquidity risk and arises because of liquidity mismatch of assets and liabilities (unbalance in the maturity term creating liquidity gap). Even if market liquidity risk is not covered into the conventional techniques of ALM (market liquidity risk as the risk to not easily offset or eliminate a position at the prevailing market price because of inadequate market depth or market disruption), these two liquidity risk types are closely interconnected.

Asset/liability management has become a complex endeavor. An understanding of internal and external factors that bear upon this aspect of risk management is critical to an

appropriate solution. Prudent asset allocation accounts not only for the growth of assets, but also specifically addresses the nature of an organization's liabilities

2.4 Regulation of financial markets

The dynamic evolution of the financial system is stirring up the regulatory debate. Recent theoretical insights in the role of financial intermediaries and banks shed new light on the role of financial regulation. Information asymmetries, adverse selection and moral hazard problems help to explain the need for investors' protection and the occurrence of systemic crises that may endanger financial stability.

One has to distinguish between the objectives of regulation (what outcome it is trying to secure), the rationale for regulation (why regulation is necessary if the objectives are to be achieved). The point of these distinctions is to differentiate between the economic rationales of regulation as opposed to why, in practice, regulation might be imposed. Our focus is on the economic rationale for regulation.

I**. Objective of Financial Regulation**

The objectives of financial regulation need to be clearly defined and circumscribed. Although a wider framework might be set by particular regulatory agencies, in the final analysis the core objectives can be categorized as (1) to protect the consumer, and (2) to sustain systemic stability and maintain the safety and soundness of financial institutions.

1. **Consumer Protection objective for Financial Regulation**

The major goal of regulation in economic life in general traditionally consists in protecting the (uninformed) consumers against a variety of market imperfections. It is held that special protection has to be provided to the consumer due to the fiduciary nature of most financial products and services. Being in essence future markets, financial markets are unavoidably characterized by risk and uncertainty. Consumers have to be protected from excessive prices and opportunistic behavior by the suppliers of financial services.

Problems of market failures also apply to the financial sector and the banking system in particular. The goal of banking regulation and supervision is often explicitly stated as to prevent banks from assuming unacceptably high risks which may endanger the interests of creditors, that is, deposit holders and savers in general.

2. **Financial Stability Objective for Financial Regulation**

Government intervention may also aim at the advancement of other policy objectives: that is, to encourage particular activities in the industrial, the agricultural sector or in the social field. In the financial sector the government intervenes in credit markets to subsidize or guarantee lending for industry, agriculture, housing and other activities regarded as beneficial to the economy. Often specialized financial intermediaries are sponsored by governments to make home mortgages accessible to borrowers or to grant cheap investment credits to particular sectors of the economy.

Money, a special commodity with vital transaction functions in the economy, is at the core of the financial system. As a consequence monetary and financial stability has become even the overriding goal of financial regulation. Specific concern for the stability of the financial sector is warranted due to external effects. Financial markets and institutions are much more interconnected and characterized by ‘herd behavior’ than is the case in other sectors of the economy. Bankruptcy of one institution may easily spill over to others and endanger the whole financial system.

II. **The Nature of the Financial System**

According to economic analysis financial markets by definition are imperfect. Financial intermediaries find their origin precisely in these market imperfections. They may provide a market solution to the market failures and in this respect may be an alternative for government intervention.

First, more than other economic activities financial operations are concerned with the future, and hence are characterized by risk and uncertainty. The key services of the financial system in the process of allocating funds between savers and borrowers consist

in trading risk and liquidity. As a consequence, expectations play a major role in the pricing of financial assets. However, given the often limited amount of information available price developments are difficult to predict. As new information becomes available market parties adjust suddenly and collectively (so-called herd behavior) their price expectations. Together with low transaction costs in financial markets, it explains the high volatility and inherent instability of financial markets.

Second, asymmetric information problems arise when market parties have different information. Hence, one party may not have enough information about the other party to make accurate decisions. It certainly applies to financial markets where one party often has superior information about the risk being transacted than the other party, for example an investor knows more about the riskiness of his investment than the money lender.

Asymmetric information hampers the well-functioning of markets. It creates problems of adverse selection before the transaction is entered into, and of moral hazard after the transaction has taken place. Adverse selection arises as due to incomplete information the lender cannot accurately distinguish good risk applicants from bad-risk applicants before making an investment. Thereby a so-called ‘lemon-premium’ will increase the loan rate, so that only risky projects will be funded. Moral hazard costs, incurred by the lender in verifying that borrowers are using their funds as intended, further raise the loan rate.

Adverse selection in loan markets occurs because bad credit risks (those most likely to default on their loan) are the ones who usually line up for loans; in other words, those who are most likely to produce an adverse outcomes are the most likely to be selected. Borrowers with very risky investment projects have much to gain if their projects are successful, so are the most eager to obtain loans. Clearly, however, they are the least desirable borrowers because of the greater possibility that they will be unable to pay back their loans.

Moral hazard exists in the loan market because borrowers may have incentives to engage in activities that are undesirable from the lender's point of view. In such situations, it is more likely that the lender will be subjected to the hazard of default. Once borrowers have obtained a loan, they are more likely to invest in high-risk investment projects – projects that pay high return to the borrower if successful. The high risk, however, makes it less likely they will be able to pay the loan back.

To be profitable, financial institutions must overcome the adverse selection and moral hazard problem that make loan defaults more likely. The attempts of financial institutions to solve these problems help explain a number of principles for managing credit risks: screening and monitoring, establishment of long-term customer relationship, loan commitments. Collateral and compensating balance requirements, and credit rationing.

In the process financial intermediaries arise as they specialize in information on borrowers and solve these asymmetric information problems. The key services provided by financial institutions then consist in collecting and communicating information on debtors and on financial assets. The principal-agent relationship of creditors with financial institutions, however, involves similar information problems. How can the lender (the principal) make sure that the agent (the financial intermediary) acts in his interest? For example, depositors lack information regarding the riskiness of the bank's portfolio. Should these financial intermediaries which provide market solutions to market imperfections, in turn not be subject to government regulation and supervision?

Third, financial markets and financial institutions tend to be more interdependent than is the case for other sectors of the economy. Events in one financial market or institution may have important external affects on the rest of the financial system and on the whole economy. Together with the important potential for 'herd behavior' it explains the occurrence of so-called system risks.

Finally, at the heart of the financial system lies a special commodity: money. The proper functioning of money depends upon price stability. As there is a link between prices and

money in circulation, there is a need to keep money creation under control. Money creation, however, is profitable, so that it may not be taken for granted that an unregulated money supply will lead to a sufficient stable price level. As money is created by the banking sector a special need for controlling these specialized intermediaries may arise.

2.4.1 Economic Rational for Financial Regulation

Information Failures and the Need for Financial Regulation

Mainly due to information-asymmetries financial markets do not operate perfectly. In reallocating funds between market parties an agency problem arises between the lender (principal) and the borrower (agent), since the latter has private information about the potential return and risk of his investment project. Hence, optimal debt contracts typically include extra costs, a so-called external finance premium, that is incurred. They consist of costs incurred in screening loan applicants and monitoring the behavior of borrowers and include a premium for credit risk. These are dead-weight costs associated with the agency problem and are more particularly due to problems of adverse selection and moral hazard as explained before. Solutions for these information failures may be provided by the market itself, mainly by financial intermediation, or may require government intervention.

Information has public good characteristics in that information is often non-rivalrous, meaning that one person's use of information does not diminish its availability for others to use. Moreover, because the transmission of information has become so cheap, it may be expensive to exclude some people from this information. The non-excludability of people who do not pay for it, creates a free rider problem. It prevents the market from producing enough information to eliminate all the asymmetric information. The undersupply of information in the market may require regulatory intervention by the government to disclose information.

The case for government interventions in the operation of financial markets mainly rests upon asymmetric information problems that create risks of fraud, negligence,

incompetence, and so on. Financial services in this respect are seen as credence goods whose quality is difficult to establish. However, information problems may be alleviated by private production and selling of information. For example, rating agencies screen and monitor the creditworthiness of bond issuers in the financial market. Because of the public good nature of information and the free rider problem linked to it, financial intermediaries are not able to solve completely these information problems.

Additional public policy is needed therefore, in particular in retail markets. Hence, traditionally the main motive for regulatory intervention is found in the need to protect the consumer against information related failures.

- Timely and accurate information disclosure is needed to enable market participants to make prudent financial decisions, for example regulation requires lenders to provide borrowers a meaningful disclosure of credit terms. Information disclosure rules may also aim at ensuring equal treatment for all financial customers.
- Government regulation and supervision is needed to provide additional ways to reduce the costs of moral hazard to individual savers. These failures in market discipline can be best counteracted by requiring that financial information should be disclosed promptly and be accurate. This can also be achieved by increasing incentives for responsible performance for bankers and bank shareholders, for example by augmenting their stake in the bank by capital adequacy rules requiring investing more of their own funds.

2.4.2 Financial Stability and the Need for Regulation

Stability is traditionally an important concern in the financial sector. The characteristics of the financial sector are such that individual problems may easily spill over and endanger the whole financial system. Hence, failures in the operation of the financial sector not only have consequences for individual investors and savers but stock market crashes, bank failures and other financial disasters may endanger the health of the whole economy.

Financial operations are characterized by risk and uncertainty. In particular information problems arise as explained before. As a result financial decision making depends heavily upon expectations. It is also characterized by herd behavior. Market parties adjust suddenly and collectively their expectations leading to high volatility in financial markets. Moreover, compared to other sectors of the economy, financial markets are much more interdependent. This is witnessed by very tight interconnections in the inter - bank market. Events in one financial market or institution may then have important effects on the rest of the financial system. Failure in one market or institution may create a financial panic and end up in a systemic crisis. Due to ever increasing international capital mobility it may become a worldwide financial crisis.

Banks specifically are faced with a two-sided asymmetric information problem. On the asset side borrowers may fail on their repayment obligations. Depositors, however, cannot observe these credit risks. The quality of the loan portfolio is private information acquired while evaluating and monitoring borrowers. On the liabilities side savers and depositors may withdraw their funds on short notice. Banks, however, cannot observe the true liquidity needs of depositors. This is private information. A true liquidity risk arises when depositors collectively decide to withdraw more funds than the bank has immediately available. It will force the bank to liquidate relatively illiquid assets probably at a loss. A liquidity crisis may then endanger also the solvability of the bank and eventually lead to bankruptcy.

The providers of funds are not able to assess the value of the bank's underlying assets. As a result bad news, whether true or false, may provoke a withdrawal of funds. Moreover, as deposits are repaid in full on a first-come-first-served basis until the liquid assets are exhausted, depositors have an incentive to act quickly. A 'bank run' may occur when enough savers lose confidence in the soundness of a bank.

Moreover, bad news about one bank can snowball and have a contagion effect on other banks. A bank failure could eventually trigger a signal on the solvency of other banks. Even if these banks are financially healthy the information about the quality of the loan

portfolio underlying the deposits is private, so that depositors may also lose confidence and withdraw their funds.

Domino effects lead to a widespread loss of confidence in the banking system and create a ‘financial panic’. Financial market failures and instability eventually leading to a systemic crisis not only affect individual savers and depositors, but the health of the whole economy. Public policy intervention then is not only a microeconomic question of protecting individual savers and investors, but becomes a macroeconomic issue.

Government concern about the health of the financial system is mainly motivated by the negative macroeconomic externalities from bank failures and financial panics. These impair the ability of the financial markets and intermediaries to provide the key services of risk sharing, liquidity and information when faced with economic disturbances. Financial crises undermine the efficiency with which resources in the economy are allocated as, for example, companies have difficulty raising capital for investment and job creation. The collapse of financial institutions in general may have important costs of debt deflation on effective aggregate demand in the economy.

Because of the banks’ importance it is in particular important to maintain the health of the banking industry. The severity of the Great Depression of the 1930s is often linked to the breakdown of the banking system’s ability to provide financial services. Insolvency of banks is costly because information on borrowers is then lost. It hurts in particular the ability of less well known borrowers to obtain loans.

Moreover, banks play an essential role in the payments system and in the creation of money. As argued by Mishkin (1997) bank failures could cause large and uncontrollable fluctuations in the quantity of money in circulation. The negative impact of banking problems on economic growth, the government budgets, the balance of payments and foreign exchange rates are further documented in an IMF.

Systemic risks are more difficult to deal with than the previous individual risks for depositors and savers. Of course government intervention aiming at the protection of depositors and investors by reducing information costs will also stabilize their behavior and reduce the danger of major financial instability. Also at the international level the timely dissemination of accurate financial information may be in order. The question arises whether additional government intervention may be necessary. This applies especially to ex post interventions when a financial crisis has occurred.

Liquidity crisis may be overcome by monetary authorities acting as a lender of last resort and providing additional liquidity. However, this may lead in turn to a moral hazard problem. Financial institutions anticipating the bail-out possibility by monetary authorities may behave in a riskier way. Hence, the lender of last resort certainly does not have to intervene for financial problems that do not contain the danger of leading to a systems crisis. For an international financial crisis the question arises as to the need of an international lender of last resort.

Finally, ensuring a stable payments system has been a principal concern of public policy. Therefore financial regulation in a wider perspective contains also a whole framework for controlling the volume of money in circulation, that is a whole set of monetary policy instruments. Normally a stable and sound financial system is a condition for an efficient monetary policy. Therefore in financial law specific regulations determine for instance which institutions can offer deposit accounts.

2.4.3 Regulatory Instruments

To maintain the health of the financial system governments have developed a whole range of regulatory instruments. The different regulatory and policy measures are classified as protective and preventive regulations.

2.4.3.1 Protective Regulation

First, public authorities may limit themselves to ex post interventions, offering protection to customers and financial intermediaries in the case of impending insolvency. Protective System includes: (a) deposit insurance and government Safety net and (b) lender of last resort

Deposit Insurance and Government Safety Nets

Uncertainty about the health of the banking system in general can lead to run on banks both good and bad, and the failure of one bank can hasten the failure of others (referred to as the contagion defect). If nothing is done to restore the public's confidence, a bank panic can ensure. A government safety net for depositors can short-circuit runs on banks and bank panics and by providing protection for the depositors, it can overcome reluctance to put funds in banking system.

Public authorities intervene by guaranteeing some financial liabilities and by directly protecting investors through 'deposit insurance'. Insurance arrangements contain the promise that if a financial institution fails, the investors will be reimbursed for the funds lost. They directly aim at individual investors protection, in particular the small depositors who are unable to determine the quality of the bank's assets. Indirectly they also reduce the threat of a systemic crisis. This is achieved not by bailing out individual financial institutions, but by reducing incentives for bank runs by depositors and by containing the risk of contagion among financial institutions.

The government can insure people's deposits so that they do not suffer great financial loss if the financial intermediaries that hold these deposits should fail. The most important government agency that provides this type of insurance is the, taking the case of USA, is Federal Deposit Insurance Corporation (FDIC), which insures each depositor at a commercial bank, saving and loan association, or mutual saving bank.

A key component of the regulatory structure of Commercial Banks(CBs) is deposit insurance and financial guarantee provided to depositors of CBs by regulators. The

Federal Deposit Insurance Corporation (FDIC) was established in 1933 in the wake of the banking panics of 1930-1933 to maintain the stability of, and public confidence in the US financial system. The FDIC insures the deposits of commercial banks. In doing so, it levies insurance premiums on banks, manages the deposit insurance fund which is generated from those premiums and their investment, and conduct bank examinations. Premiums paid by these financial intermediaries to into the FDIC's Deposit Insurance fund, which is used to pay off depositors if an institution fails. In addition, when an insured bank is closed, the FDIC acts as the receiver and liquidator, although the closure decision itself is technically made by the bank's chartering or licensing agency.

Cost of Deposit insurance and Government Safety nets

Nevertheless, there are problems with deposit insurance scheme. The problem may emanate from the investors or from the financial institutions

(i) **Failure of investors**

If investors know that their funds are protected they tend to place their funds with institutions that offer the highest interest rate. In order to pay the interest these Financial Institutions(FIs) then invest the fund in high-risk venture and may well end up insolvent. This is an example of moral hazard, insuring against an event makes more likely to occur.

(ii) Failure of financial institutions

The deposit insurance and government safety nets prevent failures of financial institutions, in particular when they are considered to be 'too big to fail'. In their International Monetary Fund(IMF) study Lindgren, Garcia and Saal (1996) document that the 'too-big-to-fail' doctrine has been prevalent in many countries, also in major industrial countries, for example recently in France and Japan, where it has prevented the closure of major commercial banks. Also in the US the practice in case of distress of merging banks rather than closing them relies upon this philosophy. When the government provides such a safety net it tempts financial institutions to pursue high risk investment strategies at the expense of the government.

Also, when they are covered by deposit insurance, depositors have less incentive to monitor and discipline financial institutions. Hence, government safety nets help solve risk problems only by creating other problems. Instead of spending substantial amounts of Gross National Product(GNP) on rescuing ex post ailing financial institutions, preventive government interventions by regulation and supervision may be in order to counter ex ante these moral hazard effects.

Lender of last resort

Deposit insurance is not the only way in which governments provide a safety net for depositors. In other countries, governments have often stood ready to provide support to domestic banks when they face runs even in the absence of explicit deposit insurance. This support is sometimes provided by lending from the central bank to troubled institutions and is often referred to as the lender of last resort role of the central bank. In some other cases, funds are provided directly by the government to troubled institutions, or these institutions are taken over by the government and the government then regulates that depositors will receive their money in full.

The facility at which banks can borrow reserves from the central bank (Federal Reserve, in USA) is called discount window. The Fed's discount loans to banks are of three types: primary credits, secondary credits, and seasoned credits. The primary credits are the discount lending that plays the most important role in monetary policy. Healthy banks are allowed to borrow all they want at very short maturities (usually overnight) from primary credit facility, and it is therefore referred to as a standing lending facility. Secondary credit is given to banks that are in financial trouble and are experiencing severe liquidity problems. Seasoned credit is given to meet the needs of a limited number of small banks in vacation and agricultural areas that have a seasonal pattern of deposits.

In addition to its use as a tool to influence reserves, the monetary base, and the money supply, discounting is important in preventing financial panics. When the Federal Reserve system was created, its most important role was intended to be as the lender of last resort; to prevent bank failure from spinning out of control, it was to provide reserve to banks when no one else would, thereby preventing bank and financial panic. Discounting is a particularly effective way to provide reserves to the banking system during a banking crisis because reserves are immediately channeled to the banks that need them most.

Costs of lender of last resort

Although the Fed's role as the lender of last resort has the benefit of preventing bank and financial panic, it does have a cost. If banks expect that the Fed will provide it with discount loan when it gets into trouble, it will be willing to take on more risk knowing that the Fed will come to the rescue. The Fed's lender of last resort role has thus created a moral hazard problem similar to the one created by deposit insurance. Banks take more risk, thus exposing the deposit insurance agency, and hence tax payers, to greater losses. The moral hazard problem is most sever for large banks, which may believe the Fed and FDI view them as 'too big to fail", that is they will always receive Fed loans when they are in trouble because their failure would be likely to precipitate a bank panic.

Similarly, Federal Reserve actions to prevent financial panic may encourage financial institutions other than banks to take on greater risk. They, too, expect the Fed to ensure that they could get loans if financial panic seems imminent. When the Fed considers using the discount weapon to prevent panic, it therefore needs to consider the trade –off between the moral hazard cost of its role of last resort and the benefit of preventing financial panics. This trade-off explains why the Fed must be careful not to perform its role as lender of last resort too frequently.

There are several difficulties with the lender of last resort function. First, interventions must be carried out swiftly in a credible way. Credit should only be advanced to solvent

financial intermediaries using the good, but illiquid assets as collateral. They should not be used to bail out insolvent institutions, often at a high cost for taxpayers. Second, lender of last resort interventions may conflict with monetary policy objectives. In order to avoid a systemic crisis central banks may extend liquidity and fuel inflationary pressures. Inflation may structurally weaken the financial sector and its capacity to absorb shocks, thereby increasing the probability of a systemic crisis.

2.4.3.2 Preventive Measures

Government agencies may also act in a preventive way by controlling the levels of risk assumed and reducing the probability of insolvency and illiquidity. Structural and prudential regulation often involve a whole set of different public regulatory measures which differ from country to country. Preventive (ex ante) Measures can be as structural and prudential measures.

A. Structural

1. Restrictions on entry and on business activities
    - Product line restrictions
    - Geographic restrictions
2. Regulation of interest rates

B. Prudential

1. Portfolio restriction and supervision
    - Capital adequacy standards
    - Asset restriction and diversification rules
    - Liquidity adequacy requirements
2. Disclosure and standard reporting requirements
3. Conduct and conflict rules
4. Inspection and bank examination

Structural Regulation

In order to limit the threat of systemic risks government intervention in the financial sector traditionally consisted in regulatory measures aiming at limiting competition and at restricting the operation of market forces. Unbridled competition was seen as a major

threat to the stability of the financial sector. As listed in the above, structural regulation mainly involves restrictions on entry and on business activities, and often includes various measures of interest rate regulation.

(i) Restrictions on entry and on business activities

It was mainly in the aftermath of the Great Depression, which found its origin in a stock market crash, that it was deemed necessary to introduce structural restrictions on the scope of permissible activities of the different financial institutions. Before the crisis commercial banks acted as securities market financial institutions as well as depository institutions. They had an incentive to take on more risky activities in financial markets and earn investment banking fees, the risk being shifted in part to the depositors. In order to limit these risky activities and to reduce the risk of contagion within the financial system, after the crisis these activities were legally separated in many countries.

- Bank regulation must restrict banks from holding risky assets such as common stock are a direct means of making banks avoid too much risk.
- In the US the separation of the banking and securities industries was legislated in the well-known Glass-Steagall Act.
- Besides bank investments in industrial firms, their real estate investments and insurance activities were also often regulated.

- Frequently the ownership of financial institutions and non-financial firms as separated, and the investments of industrial firms in banks limited. These additional restrictions were aimed at limiting the concentration of power.

- For similar reasons also branching restrictions could be imposed. In the US in particular banks were geographically limited and were not allowed to open branches in other states and to engage in interstate banking.

(ii) Interest rate regulation

Interest rates are important instruments of monetary policy. Hence, governments traditionally have intervened in the price formation in money and capital markets by regulating interest rates. Interest rate ceilings and other pricing rules, however, were also

introduced to limit competition between banks and between banks and other financial institutions. Limiting price competition in financial markets would also reduce risk taking and moral hazard problems for financial institutions. Imposing interest rate ceilings such as regulation in the past in the US would then lower the cost of funds, enhance profits and reduce the likelihood of bank runs.

Prudential Regulation

(i) **Chartering and licensing**: Prudential control is exercised first at the market entry stage by 'chartering', which is the obligation to file an application for a charter.

Overseeing who operates banks and how they are operated, referred to as bank supervision or more generally as prudential supervision, is an important method for reducing adverse selection and moral hazard in banking business. Because bank can be used by crooks or overambitious entrepreneur to engage in highly speculative activities, such undesirable people would be eager to run a bank. Chartering banks is one method for preventing this adverse selection problem, through proposal for new banks are screened to prevent undesirable people from controlling them

To obtain a charter, the people planning to organize the bank must submit an application that show how they plan to operate the bank. In evaluating the application, the regulatory authority looks at whether the bank is likely to be sound by examining the quality of the bank's intended management, the likely earning of the bank, and the amount of the bank's initial capital. Once a bank has been chartered, it is required to file periodic (usually quarterly) call report that reveals the bank's assets and liabilities, income and dividend, ownership, foreign exchange operations, and other details. The bank is also subject to examination by the bank regulatory agencies to ascertain its financial condition at least once a year.

Increasing or decreasing the cost of entry into financial sector affects the profitability of firms already competing in that industry. Thus, the industries heavily protected against new entrants by high direct cost (eg through capital requirement) and high indirect costs (eg by restricting the type of individuals who establish CBs) of entry, produce larger profits for existing firms than those in which entry is relatively easy. In addition, regulators define the scope of permitted activities under a given charter. The broader the set of services permitted under a charter, the more valuable that charter is likely to be. Thus, barriers to entry and regulations pertaining to the scope of permitted activities affect a CB's value and size of its net regulatory burden.

(ii) **Capital Adequacy Rule**: One of the protection mechanisms of regulators includes that banks and other nonblank financial institutions are required to satisfy a minimum level of stockholder capital or equity funds that the owners of the financial institutions need to contribute to the funding of its operations.

A central instrument of prudential control consists in capital adequacy rules. Equity capital provides the necessary cushion against losses, since shareholders may want to benefit from the leverage effect and to increase their return on equity by providing as little capital as necessary. Only in well capitalized institutions, however, do the shareholders have enough incentives to monitor their financial health. When financial institutions hold a large amount of equity capital, they have more to lose in case of failure so that they will pursue less risky activities.

The higher the protection of capital contributed by owners, the greater the protection against insolvency risk for liability claimholders such as depositor. This occurs because losses on the assets portfolio due, for example, to loan defaults are legally born by the stockholders first and then, only after equity holders' claims are totally wiped out, by outside liability holders.

Sound capital standards are important to offset the moral hazard created by government safety nets for depositors and other creditors. If capital regulation were perfect, no other regulatory interventions would be needed against the danger of moral hazard. Financial intermediaries could then be shut down and creditors reimbursed just before insolvency of the intermediary. In practice, however, regulators face delays in taking appropriate action, moreover the measuring of risk and the valuation of assets and capital proves to be difficult. Hence, other regulatory tools are necessary to backstop capital regulation.

(iii) **Asset restriction and Diversification rules**: Besides structural interventions whereby financial institutions are not allowed to engage in certain activities, such as investments in common stocks by banks, the imposition of quantitative limits on certain asset holdings has more the character of prudential regulation.

The most obvious way to prevent CB failures is to prevent CBs from investing in an asset portfolio that produces cash inflow that are insufficient to make the promised payments to the CBs liability holders. Bank regulations also promote diversifications, which reduce risk by limiting the amount of loans in particular categories or individual borrowers.

Thus banks (for instance in USA) are prohibited from making loans exceeding 10% of their equity capital funds to any one company or borrower. A bank that has 6% of its assets funded by its own capital (therefore 94% by liabilities) can lend no more than 0.6% of its assets to any one borrower

(iv) **Cash reserve Requirements/or Liquidity requirements**: Cash reserve requirements are often imposed as a measure to enhance liquidity adequacy. By providing the necessary liquidity for deposit withdrawals they increase confidence with depositors and reduce the threat of bank runs. In situations of collective withdrawals of deposits, however, they turned out to be largely insufficient to avoid a bank panic. Nowadays changes in required reserves have developed to an instrument that is used primarily for controlling the quantity of money and credit creation.

(v) **Monitoring and Supervision**: Overseeing who operates banks and how they are operated, referred to as bank supervision or more generally as prudential supervision, is an important method for reducing adverse selection and moral hazard in banking business.

Regular on-site bank examination, which allow regulators to monitor whether the bank is complying with capital requirements and restrictions on asset holdings function to limit moral hazard. Bank examiners give banks a so called CAMEL rating (the acronym is based on the five areas assessed: capital adequacy, asset quality, management, earning, and liquidity).

By regular examination and inspection regulators may limit the moral hazard problems. This involves on- site examination of the CB by regulators as well as the CB's production of accounting statement and reports on a timely basis for off-site evaluation. They have to control whether the financial institutions are complying with the capital requirements and the restrictions on asset holding. A supervisory structure has to be set up in which bank examiners make periodic, but also unannounced visits to the financial intermediaries.

(vi) **Disclosure and standard reporting requirements**: To insure that there is better information for depositors and the marketplace; regulators can require that banks adhere to certain standard of accounting principles and disclosure a wide range of information that helps the market assess the quality of a bank's portfolio and the amount of the bank's exposure to risk.

Generally, providing appropriate and timely disclosure of financial conditions of companies may help to reduce stock price volatility and excessive speculation. In particular, disclosure of financial conditions of financial institutions not only increases the ability but also gives incentives to investors to monitor the performance and the risk-profile of financial intermediaries. Recently the Basle Committee issued recommendations to banks to disclose their trading and derivatives activities. Also by discouraging shareholders and managers from excessive risk taking, public disclosure

reduces the threat of systemic crises. Some degree of market discipline is also restored by recent developments such as market value accounting.

(vii) **Credit Allocation regulation**: Credit allocation regulation supports the CB's lending to socially important sectors such as housing and farming. The regulations may require a CB to hold a minimum amount of assets in one particular sector of the economy or set maximum interest rate, prices, of fees to subsidize certain sectors. Such price and quantity restrictions may be justified for social welfare reasons-especially if society prefers strong (and subsidized) housing and farming sectors.

Finally, many other regulatory measures are imposed that primarily aim at consumer protection. Consumers have to be protected against excessive prices from opportunistic behavior by producers of financial services and other participants in financial markets. In this respect regulation is no longer concerned with systemic stability, but with the integrity and efficiency of the financial markets. In the US traditionally antitrust regulation has been an important instrument to guarantee fair prices to consumers. With the advent of the European-wide financial market and the mergers it will entail, competition law may also play a larger role in Europe.

Opportunistic behavior is often made possible by asymmetric information. In securities markets corporate officials and owners are better informed about the fortunes of their companies. Hence, other investors are protected by insider trading regulations. Certain financial products are sometimes very complicated such as insurance, pension plans and long-term securities. In order to avoid that some buyers of these products are misled standardized disclosure rules may be imposed, reporting requirements and supervision of these financial institutions by regulators may be in order.

2.5 Financial Innovation

To understand how the banking industry has evolved over time, we must first understand the process of financial innovation, which has transformed the entire financial system. Like other industries, the financial industry is in business to earn profits by selling its products. If a soap company perceives that there is a need in the marketplace for a laundry detergent with fabric softener, it develops a product to fit the need.

Similarly, to maximize their profits, financial institutions develop new products to satisfy their own needs as well as those of their customers; in other words, innovation—which can be extremely beneficial to the economy—is driven by the desire to get (or stay) rich. This view of the innovation process leads to the following simple analysis: ***A change in the financial environment will stimulate a search by financial institutions for innovations that are likely to be profitable.***

Starting in the 1960s, individuals and financial institutions operating in financial markets were confronted with drastic changes in the economic environment: Inflation and interest rates climbed sharply and became harder to predict, a situation that changed demand conditions in financial markets. The rapid advance in computer technology changed supply conditions. In addition, financial regulations became more burdensome. Financial institutions found that many of the old ways of doing business were no longer profitable; the financial services and products they had been offering to the public were not selling.

Many financial intermediaries found that they were no longer able to acquire funds with their traditional financial instruments, and without these funds they would soon be out of business. To survive in the new economic environment, financial institutions had to research and develop new products and services that would meet customer needs and prove profitable a process referred to as **financial engineering.** In their case, necessity was the mother of innovation.

Electronic Banking

The wonders of modern computer technology have also enabled banks to lower the cost of bank transactions by having the customer interact with an electronic banking (e-banking) facility rather than with a human being. One important form of an e-banking facility is the **automated teller machine (ATM),** an electronic machine that allows customers to get cash, make deposits, transfer funds from one account to another, and check balances.

The ATM has the advantage that it does not have to be paid overtime and never sleeps, thus being available for use 24 hours a day. Not only does this result in cheaper transactions for the bank, but it also provide more convenience for the customer. Because of their low cost, ATMs can be put at locations other than a bank or its branches, further increasing customer convenience. The low cost of ATMs has meant that they have sprung up everywhere and now number more than 250,000 in the United States alone. Furthermore, it is now as easy to get foreign currency from an ATM when you are traveling in Europe as it is to get cash from your local bank.

With the drop in the cost of telecommunications, banks have developed another financial innovation, *home banking*. It is now cost-effective for banks to set up an electronic banking facility in which the bank's customer is linked up with the bank's computer to carry out transactions by using either a telephone or a personal computer.

Now a bank's customers can conduct many of their bank transactions without ever leaving the comfort of home. The advantage for the customer is the convenience of home banking, while banks find that the cost of transactions is substantially less than having the customer come to the bank.

The success of ATMs and home banking has led to another innovation, the **automated banking machine (ABM),** which combines in one location an ATM, an Internet connection to the bank's Web site, and a telephone link to customer service. With the decline in the price of personal computers and their increasing presence in the home, we

have seen a further innovation in the home banking area, the appearance of a new type of banking institution, the **virtual bank,** a bank that has no physical location but rather exists only in cyberspace.

In 1995, Security First Network Bank, based in Atlanta but now owned by Royal Bank of Canada, became the first virtual bank, offering an array of banking services on the Internet—accepting checking account and savings deposits, selling certificates of deposits, issuing ATM cards, providing bill-paying facilities, and so on. The virtual bank thus takes home banking one step further, enabling the customer to have a full set of banking services at home 24 hours a day.

In 1996, Bank of America and Wells Fargo entered the virtual banking market, to be followed by many others, with Bank of America now being the largest Internet bank in the United States. Will virtual banking be the predominant form of banking in the future.

Electronic Payment

The development of inexpensive computers and the spread of the Internet now make it very cheap for banks to allow their customers to make bill payments electronically. Whereas in the past you had to pay your bills by mailing a check, now banks provide a Web site in which you just log on, make a few clicks, and your payment is transmitted electronically. You not only save the cost of the stamp, but paying bills now becomes (almost) a pleasure, requiring little effort.

Electronic payment systems provided by banks now even allow you to avoid the step of having to log on to pay the bill. Instead, recurring bills can be automatically deducted from your bank account without your having to do a thing. Providing these services increases profitability for banks in two ways.

First, payment of a bill electronically means that banks don’t need people to process what would have otherwise been a paper transaction. Estimates of the cost savings for banks when a bill is paid electronically rather than by a check exceed one dollar.

Second, the extra convenience for you, the customer, means that you are more likely to open an account with the bank. Electronic payment is thus becoming far more common in the United States, but Americans are far behind Europeans, particularly Scandinavians, in their use of electronic payments.

E-Money

Electronic payments technology can not only substitute for checks but can, in the form of **electronic money** (or **e-money**), money that exists only in electronic form, substitute for cash as well. The first form of e-money is a stored-value card. The simplest form of a stored-value card is purchased for a preset dollar amount that the consumer spends down. The more sophisticated stored-value card is known as a **smart card.** It contains its own computer chip so that it can be loaded with digital cash from the owner's bank account whenever needed. Smart cards can be loaded either from ATM machines, personal computers with a smart card reader, or from specially equipped telephones.

A second form of electronic money is often referred to as **e-cash,** and it is used on the Internet to purchase goods or services. A consumer gets e-cash by setting up an account with a bank that has links to the Internet and then has the e-cash transferred to her PC. When she wants to buy something with e-cash, she surfs to a store on the Web, clicks the "buy" option for a particular item, whereupon the e-cash is given the convenience of e-money, you might think that we would move quickly to the cashless society in which all payments were made electronically.

Review Exercises

1. List and explain economic functions undertaken by a financial intermediary to assist in the transfer of funds from surplus agents to deficit agents.
2. What does an Asset/Liability Management mean? How does an Asset/Liability Management work in mitigating the risk of failing to meet various obligations of Financial Institutions?
3. Liquidity risk management is nowadays considered as one of the core functions of Asset/Liability Management. Why?
4. List and explain the cost of deposit insurance and Government safety nets.
5. What does lender of last resort mean?
6. What is the difference between structural and prudential financial regulations?
7. Briefly define each of the following terms and give an example:
    a) Information Asymmetry
    b) Adverse Selection
    c) Morale hazard
8. What does Financial Innovation mean? How do Financial Innovations change the operation of modern business transactions?

CHAPTER THREE

Depository & Non-depository Institutions

3.1 FINANCIAL INSTITUTIONS

Direct funds transfers are more common among individuals and small businesses and in economies where financial markets and institutions are less developed. While businesses in more developed economies do occasionally rely on direct transfers, they generally find it more efficient to enlist the services of one or more financial institutions when it comes time to raise capital.

In the United States and other developed nations, a set of highly efficient financial intermediaries has evolved. Their original roles were generally quite specific, but many of them have diversified to the point where they serve many different markets. As a result, the differences between institutions have tended to become blurred. Still, there remains a degree of institutional identity, and therefore it is useful to describe the major categories of financial institutions here:

3.1.1 Commercial banks

The Bank Balance Sheet

To understand how banking works, we start by looking at the bank **balance sheet,** a list of the bank's assets and liabilities. As the name implies, this list balances; that is, it has the characteristic that

Total assets = Total liabilities + Capital

A bank's balance sheet is also a list of its *sources* of bank funds (liabilities) and *uses* to which the funds are put (assets). Banks obtain funds by borrowing and by issuing other liabilities such as deposits. They then use these funds to acquire assets such as securities and loans. Banks make profits by charging an interest rate on their asset holdings of securities and loans that is higher than the interest and other expenses on their liabilities.

Liabilities

A bank acquires funds by issuing (selling) liabilities, such as deposits, which are the *sources of funds* the bank uses. The funds obtained from issuing liabilities are used to purchase income-earning assets.

Checkable Deposits: Checkable deposits are bank accounts that allow the owner of the account to write checks to third parties. Checkable deposits include all accounts on which checks can be drawn: non-interest-bearing checking accounts (demand deposits), interest-bearing NOW (negotiable order of withdrawal) accounts, and money market deposit accounts (MMDAs). MMDAs have features similar to those of money market mutual funds and are included in the checkable deposits category. However, MMDAs are not subject to reserve requirements as checkable deposits are. Several researches show that the category of checkable deposits is an important source of bank funds.

Checkable deposits and money market deposit accounts are payable on demand; that is, if a depositor shows up at the bank and requests payment by making a withdrawal, the bank must pay the depositor immediately. Similarly, if a person who receives a check written on an account from a bank presents that check at the bank, it must pay the funds out immediately (or credit them to that person's account).

A checkable deposit is an asset for the depositor because it is part of his or her wealth. Because the depositor can withdraw funds and the bank is obligated to pay, checkable deposits are a liability for the bank. They are usually the lowest cost source of bank funds because depositors are willing to forgo some interest to have access to a liquid asset that can be used to make purchases. The bank's costs of maintaining checkable deposits include interest payments and the costs incurred in servicing these accounts—processing, preparing, and sending out monthly statements, providing efficient tellers (human or otherwise), maintaining an impressive building and conveniently located branches, and advertising and marketing to entice customers to deposit their funds with a given bank.

Non transaction Deposits: Non transaction deposits are the primary source of bank funds. Owners cannot write checks on non transaction deposits, but the interest rates paid on these deposits are usually higher than those on checkable deposits. There are two basic types of non transaction deposits: savings accounts and time deposits (also called certificates of deposit or CDs).

Savings accounts were once the most common type of non transaction deposit. In these accounts, to which funds can be added or from which funds can be withdrawn at any time, transactions and interest payments are recorded in a monthly statement or in a passbook held by the owner of the account. Time deposits have a fixed maturity length, ranging from several months to over five years, and assess substantial penalties for early withdrawal (the forfeiture of several months' interest). Small -denomination time deposits are less liquid for the depositor than passbook savings, earn higher interest rates, and are a more costly source of funds for the banks.

Large-denomination time deposits (CDs) are typically bought by corporations or other banks. Large denomination CDs are negotiable; like bonds, they can be resold in a secondary market before they mature. For this reason, negotiable CDs are held by corporations, money market mutual funds, and other financial institutions as alternative assets to Treasury bills and other short-term bonds.

Borrowings: Banks also obtain funds by borrowing from the Federal Reserve System, the Federal Home Loan banks, other banks, and corporations. Borrowings from the Fed are called **discount loans** (also known as *advances*). Banks also borrow reserves overnight in the federal (fed) funds market from other banks and financial institutions. Banks borrow funds overnight to have enough deposits at the Federal Reserve to meet the amount required by the Fed. (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.) Borrowings have become a more important source of bank funds over time.

Bank Capital: The final category on the liabilities side of the balance sheet is bank capital, the bank's net worth, which equals the difference between total assets and liabilities. Bank capital is raised by selling new equity (stock) or from retained earnings. Bank capital is a cushion against a drop in the value of its assets, which could force the bank into insolvency (having liabilities in excess of assets, meaning that the bank can be forced into liquidation).

Assets

A bank uses the funds that it has acquired by issuing liabilities to purchase income earning assets. Bank assets are thus naturally referred to as *uses of funds*, and the interest payments earned on them are what enable banks to make profits.

Reserves: All banks hold some of the funds they acquire as deposits in an account at the National Banks are these deposits plus currency that is physically held by banks (called **vault cash** because it is stored in bank vaults overnight). Although reserves currently do not pay any interest, banks hold them for two reasons. First, some reserves, called **required reserves,** are held because of **reserve requirements,** the regulation that for every dollar of checkable deposits at a bank, a certain fraction (10 cents, for example) must be kept as reserves. This fraction (10% in the example) is called the **required reserve ratio.** Banks hold additional reserves, called **excess reserves,** because they are the most liquid of all bank assets and a bank can use them to meet its obligations when funds are withdrawn, either directly by a depositor or indirectly when a check is written on an account.

Cash Items in Process of Collection: Suppose that a check written on an account at another bank is deposited in your bank and the funds for this check have not yet been received (collected) from the other bank. The check is classified as a cash item in process of collection, and it is an asset for your bank because it is a claim on another bank for funds that will be paid within a few days.

Deposits at Other Banks: Many small banks hold deposits in larger banks in exchange for a variety of services, including check collection, foreign exchange transactions, and help with securities purchases. This is an aspect of a system called *correspondent banking*. Collectively, reserves, cash items in process of collection and deposits at other banks are referred to as *cash items*.

Securities: A bank's holdings of securities are an important income-earning asset: Securities (made up entirely of debt instruments for commercial banks, because banks are not allowed to hold stock) provide commercial banks with higher amount of their revenue. These securities can be classified into three categories: Government and agency securities, state and local government securities, and other securities. The government and agency securities are the most liquid because they can be easily traded and converted into cash with low transaction costs. Because of their high liquidity, short term government securities are called **secondary reserves.**

Banks hold state and local government securities because state and local governments are more likely to do business with banks that hold their securities. State and local government and other securities are both less marketable (less liquid) and riskier than government securities, primarily because of default risk: There is some possibility that the issuer of the securities may not be able to make its interest payments or pay back the face value of the securities when they mature.

Loans: Banks make their profits primarily by issuing loans. Most of bank assets are in the form of loans, and in recent years they have generally produced more than half of bank revenues. A loan is a liability for the individual or corporation receiving it, but an asset for a bank, because it provides income to the bank. Loans are typically less liquid than other assets, because they cannot be turned into cash until the loan matures. If the bank makes a one-year loan, for example, it cannot get its funds back until the loan comes due in one year. Loans also have a higher probability of default than other assets. Because of the lack of liquidity and higher default risk, the bank earns its highest return on loans.

The largest categories of loans for commercial banks are commercial and industrial loans made to businesses, and real estate loans. Commercial banks also make consumer loans and lend to each other. The bulk of these inter bank loans are overnight loans lent in the federal funds market. The major difference in the balance sheets of the various depository institutions is primarily in the type of loan in which they specialize. Savings and loans and mutual savings banks, for example, specialize in residential mortgages, while credit unions tend to make consumer loans.

Other Assets: The physical capital (bank buildings, computers, and other equipment) owned by the banks is included in this category.

Basic Banking

Before proceeding to a more detailed study of how a bank manages its assets and liabilities to make the highest profit, you should understand the basic operation of a bank.

In general terms, banks make profits by selling liabilities with one set of characteristics (a particular combination of liquidity, risk, size, and return) and using the proceeds to buy assets with a different set of characteristics. This process is often referred to as *asset transformation*. For example, a savings deposit held by one person can provide the funds that enable the bank to make a mortgage loan to another person. The bank has, in effect, transformed the savings deposit (an asset held by the depositor) into a mortgage loan (an asset held by the bank). Another way this process of asset transformation is described is to say that the bank “borrows short and lends long” because it makes long-term loans and funds them by issuing short-dated deposits.

The process of transforming assets and providing a set of services (check clearing, record keeping, credit analysis, and so forth) is like any other production process in a firm. If the bank produces desirable services at low cost and earns substantial income on its assets, it earns profits; if not, the bank suffers losses.

General Principles of Bank Management

Now that you have some idea of how a bank operates, let's look at how a bank manages its assets and liabilities to earn the highest possible profit. The bank manager has four primary concerns. The first is to make sure that the bank has enough ready cash to pay its depositors when there are **deposit outflows**—that is, when deposits are lost because depositors make withdrawals and demand payment. To keep enough cash on hand, the bank must engage in **liquidity management,** the acquisition of sufficiently liquid assets to meet the bank's obligations to depositors. Second, the bank manager must pursue an acceptably low level of risk by acquiring assets that have a low rate of default and by diversifying asset holdings (**asset management**). The third concern is to acquire funds at low cost (**liability management**). Finally, the manager must decide the amount of capital the bank should maintain and then acquire the needed capital (**capital adequacy management**).

Liquidity Management and the Role of Reserves

When a deposit outflow occurs, holding excess reserves allows the bank to escape the costs of (1) borrowing from other banks or corporations, (2) selling securities, (3) borrowing from the Fed, or (4) calling in or selling off loans. ***Excess reserves are insurance against the costs associated with deposit outflows. The higher the costs associated with deposit outflows, the more excess reserves banks will want to hold.***

Just as you and I would be willing to pay an insurance company to insure us against a casualty loss such as the theft of a car, a bank is willing to pay the cost of holding excess reserves (the opportunity cost, the earnings forgone by not holding income-earning assets such as loans or securities) to insure against losses due to deposit outflows. Because excess reserves, like insurance, have a cost, banks also take other steps to protect themselves; for example, they might shift their holdings of assets to more liquid securities (secondary reserves).

Asset Management

Now that you understand why a bank has a need for liquidity, we can examine the basic strategy a bank pursues in managing its assets. To maximize its profits, a bank must simultaneously seek the highest returns possible on loans and securities, reduce risk, and make adequate provisions for liquidity by holding liquid assets. Banks try to accomplish these three goals in four basic ways.

First, banks try to find borrowers who will pay high interest rates and are unlikely to default on their loans. They seek out loan business by advertising their borrowing rates and by approaching corporations directly to solicit loans. It is up to the bank's loan officer to decide if potential borrowers are good credit risks who will make interest and principal payments on time (i.e., engage in screening to reduce the adverse selection problem).

Second, banks try to purchase securities with high returns and low risk. Third, in managing their assets, banks must attempt to lower risk by diversifying. They accomplish this by purchasing many different types of assets (short- and long-term, Treasury, and municipal bonds) and approving many types of loans to a number of customers. Banks that have not sufficiently sought the benefits of diversification often come to regret it later. For example, banks that had overspecialized in making loans to energy companies, real estate developers, or farmers suffered huge losses in the 1980s with the slump in energy, property, and farm prices. Indeed, many of these banks went broke because they had "put too many eggs in one basket."

Finally, the bank must manage the liquidity of its assets so that it can satisfy its reserve requirements without bearing huge costs. This means that it will hold liquid securities even if they earn a somewhat lower return than other assets. The bank must decide, for example, how much in excess reserves must be held to avoid costs from a deposit

outflow. In addition, it will want to hold government securities as secondary reserves so that even if a deposit outflow forces some costs on the bank, these will not be terribly high. Again, it is not wise for a bank to be too conservative. If it avoids all costs associated with deposit outflows by holding only excess reserves, the bank suffers losses because reserves earn no interest, while the bank's liabilities are costly to maintain. The bank must balance its desire for liquidity against the increased earnings that can be obtained from less liquid assets such as loans.

Liability Management

Liability management meant that banks could take a different approach to bank management. They no longer needed to depend on checkable deposits as the primary source of bank funds and as a result no longer treated their sources of funds (liabilities) as given. Instead, they aggressively set target goals for their asset growth and tried to acquire funds (by issuing liabilities) as they were needed.

For example, today, when a money center bank finds an attractive loan opportunity, it can acquire funds by selling a negotiable CD. Or, if it has a reserve shortfall, it can borrow funds from another bank in the federal funds market without incurring high transaction costs. The federal funds market can also be used to finance loans. Because of the increased importance of liability management, most banks now manage both sides of the balance sheet together in an *asset–liability management (ALM) committee*.

Capital Adequacy Management

Banks have to make decisions about the amount of capital they need to hold for three reasons. First, bank capital helps prevent *bank failure*, a situation in which the bank cannot satisfy its obligations to pay its depositors and other creditors and so goes out of business. Second, the amount of capital affects returns for the owners (equity holders) of the bank. Third, a minimum amount of bank capital (bank capital requirements) is required by regulatory authorities.

3.1.2 Insurance Companies

In a contract of insurance, the insurer agrees/undertakes, in consideration of a sum of money (premium), to make good the loss suffered by the insured against a specified risk such as fire and any other similar contingency or compensate the insured/beneficiaries on the happening of a specified event such as accident or death. Thus, there are two parties to an insurance contract: (i) insurer/underwriter and (ii) insured/beneficiary. The document laying down the terms of the contract is called (insurance) policy. The property which is insured is the subject-matter of insurance. It may be insured against loss arising from uncertain events/casualties/perils in the form of destruction of, or damage to, the property or death/disablement of a person. The types of insurance include the following:

- *Life insurance:* Under this a certain amount becomes payable on the death of the insured or upon the expiry of a specified period of time, whichever is earlier.
- *General insurance*: It covers losses caused by fire, accident and marine adventures and so on.

DEFINITION OF INSURANCE

Insurance may be defined in various ways. Firstly, from the point view of an individual it may be defined as a risk transfer mechanism or an economic device whereby a person, called the insured/assured transfers a risk of a possible financial loss resulting from unforeseeable events affecting property, life or body to a person called the insurer for consideration. For instance, let us take a case of an owner of a motor vehicle, who always runs the risk of suffering a financial loss resulting from the loss or destruction of his property because of unforeseeable events such as fire, collision, overturning or even theft. Therefore, if the person purchases a motor insurance policy covering these risks from an insurer, it means that he transferred this possible financial loss to the insurer.

Secondly, from the point of view of the insurer, insurance may be defined as a mechanism through which a risk is distributed among the group of persons who are exposed to the same type of risk, i.e., persons who bear the risk of suffering a financial

loss as a result of events affecting property, life or body. We can further clarify this definition through the following example.

Let us say that X insurance Company has, through its various branches, sold 200,000 fire insurance policies, i.e., policies that cover losses related to buildings(residential, or business...) so that the insurer will have to pay compensation to the insured or the beneficiary of the policy in case where such property is destroyed by fire or lightening. The money collected from the sale of these policies form the pool out of which compensation shall be paid to those persons who have suffered financial loss because of damage to the insured buildings houses or businesses. Let us say that in the given financial year 50,000 policyholders have sustained financial losses /or lost their properties because of various causes which are covered by the policy. So, the insurer according to the obligation it has undertaken pays compensation to these policy holders out of the pool mentioned above, i.e., the price collected by the insurer from the sale of the policies (premium). This in other words means that all 200,000-policy holders who have paid the premium have contributed to the compensation paid to those who have sustained losses. This also means that, the insurer has distributed the losses sustained by the 50,000 policyholders among the remaining 150,000 policyholders whose properties were not damaged or destroyed in the given year.

Form the definitions provided above, we can understand that insurance is a cooperative economic device to spread the loss caused by a particular risk over a number of persons who are exposed to it and who agree to insure themselves against that risk. This means that insurance provides a pool to which many persons contribute a certain amount of money called the premium, and out of which the insurer compensates the few who suffer losses. This is always true in the case of property and liability insurance which cover contingencies and given for a short period of time, usually a period of one year, but does not so fully apply to insurance of persons particularly life insurance(see Art 692) in which the policy usually becomes a claim ultimately.

We can also understand that by insurance, the risk is transferred from the individual to the insurer who takes into account the total or probability of loss in a certain period, and then fixes the premium to be paid by each person insured.

For example, in the case of motor vehicle insurance, if the total likely loss of Euro Trucker Trucks is 50 per year, valued Birr one million each and the total number of trucks expected to be on voyage per year is estimated to be 25,000 trucks, the premium for each truck will be:

50 x 1,000,000 = Birr 50,000,000 = Birr 2000 plus

25,000 25,000

And certain amounts of money, say Birr 500, for administration expenses and profit, i.e., Birr 2500.

Thus, it can be seen that insurance is a device by which an insured person can protect himself from heavy loss likely to be caused by an uncertain event by paying a comparatively much smaller sum of money as premium. It has to be noted that insurance does not and cannot prevent loss of property, incurring civil liability, death, or injury or illness, rather it provides financial compensation for the effects of misfortune. In other words, we can say that insurance does not protect the insured property from loss or damage, or the insured from incurring civil liability or the insured person from death or injury or illness, but provides a financial compensation to the insured or the beneficiary who has suffered pecuniary losses as a result of loss or damage to property, or because he has incurred a civil liability or illness or death of the insured.

Insurance policies

The insurance policies are divided into two broad categories: life and non-life insurance policies.

Life insurance policies

A contract of life insurance is a contract under which, in consideration of the premium, the insurer agrees to pay a certain amount on the death of the assured or upon the expiry

of a certain fixed period, whichever is earlier. The main features of the important life insurance policies are discussed hereunder.

Endowment policy- Under this policy, the insured amount is payable either at the end of a specified number of years or upon death of the insured person, whichever is earlier. It may also be taken for the marriage of children when they reach a certain age, or for the education of children after the death of the assured.

Whole-life policy- The premium continues to be paid throughout the life of the assured, but the amount becomes payable only after his death. It is the cheapest form of policy.
Limited-payment life policy- It is similar to the whole-life policy in the sense that the policy money is payable only after the death of the assured. The difference is only in respect of the payment of premium. The premium is to be paid only for a certain number of years, or until the death of the assured, if it occurs within that period.

Joint-life policy- The policy money becomes payable either on maturity of the policy or on the death of any of the persons jointly insured. Partnership firms find such a policy especially useful because it enables them to pay the capital of the deceased partner.
Convertible whole-life policy- The rate of premium is quite low initially. After some time, the assured is given an option to convert the policy into an endowment policy failing which the policy continues as a whole-life policy.

Annuities- The person taking out an annuity may pay the premium in regular installments over a certain period. Alternatively, he may pay it in a lump sum. After the assured reaches a certain age, the insurer pays back the money in monthly, quarterly, half-yearly, or yearly installments. An annuity provides a source of regular income to the assured or to his dependents after the expiry of a specified period.

Sinking-fund policy- Corporate use this policy for redemption of debentures, repayment of loans or for replacement of assets. A fixed amount is paid as premium annually. The

amount keeps increasing with time at a specified rate of interest. After the prescribed period is over, the company gets the entire money.

Double-accident indemnity policy- If the assured dies of an accident, his survivors get double the amount of the policy.

Fire insurance policies

A fire insurance policy is a contract under which the insurer agrees, in consideration of a premium, to pay the loss or damage caused by fire during a specified period. In case of loss, the assured can claim from the insurer the actual amount of loss, or the maximum amount specified in the contract, whichever is less. Some of the important fire insurance policies are outlined below:

Specific policy- In a specific policy the loss suffered by the assured is covered only up to a specific amount, which is less than the real value of the property. The insurer generally inserts an average clause in such a policy so that in the event of loss he bears only the ratable proportion of such loss.

Comprehensive policy- It is also known as an *all-in-one* policy because it covers losses arising from any kind of risks such as fire, theft, burglary, third-party risks and so on. It may also cover loss of profits for the period during which business transactions remained suspended due to fire.

Valued policy- The insurer agrees to pay a fixed sum of money irrespective of the amount of loss to the insured. If the loss exceeds the fixed sum, the payment is justified, otherwise not. Being a contract of indemnity, no profit can b made out of any loss under an insurance policy. But under a valued policy, this is what actually happens.

Floating policy- It covers property lying at different places against loss by fire, for example, goods placed in two godowns at two different places. An average clause is always there in a floating policy.

Replacement or reinstatement policy- A replacement or reinstatement policy seeks to check mischief by the assured who, being tempted by the possibility of receiving cash from the insurer might himself become a party to the destruction of his goods or property by fire. The insurer only agrees to pay the cost of replacement of the property damaged or destroyed by fire. There is no cash payment- only the damaged or destroyed property is replaced or reinstated.

Marine insurance policies

Marine insurance is that branch of insurance which relates to ships and their cargoes. A contract of marine insurance is a contract under which the insurer indemnifies the insured against marine losses, that is to say, losses relating to marine adventure or to navigation or commerce on the sea. At times, such contract may extend to losses on inland waters or to any land risk relating to any sea voyage. But this can be only by a clear provision in the contract to that effect. The main types of such policies are discussed below:

Voyage Policy- It insures the subject matter ‘at and from’ or ‘from’ one place to another. If the policy is ‘at and from a port’ it covers the subject matte, both while the ship is at the port of departure and also from the time of the sailing of the ship. ‘From a port’ policy covers the subject matter only when the ship sails from the port.

Time policy- The subject matter is insured for a definite time not exceeding a year. If the policy period comes to an end while the ship is still away from its destination, it is taken care of by a *continuation clause* whereby the period is extended for such time as is necessary to take the ship safely to the port of destination.

Mixed policy- It combines a ‘voyage’ and a ‘time’ policy. It covers the risk during a particular voyage for a specified period, for instance, ‘From Bombay to London for six months’.

Valued policy- It is a policy which specifies the agreed value of the subject matter.

Open and unvalued policy- The value of the subject matter is not specified. In case of any loss, it is ascertained subject to the limit of the sum insured.

Floating policy- This policy only mentions the amount for which the policy is being taken out. The particulars as to the ship or ships, on which the goods are to be shipped, or as to the goods which are to be shipped, are left to the specified latter.

3.1.3 Other Forms of Financial Institutions

1. **Investment banking houses** provide 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.
2. **Financial services corporations** are large conglomerates that combine many different financial institutions within a single corporation. Examples of financial services corporations, most of which started in one area but have now diversified to cover most of the financial spectrum.

3. **Savings and loan associations (S&Ls)** traditionally served individual savers and residential and commercial mortgage borrowers, taking the funds of many small savers and then lending this money to home buyers and other types of borrowers. In the 1980s, the S&L industry experienced severe problems when (a) short-term interest rates paid on savings accounts rose well above the returns earned on the existing mortgages held by S&Ls and (b) commercial real estate suffered a severe slump, resulting in high mortgage default rates. Together, these events forced many S&Ls to merge with stronger institutions or close their doors.

4. **Mutual savings banks**, which are similar to S&Ls, operate primarily, accepting savings primarily from individuals, and lending mainly on a long-term basis to home buyers and consumers.

5. **Credit unions** are cooperative associations whose members are supposed to have a common bond, such as being employees of the same firm. Members' savings are loaned only to other members, generally for auto purchases, home improvement loans, and home mortgages. Credit unions are often the cheapest source of funds available to individual borrowers.

6. **Pension funds** are retirement plans funded by corporations or government agencies for their workers and administered primarily by the trust departments of commercial banks or by life insurance companies. Pension funds invest primarily in bonds, stocks, mortgages, and real estate.

7. **Mutual funds** are corporations that accept money from savers and then use these funds to buy stocks, long-term bonds, or short-term debt instruments issued by businesses or government units. These organizations pool funds and thus reduce risks by diversification. They also achieve economies of scale in analyzing securities, managing portfolios, and buying and selling securities. Different funds are designed to meet the objectives of different types of savers. Hence, there are bond funds for those who desire safety, stock funds for savers who are willing to accept significant risks in the hope of higher returns, and still other funds that are used as interest-bearing checking accounts (**money market funds**). There are literally thousands of different mutual funds with dozens of different goals and purposes.

Mutual funds have grown more rapidly than most other institutions in recent years, in large part because of a change in the way corporations provide for employees' retirement. Before the 1980s, most corporations said, in effect, "Come work for us, and when you retire, we will give you a retirement income based on

the salary you were earning during the last five years before you retired." The company was then responsible for setting aside funds each year to make sure it had the money available to pay the agreed-upon retirement benefits. That situation is changing rapidly. Today, new employees are likely to be told, "Come work for us, and we will give you some money each payday that you can invest for your future retirement. You can't get the money until you retire (without paying a huge tax penalty), but if you invest wisely, you can retire in comfort." Most workers recognize that they don't know enough to invest wisely, so they turn their retirement funds over to a mutual fund. Hence, mutual funds are growing rapidly.

8. **Hedge funds** are similar to mutual funds because they accept money from savers and use the funds to buy various securities, but there are some important differences. While mutual funds are registered and regulated by the Securities and Exchange Commission (SEC), hedge funds are largely unregulated. This difference in regulation stems from the fact that mutual funds typically target small investors, whereas hedge funds typically have large minimum investments that are effectively marketed to institutions and individuals with high net worth. Different hedge fund managers follow different strategies.

For example, a hedge fund manager who believes that the spreads between corporate and Treasury bond yields are too large might simultaneously buy a portfolio of corporate bonds and sell a portfolio of Treasury bonds. In this case, the portfolio is "hedged" against overall movements in interest rates, but it will do well if the spread between these securities narrows. Likewise, hedge fund managers may take advantage of perceived incorrect valuations in the stock market, that is, where a stock's market and intrinsic values differ.

As hedge funds have become more popular, many have begun to lower their minimum investment requirements. Perhaps not surprisingly, their rapid growth and shift toward smaller investors have also led to a call for more regulation. With the

notable exception of hedge funds, financial institutions have been heavily regulated to ensure the safety of these institutions and thus to protect investors.

Review Exercises

1. What is the difference between a pure commercial bank and a pure investment bank?
2. List the major types of financial institutions, and briefly describe the primary function of each.
3. What are some important differences between mutual and hedge funds? How are they similar
4. Define each of the following terms:
   a. Investment banking house
   b. Commercial bank
   c. Financial services corporation
   d. Mutual funds
   e. Money market funds
5. What services do commercial banks provide that make them financial intermediaries?

Chapter Four
Organization and structure of markets – Primary markets

4.1 What is a Market?

A **market** is the means through which buyers and sellers are brought together to aid in the transfer of goods and/or services. Several aspects of this general definition seem worthy of emphasis. First, a market need not have a physical location. It is only necessary that the buyers and sellers can communicate regarding the relevant aspects of the transaction.

Second, the market does not necessarily own the goods or services involved. For a good market, ownership is not involved; the important criterion is the smooth, cheap transfer of goods and services. In most financial markets, those who establish and administer the market do not own the assets but simply provide a physical location or an electronic system that allows potential buyers and sellers to interact. They help the market function by providing information and facilities to aid in the transfer of ownership.

Finally, a market can deal in any variety of goods and services. For any commodity or service with a diverse clientele, a market should evolve to aid in the transfer of that commodity or service. Both buyers and sellers will benefit from the existence of a smooth functioning market.

Throughout this module, we will discuss markets for different investments, such as stocks, bonds, options, and futures, in most

developed countries of the world. We will refer to these markets using various terms of quality, such as *strong, active, liquid,* or *illiquid.* There are many financial markets, but they are not all equal—some are active and liquid; others are relatively illiquid and inefficient in their operations. To appreciate these discussions, you should be aware of the following characteristics that investors look for when evaluating the quality of a market.

One enters a market to buy or sell a good or service quickly at a price justified by the prevailing supply and demand. To determine the appropriate price, participants must have timely and accurate information on the volume and prices of past transactions and on all currently outstanding bids and offers. Therefore, one attribute of a good market is **timely and accurate information**.

Another prime requirement is **liquidity**, the ability to buy or sell an asset quickly and at a known price—that is, a price not substantially different from the prices for prior transactions, assuming no new information is available. An asset's likelihood of being sold quickly, sometimes referred to as its *marketability,* is a necessary, but not a sufficient, condition for liquidity. The expected price should also be fairly certain, based on the recent history of transaction prices and current bid-ask quotes

A component of liquidity is **price continuity**, which means that prices do not change much from one transaction to the next unless substantial new information becomes available. Suppose no new information is forthcoming and the last transaction was at a price of $20; if the next trade were at $20.05, the market would be considered

reasonably continuous. A continuous market without large price changes between trades is a characteristic of a liquid market.

A market with price continuity requires *depth,* which means that numerous potential buyers and sellers must be willing to trade at prices above and below the current market price. These buyers and sellers enter the market in response to changes in supply and demand or both and thereby prevent drastic price changes. In summary, liquidity requires marketability and price continuity, which, in turn, requires depth.

Another factor contributing to a good market is the **transaction cost**. Lower costs (as a percent of the value of the trade) make for a more efficient market. An individual comparing the cost of a transaction between markets would choose a market that charges 2 percent of the value of the trade compared with one that charges 5 percent. Most

microeconomic textbooks define an efficient market as one in which the cost of the transaction is minimal. This attribute is referred to as *internal efficiency.*

Finally, a buyer or seller wants the prevailing market price to adequately reflect all the information available regarding supply and demand factors in the market. If such conditions change as a result of new information, the price should change accordingly. Therefore, participants want prices to adjust quickly to new information regarding supply or demand, which means that prices reflect all available information about the asset. This attribute is referred to as **external efficiency** or **informational efficiency**.

In summary, a good market for goods and services has the following characteristics:

1. Timely and accurate information is available on the price and volume of past transactions and the prevailing bid and ask prices.
2. It is liquid, meaning an asset can be bought or sold quickly at a price close to the prices for previous transactions (has price continuity), assuming no new information has been received. In turn, price continuity requires depth.
3. Transactions entail low costs, including the cost of reaching the market, the actual brokerage costs, and the cost of transferring the asset.
4. Prices rapidly adjust to new information; thus, the prevailing price is fair because it reflects all available information regarding the asset.

4.2 Organization of the Securities Market

Before discussing the specific operation of the securities market, you need to understand its overall organization. The principal distinction is between **primary markets**, where new securities are sold, and **secondary markets**, where outstanding securities are bought and sold. Each of these markets is further divided based on the economic unit that issued the security.

4.2.1 Primary market

The **primary market** is the part of the capital market that deals with issuing of new securities. Companies, governments or public sector institutions can obtain funds through the sale of a new stock or bond issues through primary market. This is typically done through an investment bank or finance syndicate of securities dealers.

The process of selling new issues to investors is called underwriting. In the case of a new stock issue, this sale is an initial public offering (IPO). Dealers earn a commission that is built into the price of the security offering, though it can be found in the prospectus. Primary markets create long term instruments through which corporate entities borrow from capital market. Once issued the securities typically trade on a secondary market such as a stock exchange, bond market or derivatives exchange.

Features of Primary market

Features of primary markets are:

- This is the market for new long term equity capital. The primary market is the market where the securities are sold for the first time. Therefore it is also called the new issue market (NIM).
- In a primary issue, the securities are issued by the company directly to investors.
- The company receives the money and issues new security certificates to the investors.
- Primary issues are used by companies for the purpose of setting up new business or for expanding or modernizing the existing business.
- The primary market performs the crucial function of facilitating capital formation in the economy.

- The new issue market does not include certain other sources of new long term external finance, such as loans from financial institutions. Borrowers in the new issue market may be raising capital for converting private capital into public capital; this is known as "going public."
- The **secondary market**, also called **aftermarket**, is the financial market in which previously issued financial instruments such as stock, bonds, options, and futures are bought and sold. Another frequent usage of "secondary market" is to refer to loans which are sold by a mortgage bank to investors.

- The term "secondary market" is also used to refer to the market for any used goods or assets, or an alternative use for an existing product or asset where the customer base is the second market (for example, corn has been traditionally used primarily for food production and feedstock, but a "second" or "third" market has developed for use in ethanol production).

- With primary issuances of securities or financial instruments, or the primary market, investors purchase these securities directly from issuers such as corporations issuing shares in an IPO or private placement, or directly from the federal government in the case of treasuries. After the initial issuance, investors can purchase from other investors in the secondary market.

- The secondary market for a variety of assets can vary from loans to stocks, from fragmented to centralized, and from illiquid to very liquid. The major stock exchanges are the most visible example of liquid secondary markets - in this case, for stocks of publicly traded companies. Exchanges such as the New York Stock Exchange, London Stock Exchange and Nasdaq provide a centralized, liquid secondary market for the investors who own stocks that trade on those exchanges. Most bonds and structured products trade “over the counter,” or by phoning the bond desk of one’s broker-dealer. Loans sometimes trade online using a Loan Exchange.

4. 2.1.1 Underwriting Stocks and Bonds

When a corporation wants to borrow or raise funds, it may decide to issue long-term debt or equity instruments. It then usually hires an investment bank to facilitate the issuance and subsequent sale of the securities. The investment bank may underwrite the issue. The process of underwriting a stock or bond issue requires that the securities firm *purchase* the entire issue at a predetermined price and then resell it in the market. There are a number of services provided in the process of underwriting.

Giving Advice

Most firms do not issue capital market securities very frequently. Over 80% of all corporate expansion is financed using profits retained from prior period earnings. As a result, the financial managers at most firms are not familiar with how to proceed with a new security offering. Investment bankers, since they participate in this market daily, can provide advice to firms contemplating a sale. For instance, a firm may not know if it should raise capital by selling stocks or by selling bonds. The investment bankers may be able to help by pointing out, for example, that the market is currently paying high prices for stocks in the firm's industry (historically high PE ratios), while bonds are currently carrying relatively high interest rates (and therefore low prices).

Firms may also need advice as to *when* securities should be offered. If, for example, competitors have recently released earnings reports that show poor profits, it may be better to wait before attempting a sale: Firms want to time the market to sell stock when it will obtain the highest possible price. Again, because of daily interaction with the securities markets, investment bankers should be able to advise firms on the timing of their offerings.

Possibly the most difficult advice an investment banker must give a customer concerns at what *price* the security should be sold. Here the investment banker and the issuing firm have somewhat differing motives. First, consider that the firm wants to sell the stock for the highest price possible. Suppose you started a firm and ran it well for 20 years. You now wish to sell it to the public and retire to Tahiti. If 500,000 shares are to be offered and sold at $10 each, you will receive $5 million for your company. If you can sell the stock for $12, you will receive $6 million.

Investment bankers, however, do not want to overprice the stock because in most underwriting agreements, they will buy the entire issue at the agreed price and then resell it through their brokerage houses. They earn a profit by selling the stock at a slightly higher price than they paid the issuing firm. If the issue is priced too high, the investment bank will not be able to resell, and it will suffer a loss.

Pricing securities is not too hard if the firm has prior issues currently selling in the market, called **seasoned issues.** When a firm issues stock for the first time, called an **initial public offering (IPO),** it is much more difficult to determine what the correct price should be. All of the skill and expertise of the investment banking firm will be used to determine the most appropriate price. If the issuing firm and the investment banking firm can come to agreement on a price, the investment banker can assist with the next stage, filing the required documents.

Filing Documents

In addition to advising companies, investment bankers will assist with making the required **Securities and Exchange Commission (SEC)** filings. The activities of investment banks and the operation of primary markets are heavily regulated by the SEC, which was created by the Securities and Exchange Acts of 1933 and 1934 to ensure that adequate information reaches prospective investors.

Issuers of new securities to the general public (for amounts greater than $1.5 million in a year and with a maturity longer than 270 days) must file a **registration statement** with the SEC. This statement contains information about the firm's financial condition, management, competition, industry, and experience. The firm also discloses what the funds will be used for and management's assessment of the risk of the securities. The issuer must then wait 20 days after the registration statement is filed with the SEC before it can sell any of the securities. The SEC will review the registration statement, and if it does not object during a 20-day waiting period, the securities can then be sold.

The SEC reviews in no way represents an endorsement of the offering by the SEC. Their approval merely means that all of the required statements and disclosures are included in the statement. Nor does SEC approval mean that the information is accurate. Inaccuracies in the registration statement open the issuing firm's management up to lawsuits if it incurs losses. In extreme cases, inaccuracies could result in criminal charges.

A portion of the registration statement is reproduced and made available to investors for review. This widely circulated document is called a **prospectus.** By law, investors must be given a prospectus before they can invest in a new security.
While the registration document is in the process of being approved, the investment banker has other chores to attend to. For issues of debt, the investment banker must:

- ✓ Secure a credit rating from one or more of the credit review companies, such as Standard and Poor's or Moody's.
- ✓ Hire a bond counsel who will issue a statement attesting to the legality of the issue.
- ✓ Select a trustee who is responsible for seeing that the issuer fulfills its obligations as stated in the security's contract.
- ✓ Have the securities printed and prepared for distribution.

For equity issues, the investment banker may arrange for the securities to appear on one of the stock exchanges. Clearly, the investment banker can be of great assistance to an issuer well before any securities are actually offered for sale.

Underwriting

Once all of the paperwork has been completed, the investment banker can proceed with the actual underwriting of the issue. At a pre - specified time and date, the issuer will sell all of the stock or bond issue to the investment banking firm at the agreed price. The investment banker must now distribute this issue to the public at a greater price to earn its fee.

By agreeing to underwrite an issue, the investment banking firm is certifying the quality of the issue to the public. We again see how asymmetric information helps justify the need for an intermediary. Investors do not want to put in weeks and weeks of hard technical study of a firm before buying its stock. Nor can they trust the firm's insiders to accurately report its condition. Instead, they rely on the ability of the investment bank to collect information about the firm in order to accurately establish the firm's value. They

trust the investment bank's assessment, since it is backing up its opinion by actually purchasing securities in the process of underwriting them. Investment bankers recognize the responsibility they have to report information accurately and honestly, since once they lose investors' confidence, they will no longer be able to market their deals.

The investment banking firm is clearly taking a huge risk at this point. One way that it can reduce the risk is by forming a **syndicate.** A syndicate is a group of investment banking firms, each of which buys a portion of the security issue. Each firm in the syndicate is then responsible for reselling its share of the securities. Most securities issues are sold by syndicates because it is such an effective way to spread the risk among many different firms.

Investment banks advertise upcoming securities offerings with ads in the *Wall Street Journal.* The traditional advertisement is a large block ad in the financial section of the paper. These ads are called **tombstones** because of their shape, and they list all of the investment banking firms included in the syndicate. Review the tombstone reproduced in the Following the Financial News box. The ad states that this is neither an offer to sell nor will offers to buy be accepted. The actual offer to sell can only be made in the prospectus. Also note the different investment banking firms involved in the syndicate.

The longer the investment banker holds the securities before reselling them to the public, the greater the risk that a negative price change will cause losses. One way that the investment banking firm speeds the sale is to solicit offers to buy the securities from investors prior to the date the investment bankers actually take ownership. Then, when the securities are available, the orders are filled and the securities are quickly transferred to the final buyers.

Most investment bankers are attached to larger brokerage houses (multifunction securities firms) that have nationwide sales offices. Each of these offices will be contacted prior to the issue date, and the sales agents will contact their customers to see if they would like to review a prospectus on the new security. The goal is to **fully subscribe** the issue. A

fully subscribed issue is one where all of the securities available for sale have been spoken for before the issue date. Security issues may also be **undersubscribed.** In this case, the sales agents have been unable to generate sufficient interest in the security among their customers to sell all of the securities by the issue date. An issue may also be **oversubscribed,** in which case there are more offers to buy than there are securities available.

It is tempting to assume that the best alternative is for an issue to be oversubscribed, but in fact this will alienate the investment banker's customers. Suppose you were issuing a security for the first time and had negotiated with your investment banker to sell the issue of 500,000 shares of stock at $20. Now you find out that the issue is oversubscribed. You would feel that the investment banker had set the price too low and that you had lost money as a result. Maybe the stock could have sold for $25 and you could have collected an extra $2.5 million [($25 – $20) _ 500,000 = $2,500,000]. You, as well as other issuing firms, would be unlikely to use this investment banker in the future.

It is equally serious for an issue to be undersubscribed, since it may be necessary to lower the price below what the investment bankers paid to the issuer in order to sell all of the securities to the public. The investment banking firm stands to lose extremely large amounts of money because of the volume of securities involved. For example, review the tombstone shown in the Following the Financial News box once more. There are over 24 million shares being offered for sale. If the price must be lowered by even $.25 per share, over $6,000,000 would be lost. The high risk taken by investment bankers explains why they tend to be the most elite and highest-paid professionals on Wall Street, many earning millions of dollars per year.

4.2.1.2 Variations in the underwriting of securities

Best Efforts

An alternative to underwriting a securities offering is to offer the securities under a *best efforts agreement*. In a best efforts agreement, the investment banker sells the securities

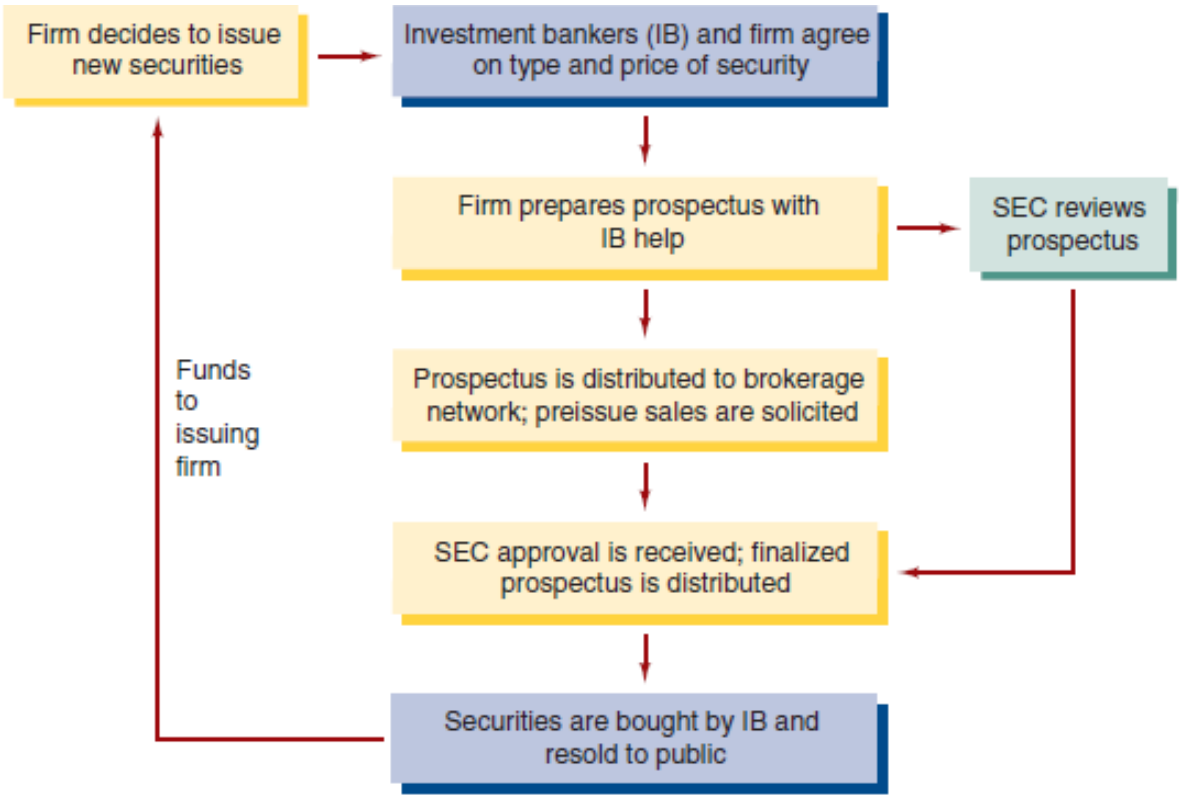
on a commission basis with no guarantee regarding the price the issuing firm will receive. The advantage to the investment banker of a best efforts transaction is that there is no risk of mispricing the security. There is also no need for the time-consuming task of establishing the market value of the security. The investment banker simply markets the security at the price the customer asks. If the security fails to sell, the offering can be canceled.

Private Placements

An alternative method of selling securities is called the *private placement.* In a private placement, securities are sold to a limited number of investors rather than to the public as a whole. The advantage of the private placement is that the security does not need to be registered with the SEC as long as certain restrictive requirements are satisfied. Investment bankers are also often involved in private placement transactions. While investment bankers are not required for a private placement, they often facilitate the transaction by advising the issuing firm on the appropriate terms for the issue and by identifying potential purchasers.

The buyers of private placements must be large enough to purchase large amounts of securities at one time. This means that the usual buyers are insurance companies, commercial banks, pension funds, and mutual funds. Private placements are more common for the sale of bonds than for stocks. The process of taking a security public is summarized in Figure below.

Using Investment Bankers to Distribute Securities to the Public



4.3 World capital markets integration and fund raising implication

As an investor in the 21st century, you have an array of investment choices unavailable a few decades ago. Together, the dynamism of financial markets, technological advances, and new regulations have resulted in numerous new investment instruments and expanded trading opportunities. Improvements in communications and relaxation of international regulations have made it easier for investors to trade in both domestic and global markets. Telecommunications networks enable U.S. brokers to reach security exchanges in London, Tokyo, and other European and Asian cities as easily as those in New York, Chicago, and other U.S. cities. The competitive environment in the brokerage industry and the deregulation of the banking sector has made it possible for more financial institutions to compete for investor

dollars. This has spawned investment vehicles with a variety of maturities, risk-return characteristics, and cash flow patterns.

As an investor, you need to understand the differences among investments so you can build a properly diversified **portfolio** that conforms to your objectives. That is, you should seek to acquire a group of investments with different patterns of returns over time. If chosen carefully, such portfolios minimize risk for a given level of return because low or negative rates of return on some investments during a period of time are offset by above-average returns on others. The goal is to build a balanced portfolio of investments with relatively stable overall rates of return.

Twenty years ago, the bulk of investments available to individual investors consisted of U.S. stocks and bonds. Now, however, a call to your broker gives you access to a wide range of securities sold throughout the world. Currently, you can purchase stock in General Motors or Toyota, U.S. Treasury bonds or Japanese government bonds, a mutual fund that invests in U.S. biotechnology companies, a global growth stock fund or a German stock fund, or options on a U.S. stock index.

Several changes have caused this explosion of investment opportunities. For one, the growth and development of numerous foreign financial markets, such as those in Japan, the United Kingdom, and Germany, as well as in emerging markets, such as China, have made these markets accessible and viable for investors around the world. Numerous U.S. investment firms have recognized this opportunity and established and expanded facilities in these countries. This expansion was aided by major advances in telecommunications technology that made it possible to maintain constant contact with

offices and financial markets around the world. In addition to the efforts by U.S. firms, foreign firms and investors undertook counterbalancing initiatives, including significant mergers of firms and security exchanges. As a result, investors and investment firms from around the world can trade securities worldwide. Thus, investment alternatives are available from security markets around the world.

Three interrelated reasons U.S. investors should think of constructing global investment portfolios can be summarized as follows:

1. When investors compare the absolute and relative sizes of U.S. and foreign markets for stocks and bonds, they see that ignoring foreign markets reduces their choices to less than 50 percent of available investment opportunities. Because more opportunities broaden your range of risk-return choices, it makes sense to evaluate foreign securities when selecting investments and building a portfolio.
2. The rates of return available on non-U.S. securities often have substantially exceeded those for U.S.-only securities. The higher returns on non-U.S. *equities* can be justified by the higher growth rates for the countries where they are issued. These superior results typically prevail even when the returns are risk adjusted.
3. One of the major tenets of investment theory is that investors should diversify their portfolios. Because the relevant factor when diversifying a portfolio is low correlation between asset returns, diversification with foreign securities that have very low correlation with U.S. securities can help to substantially reduce portfolio risk.

4.4 Regulation of Financial Markets

Government agencies and practitioner organizations regulate many markets and the financial intermediaries that participate in them. The regulators generally seek to promote fair and orderly markets in which traders can trade at prices that accurately reflect fundamental values without incurring excessive transaction costs. This section identifies the problems that financial regulators hope to solve and the objectives of their regulations.

Regrettably, some people will steal from each other if given a chance, especially if the Probability of detection is low or if the penalty for being caught is low. The number of ways that people can steal or misappropriate wealth generally increases with the complexity of their relationships and with asymmetries in their knowledge. Because financial markets tend to be complex, and because customers are often much less sophisticated than the professionals that serve them, the potential for losses through various frauds can be unacceptably high in unregulated markets.

Regulators thus ensure that systems are in place to protect customers from fraud. In principle, the customers themselves would demand such systems as a condition of doing business. When customers are unsophisticated or poorly informed, however, they may not know how to protect themselves. When the costs of learning are large-as they often are in complex financial markets- having regulators look out for the public interest can be economically efficient.

More customer money is probably lost in financial markets through negligence than through outright fraud. Most customers in financial markets use various agents to help them solve problems that they do not understand well. These agents include securities brokers, financial advisers, investment managers, and insurance agents. Because customers generally do not have much information about market conditions, they find it extremely difficult to measure the added value they obtain from their agents. This problem is especially challenging when performance has a strong random component. In that case, determining whether agents are skilled or lucky is very difficult. Moreover, if the agent is a good salesman, the customer may not critically evaluate their agent’s performance. These conditions, which characterize most financial markets, ensure that

customers cannot easily determine whether their agents are working faithfully for them. They tend to lose if their agents are unqualified or lazy, or if they unconsciously favor themselves and their friends over their clients, as is natural for even the most honest people.

Regulators help solve these agency problems by setting minimum standards of competence for agents and by defining and enforcing minimum standards of practice. In principle, regulation would not be necessary if customers could identify competent agents and effectively measure their performance. In the financial markets, doing so is very difficult.

Regulators often act to level the playing field for market participants. For example, in many jurisdictions, insider trading in securities is illegal. The rule prevents corporate insiders and others with access to corporate information from trading on material information that has not been released to the public. The purpose of the rule is to reduce the profits that insiders could extract from the markets. These profits would come from other traders who would lose when they trade with well-informed insiders. Because traders tend to withdraw from markets when they lose, rules against insider trading help keep markets liquid. They also keep corporate insiders form hording information.

Many situations arise in financial markets in which common standards benefit everyone involved. For example, having all companies report financial results on a common basis allows financial analysts to easily compare companies. Accordingly, the international Accounting Standards Board (IASB) and the U.S. based Financial Accounting Standards Board, among many others, promulgate common financial standards to which all companies must report. The benefits of having common reporting standards has led to a very successful and continuing effort to converge all accounting standards to a single worldwide standard. Without such regulations, investors might eventually refuse to invest in companies what do not report to a common standard, but such market-based discipline is a very slow regulator of behavior, and it would have little effect on companies that do not need to raise new capital.

Regulators generally require that financial firms maintain minimum levels of capital. These capital requirements serve two purposes. First, they ensure that the companies will be able to honor their contractual commitments when unexpected market movement or poor decisions cause them to lose money. Second, they ensure that the owners of financial firms have substantial interest in the decisions that they make. Without a substantial financial interest in the decisions that they make. Without a substantial financial interest in the decisions that they make, companies often take too many risks and exercise poor judgment about extending credit to others. When such companies fail, they impose significant costs on others.

Minimum capital requirements reduce the probability that financial firms will fail and they reduce the disruptions associated with those failures that do occur. In principle, a firm's customers and counterparties could require minimum capital levels as a condition of doing business with the firm, but they have more difficulty enforcing their contracts than do governments who can imprison people.

Regulators similarly regulate insurance companies and pension funds that make long-term promises to their clients. Such entities need to maintain adequate reserves to ensure that they can fund their liabilities. Unfortunately, their managers have a tendency to underestimate these reserves if they will not be around when the liabilities come due. Again, in principle, policyholders and employees could regulate the behavior of their insurance funds and their employers by refusing to contract with them if they do not promise to adequately fund their liabilities. In practice, however, the sophistication, information, and time necessary to write and enforce contracts that control these problems are beyond the reach of most people. The government thus is a sensible regulator of such problems.

Many regulators are **self-regulating organizations (SROs)** that regulate their members. Exchanges, clearinghouses, and dealer trade organization are examples of self-regulating organizations. In some cases, the members of this organization voluntarily subject themselves to the SRO's regulations to promote the common good. In other cases,

governments delegate regulatory and enforcement authorities to SROs, usually subject to the supervision of a government agency, such as a national securities and exchange authority. Exchanges, dealer associations, and clearing agencies often regulate their members with these delegated powers.

By setting high standards of behavior, SROs help their members obtain the confidence of their customers. They also reduce the chance that members of the SRO will incur losses when dealing with other members of the SRO.

When regulators fail to solve the problems discussed here, the financial system does not function well. People who lose money stop saving and borrowers with good ideas cannot fund their projects. Similarly, hedgers withdraw from markets when the costs of hedging are high.

Without the ability to hedge, producers become reluctant to specialize because specialization generally increases risk. Because specialization also de creases costs, however, production becomes less efficient as producers chose safer technologies. Economies that cannot solve the regulatory problems described in this section tend to operate less efficiently than do better regulated economies, and they tend to be less wealth.

To summarize, the objectives of market regulation are to:

1. Control fraud;
2. Control agency problems;
3. Promote fairness;
4. Set mutually beneficial standards;
5. Prevent undercapitalized financial firms from exploiting their investors by making excessively risky investment; and
6. Ensure that long-term liabilities are funded.

Regulation is necessary because regulating certain behaviors through market-based mechanisms is too costly for people who are unsophisticated and uninformed. Effectively regulated markets allow people to better achieve their financial goals.

Review Exercises

1) Define *market* and briefly discuss the characteristics of a good market.
2) Define *liquidity* and discuss the factors that contribute to it. Give examples of a liquid asset and an illiquid asset, and discuss why they are considered liquid and illiquid.
3) Give an example of an initial public offering (IPO) in the primary market. Give an example of a seasoned equity issue in the primary market. Discuss which would involve greater risk to the buyer.
4) Define a primary and secondary market for securities and discuss how they differ.
5) Discuss why the primary market is dependent on the secondary market.
6) What is an IPO?
7) Is an initial public offering an example of a primary or a secondary market transaction?
8) How does a cost-efficient capital market help to reduce the prices of goods and services?
9) Describe the different ways in which capital can be transferred from suppliers of capital to those who are demanding capital.
10) In what ways do private placements differ from public placements?

Chapter 5

Organization and structure of markets - Secondary Markets

5.1 Secondary Markets

As mentioned 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 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.

The New York Stock Exchange and NASDAQ (National Association of Securities Dealers Automated Quotation System), in which previously issued stocks are traded, are the best-known examples of secondary markets, although the bond markets, in which previously issued bonds of major corporations and the U.S. government are bought and

sold, actually have a larger trading volume. Other examples of secondary markets are foreign exchange markets, futures markets, and options markets.

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 who 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 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.

5.1.1 Exchanges and Over-the-Counter Markets

Secondary markets can be organized in two ways. One method 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.

Many common stocks are traded over the counter, although a majority of the largest corporations have their shares traded at organized stock exchanges. The U.S. government bond market, with a larger trading volume than the New York Stock Exchange, by contrast, is set up as an over-the-counter market. Forty or so dealers establish a "market" in these securities by standing ready to buy and sell U.S. government bonds. Other over-the-counter markets include those that trade other types of financial instruments such as negotiable certificates of deposit, federal funds, banker's acceptances, and foreign exchange.

Organized vs. Over-the-Counter Trading (OTC): How do they Operate?

There is a significant difference between how organized and OTC exchanges operate. Organized exchanges are characterized as auction markets that use floor traders who specialize in particular stocks. These specialists oversee and facilitate trading in a group of stocks. Floor traders, representing various brokerage firms with buy and sell orders, meet at the trading post on the exchange and learn about current bid and ask prices. These quotes are called out loud. In about 90% of trades, the specialist matches buyers with sellers. In the other 10%, the specialists may intervene by taking ownership of the stock themselves or by selling stock from inventory. It is the specialist's duty to maintain an orderly market in the stock even if that means buying stock in a declining market.

Whereas organized exchanges have specialists who facilitate trading, over-the counter markets have market makers. Rather than trading stocks in an auction format, they trade on an electronic network where bid and ask prices are set by the market makers. There are usually multiple market makers for any particular stock. They each enter their bid and ask quotes. Once this is done, they are obligated to buy or sell at least 1,000 securities at that price. Once a trade has been executed, they may enter a new bid and ask quote. Market makers are important to the economy in that they assure there is continuous

liquidity for every stock, even those with little transaction volume. Market makers are compensated by the spread between the **bid price** (the price they pay for stocks) and **ask price** (the price they sell the stocks for). They also receive commissions on trades.

Although NASDAQ, the NYSE, and the other exchanges are heavily regulated, they are still public for-profit businesses. They have shareholders, directors, and officers who are interested in market share and generating profits. This means that the NYSE is vigorously competing with NASDAQ for the high-volume stocks that generate the big fees. For example, the NYSE has been trying to entice Microsoft to leave the NASDAQ and list with them for many years.

5.1.2 Why Secondary Markets Are Important

Before discussing the various segments of the secondary market, we must consider its overall importance. Because the secondary market involves the trading of securities initially sold in the primary market, *it provides liquidity to the individuals who acquired these securities.* After acquiring securities in the primary market, investors want the ability to sell them again to acquire other securities, buy a house, or go on a vacation. The primary market benefits greatly from the liquidity provided by the secondary market because investors would hesitate to acquire securities in the primary market if they thought they could not subsequently sell them in the secondary market. That is, without an active secondary market, potential issuers of stocks or bonds in the primary market would have to provide a much higher rate of return to compensate investors for the substantial liquidity risk.

Secondary markets are also important to those selling seasoned securities because the prevailing market price of the securities is determined by transactions in the secondary market. New issues of outstanding stocks or bonds to be sold in the primary market are based on prices and yields in the secondary market. Even forthcoming IPOs are priced

based on the prices and values of comparable stocks or bonds in the public secondary market.

5.1.3 Secondary market trading mechanics

Trading is successful outcome to a bilateral search in which buyers look for sellers and sellers look for buyers. Many market structures have developed to reduce the cost of this search. Markets are liquid when the costs of finding a suitable counterparty to a trade are low.

Trading in securities and contracts takes place in a variety of market structures. The structures differ by when trades can be arranged, who arranges the trades, how they do so, and how traders learn about possible trading opportunities and executed trades. This section introduces the various market structures used to trade securities and contracts. We first consider trading sessions, then execution mechanisms, and finally market information systems.

Trading Session

Markets are organized as call markets and or as continuous trading markets. In a call markets, trades can be arranged only when the market is called at a particular time and place. In contrast in a continuous trading market, trades can be arranged and executed any time the market is open.

Buyers can easily find sellers and vice versa in call markets because all traders interested in trading (or orders representing their interests) are present at the same time and place. Call markets thus have the potential to be very liquid when they are called. But they are completely illiquid between trading sessions. In contrast, traders can arrange and execute their trades at anytime in continuous trading markets, but doing so can be difficult if the buyers and sellers (or their orders) are not both present at the same time.

Most call markets use single price auctions to match buyers to sellers. In these auctions, the market constructs order books representing all buy orders and seller orders. The market then chooses a single trade price that will maximize the total volume of trade. The order books are supply and demand schedules, and the point at which they cross determines the trade price.

Call markets usually are organized just once a day, but some markets organize calls at more frequent intervals.

Many continuous trading markets start their trading with a call market auction. During a pre – opening period, traders submit their orders for the market call. At the opening, any possible trades are arranged and then trading continues in the continuous trading sessions. Some continuous trading markets also close their trading with a call. In these markets, traders who are only interested in trading in the closing call submit market – or limit – on – close orders.

Execution Mechanism

The three main types of market structures are quote – driven markets (sometimes called price – driven or dealer markets), order – driven markets, and brokered markets. In quote – driven market, customers trade with dealers. In order – driven markets, an order matching system run by an exchange, a broker, or an alternative trading system uses rules to arrange trade based the orders that traders submit. Most exchanges organize order – driven markets. In brokered markets, brokers arrange trades between their customers. Brokered markets are common for transactions of unique instruments, such as real estate properties, or large blocks of securities. Many trading systems use more than one type of market structure.

Quote – driven Markets

Worldwide, most trading, other than in stocks, takes place in quote – driven markets. Almost all bonds and currencies and most spot commodities trade in quote – driven markets. Trades call them quote – driven (or price – driven or dealer) because customer trade at the prices quoted by dealers. Depending on the instrument traded, the dealers work for commercial banks, for investment banks, for broker – dealers, or for proprietary trading houses.

Quote – driven markets also often are called over – the – counter (OTC) markets because securities used to be literally traded over the dealer's counter in the dealer's office. Now, most trades in OTC markets are conducted over proprietary computer communications networks, by telephone, or sometimes over instant messaging systems.

Order – driven markets

Order – driven markets arrange trades using rules to match buy orders to sell orders. The orders may be submitted by customers or by dealers. Almost all exchange use order – driven trading systems, and every automated trading system is an order – driven system.

Because rules match buyers to sellers, traders often trade with complete strangers. Order – driven markets thus must have procedures to ensure that buyers and sellers perform on their trade contracts. Otherwise, dishonest traders would enter contracts that they would not settle if a change in market conditions made settlement unprofitable.

Two sets of rules characterize order – driven market mechanisms: Order matching rules, and trade pricing rules. The order matching rules match buy orders to sell orders. The trade pricing rules determine the prices at which the matched trades take place.

5.1.4 Role of brokers and Dealers in Secondary markets

Securities Brokers and Dealers

Securities brokers and dealers conduct trading in secondary markets. *Brokers* are pure middlemen who act as agents for investors in the purchase or sale of securities. Their

function is to match buyers with sellers, a function for which they are paid brokerage commissions. In contrast to brokers, dealers link buyers and sellers by standing ready to buy and sell securities at given prices.

Therefore, dealers hold inventories of securities and make their living by selling these securities for a slightly higher price than they paid for them—that is, on the *spread* between the *bid price*, the price that the broker pays for securities they buy for their inventory, and the *ask price*, the price they receive when they sell the securities. This is a high-risk business because dealers hold securities that can rise or fall in price; in recent years, several firms specializing in bonds have collapsed. Brokers, by contrast, are not as exposed to risk because they do not own the securities involved in their business dealings.

Brokerage Services

Securities brokers offer several types of services.

Securities Orders

If you call a securities brokerage house to buy a stock, you will speak with a broker who will take your order. You have three primary types of transactions available: market orders, limit orders, and short sells.

The two most common types of securities orders are the market order and the limit order. When you place a **market order,** you are instructing your agent to buy or sell the security at the current market price. When placing a market order, there is a risk that the price of the security may have changed significantly from what it was when you made your investment decision. If you are buying a stock and the price falls, no harm is done, but if the price goes up, you may regret your decision.

An alternative to the market order is the **limit order.** Here buy orders specify a *maximum* acceptable price, and sell orders specify a *minimum* acceptable price. For example, you could place a limit order to sell your 100 shares of IBM at $100. If the current market price of IBM is less than $100, the order will not be filled. Unfilled limit orders are reported to the stock specialist who works that particular stock on the exchange. When the stock price moves in such a way that limit orders are activated, the stock specialist initiates the trade.

The **stop loss order** is similar to the limit order, but is for stocks you already own. This order tells your broker to sell your stock when it reaches a certain price. For example, suppose you buy a stock for $20 per share. You do not want to suffer a major loss on this stock, so you enter a stop loss order at $18. In the event the stock price falls to $18 the broker will sell the stock.

When investors believe that the price of a stock will rise in the future, they buy that stock and hold it until the increase occurs. They can then sell at a profit and capture a gain for their effort. What can be done if an investor is convinced that a stock will *fall* in the future? The solution is to sell short. A **short sell** requires that the investor borrow stocks from a brokerage house and sell them today, with the promise of replacing the borrowed stocks by buying them in the future. Suppose that you just tried out the new Apple notebook computer and decided that it would sell poorly. You might believe that as the rest of the market learned of the poor product, the price of Apple's stock could decline. To take advantage of this situation, you might instruct your broker to short Apple 100 shares. The broker would then borrow 100 shares from another investor on your behalf and sell them at current market prices. You do not own those shares, of course. They are borrowed and at some point in the **future**, you would be required to purchase those 100 shares at the new market price to replace them. If you were right and the price of Apple declined, you would buy the shares at a lower price than you received for their earlier sale and would earn a profit. Of course, if you are wrong and the price rises, you will suffer a loss.

Market and limit orders allow you to take advantage of stock price *increases*, and short sells allow you to take advantage of stock price *decreases.* Analysts track the number of

short positions taken on a stock as an indicator of the number of investors who feel that a stock's price is likely to fall in the future.

Other Services

In addition to trading in securities, stockbrokers provide a variety of other services. Investors typically leave their securities in storage with the broker for safekeeping. If the securities are left with the broker, they are insured against loss by the Securities Investor Protection Corporation (SIPC), an agency of the federal government. This guarantee is not against loss in value, only against loss of the securities themselves.

Brokers also provide **margin credit.** Margin credit refers to loans advanced by the brokerage house to help investors buy securities. For example, if you are certain that Intel Corporation stock is going to rise rapidly when its latest computer chip is introduced, you could increase the amount of stock you can buy by borrowing from the brokerage house. If you had $5,000 and borrowed an additional $5,000, you could buy $10,000 worth of stock. Then, if the price goes up as you predict, you could earn nearly twice as much as without the loan. The Federal Reserve sets the percentage of the stock purchase price that brokerage houses can lend. Interest rates on margin loans are usually 1 or 2 percentage points above the prime interest rate (the rate charged large, creditworthy corporate borrowers).

The forces of competition have led brokerage firms to offer services and engage in activities traditionally conducted by commercial banks. In 1977, Merrill Lynch developed the cash management account (CMA), which provides a package of financial services that includes credit cards, immediate loans, check-writing privileges, automatic investment of proceeds from the sale of securities in a money market mutual fund, and unified record keeping. CMAs were adopted by other brokerage firms and spread rapidly. Many of these accounts allow check writing privileges and offer ATM and debit cards. In these ways, they compete directly with banks.

The advantage of brokerage-based cash management accounts is that they make it easier to buy and sell securities. The stockbroker can take funds out of the account when an investor buys a security and put the money into the account when the investor sells securities.

Full-Service vs. Discount Brokers

Prior to May 1, 1975, virtually all brokerage houses charged the same commissions on trades. Brokerage houses distinguished themselves primarily on the basis of their research and customer relations. In May 1975, Congress determined that fixed commissions were anticompetitive and passed the Securities Acts Amendment of 1975, which abolished fixed commissions. Now brokerage houses may charge whatever fees they choose. This has resulted in two distinct types of brokerage firms: full-service and discount. Full-service brokers provide research and investment advice to their customers.

Full-service brokers will often mail weekly and monthly market reports and recommendations to their customers in an effort to encourage them to invest in certain securities. For example, when the investment banking department of the brokerage house has an initial public offering available, brokers will contact customers they feel may be interested and offer to send a prospectus. Full-service brokers attempt to establish long-term relationships with their customers and to help them assemble portfolios that are consistent with their financial needs and risk preferences. Of course, this extra attention is costly and must be paid for by requiring higher fees for initiating trades. Bank of America Merrill Lynch is the biggest of the full-service brokers with about 15,000 financial advisors and $2.2 trillion in client assets.

Discount brokers simply execute trades on request. If you want to buy a particular security, you call the discount broker and place your request. No advice or research is typically provided. Because the cost of operating a discount brokerage firm is significantly less than the cost of operating a full-service firm, lower transaction costs are charged. These fees may be a fraction of the fees charged by a full-service broker. Charles Schwab Corp. is the best-known discount broker. Many discount brokerage firms are owned by large commercial banks, which have historically been prohibited from offering full-service brokerage services.

Regardless of which type of brokerage firm you choose, it will be a member of the major exchanges and have computer links to the NASDAQ (National Association of Security Dealers Automated Quotation System). Suppose that you place an order for 10,000 shares of IBM with your local Merrill Lynch office. Your broker will send an electronic message to the Merrill Lynch traders who work on the floor of the New York Stock Exchange (NYSE) to buy 10,000 shares of IBM in your name. On the floor of the NYSE, there are circular work areas where specialists in each security that is traded on the exchange stand. Each specialist is responsible for several stocks. The Merrill Lynch floor trader will know where the IBM specialist is and will approach that person to fill your buy order. Confirmation of the purchase will then be communicated back to your local broker, who will inform you that the trade has been completed. Smaller orders will be handled by a computer system that matches buy and sell orders.

Securities Dealers

Securities dealers hold inventories of securities, which they sell to customers who want to buy. They also hold securities purchased from customers who want to sell.

It is impossible to overemphasize the importance of dealers to the smooth functioning of financial markets. Consider what an investor demands before buying a security. In addition to requiring a fair return, the investor wants to know that the investment is *liquid*—that it can be sold quickly if it no longer fits into the investor's portfolio. Consider a

small, relatively unknown firm that is trying to sell securities to the public. An investor may be tempted to buy the firm's securities, but if these securities cannot be resold easily, it is unlikely that the investor will take a chance on them. This is where the dealers become crucial. They stand ready to make a market in the security at any time—that is, they make sure that an investor can always sell or buy a security. For this reason, dealers are also called **market makers.** When an investor wishes to sell a thinly traded stock (one without an active secondary market), it is unlikely that another investor is simultaneously seeking to buy that security. This non synchronous trading problem is solved when the dealer buys the security from the investor and holds it in inventory until another investor is ready to buy it. The knowledge that dealers will provide this service encourages investors to buy securities that would be otherwise unacceptable. In countries with less well-developed financial markets, where dealers will not make a market for less popular securities, it is extremely difficult for small, new, or regional firms to raise funds. Securities market dealers are largely responsible for the health and growth of small businesses in most countries of the world.

5.2 Market efficiency and transaction costs

5.2.1 STOCK MARKET EFFICIENCY

A stock's price is affected by its intrinsic value, which is determined by the true level and riskiness of the cash flows it is likely to provide, and investors' perceptions about the stock's intrinsic value. In a well-functioning market, investors' perceptions should be closely related to the stock's intrinsic value, in which case the stock price would be a reasonably accurate reflection of its true value.

A body of theory called the **efficient markets hypothesis (EMH)** holds (1) that stocks are always in equilibrium and (2) that it is impossible for an investor to consistently "beat the market." Essentially, those who believe in the EMH note that there are 100,000

or so full-time, highly trained, professional analysts and traders operating in the market, while there are fewer than 3,000 major stocks. Therefore, if each analyst followed 30 stocks (which is about right, as analysts tend to specialize in the stocks in a specific industry), there would on average be 1,000 analysts following each stock. Further, these analysts work for organizations, which have billions of dollars that can be used to take advantage of bargains. In addition, as a result of Security Exchange Commission disclosure requirements and electronic information networks, as new information about a stock becomes available, these 1,000 analysts generally receive and evaluate it at about the same time. Therefore, the price of a stock will adjust almost immediately to any new development. That makes it very difficult for anyone to consistently pick stocks that will beat the market.

Levels of Market Efficiency

If markets are truly efficient, then stock prices will rapidly adjust to all relevant information as it becomes available. This raises an important question: What types of information are available to investors and, therefore, incorporated into stock prices? Financial theorists have discussed three forms, or levels, of market efficiency.

Weak-Form Efficiency

The *weak form* of the EMH states that all information contained in past stock price movements is fully reflected in current market prices. If this were true, then information about recent trends in stock prices would be of no use in selecting stocks—the fact that a stock has risen for the past three days, for example, would give us no useful clues as to what it will do today or tomorrow. People who believe that weak-form efficiency exists also believe that “tape watchers” and “chartists” are

wasting their time. For example, after studying the past history of the stock market, a chartist might “discover” the following pattern: If a stock falls three consecutive days, its price typically rises 10 percent the following day. The technician would then conclude that investors could make money by purchasing a stock whose price has fallen for three consecutive days.

But if this pattern truly existed, wouldn’t other investors also discover it, and then why would anyone be willing to sell a stock after it had fallen three consecutive days if he or she knows the stock’s price would likely increase by 10 percent the next day? In other words, if a stock were selling at $40 per share after falling three consecutive days, why would investors sell the stock at $40 if they expect it to rise to $44 per share the next day? Those who believe in weak form efficiency argue that if the stock were really likely to rise to $44 per share tomorrow, its price would actually rise to somewhere near $44 per share immediately, thereby eliminating the trading opportunity. Consequently, weak-form efficiency implies that any information that comes from an examination of past stock prices cannot be used to make money by predicting future stock prices.

Semi strong-Form Efficiency

The *semi strong form* of the EMH states that current market prices reflect all *publicly available* information. Therefore, if semi strong-form efficiency exists, it would do no good to pore over annual reports or yesterday’s *Wall Street Journal* looking at sales and earnings trends and various types of ratios based on historical data because market prices would have adjusted to any good or bad news contained in such reports back when the news first came out over the Internet. With semi strong form efficiency, investors should not expect to earn above-

average returns except with good luck or information that is not publicly available. However; insiders (for example, CEOs and CFOs) who have information that is not publicly available are able to earn above-average returns even under semi strong-form efficiency.

Another implication of semi strong-form efficiency is that whenever information is released to the public, stock prices will respond only if the information is different from what had been expected. If, for example, a company announces a30 percent increase in earnings, and if that increase is about what analysts had been expecting, the announcement should have little or no effect on the company's stock price. On the other hand, the stock price would probably fall if analysts had expected earnings to increase by 50 percent, but it probably would rise if they had expected a 10 percent increase.

Strong-Form Efficiency

The *strong form* of the EMH states that current market prices reflect all pertinent information, whether publicly available or privately held. If this form holds, even insiders would find it impossible to earn abnormally high returns in the stock market.

Many empirical studies have been conducted to test for the three forms of market efficiency. Most of these studies suggest that the stock market is indeed highly efficient in the weak form, reasonably efficient in the semi strong form (at least for the larger and more widely followed stocks), but not true for the strong form because abnormally large profits are often earned by those with inside information.

5.2.2 Behavioral Finance Theory

The efficient markets hypothesis (EMH) remains one of the cornerstones of modern finance theory. It implies that, on average, assets trade at prices equal to their intrinsic values. The logic behind the EMH is straightforward. If a stock's price is "too low," rational traders will quickly take advantage of this opportunity and will buy the stock. Their actions will quickly push prices back to their equilibrium level. Likewise, if prices are "too high," rational traders will sell the stock, pushing the price down to its equilibrium level. Proponents of the EMH argue that prices cannot be systematically wrong unless you believe that market participants are unable or unwilling to take advantage of profitable trading opportunities.

While the logic behind the EMH is compelling, many events in the real world seem to be inconsistent with the EMH. This has spurred a growing field that is called *behavioral finance theory*. Rather than assuming that investors are rational, behavioral finance theorists borrow insights from psychology to better understand how irrational behavior can be sustained over time. Pioneers in this field include psychologists Daniel Kahneman and Amos Tversky and Richard Thaler, who is a professor of finance at the University of Chicago. Their work has encouraged a growing number of scholars to work in this promising area of research.

Professor Thaler and his colleague, Nicholas Barberis, have summarized much of this research in a recent article, which is cited below. They argue that behavioral finance theory's criticism of the EMH rests on two important building blocks. First, it is often difficult or risky for traders to take advantage of mispriced assets. For example, even if you know that a stock's price is too low because investors have overreacted to recent bad news, a trader with limited capital may be reluctant to buy the stock for fear that the same forces that pushed the price down may work to keep it artificially low for a long period of time. On the other side, during the recent stock market bubble, many traders who believed (correctly!) that stock prices were too high lost a lot of money selling stocks in the early stages of the bubble because stock prices went even higher before they eventually collapsed.

While the first building block explains why mispricing may persist, the second tries to understand how mispricing can occur in the first place. This component is where the insights from psychology come into play. For example, Kahneman and Tversky suggested that individuals view potential losses and potential gains very differently. If you ask an average person whether he or she would rather have $500 with certainty or flip a fair coin and receive $1,000 if a head comes up and nothing if it comes out tails, most would prefer the certain $500, which suggests an aversion to risk. However, if you ask the same person whether he or she would rather pay $500 with certainty or flip a coin and pay $1,000 if it's heads and nothing if it's tails, most indicate that they would prefer to flip the coin. Other studies suggest that people's willingness to take a gamble depends on recent performance. Gamblers who are ahead tend to take on more risks, whereas those who are behind tend to become more conservative.

These experiments suggest that investors and managers behave differently in down markets than they do in up markets, which might explain why those who made money early in the stock market bubble continued to keep investing in these stocks, even as their prices went higher. Other evidence suggests that individuals tend to overestimate their true abilities. For example, a large majority (upward of 90 percent in some studies) of us believe that we have above average driving ability or above-average ability to get along with others.

Barberis and Thaler point out that: Overconfidence may in part stem from two other biases, self-attribution bias and hindsight bias. Self-attribution bias refers to people's tendency to ascribe any success they have in some activity to their own talents, while blaming failure on bad luck, rather than on their ineptitude. Doing this repeatedly will lead people to the pleasing but erroneous conclusion that they are very talented. For example, investors might become overconfident after several quarters of investing success.

Hindsight bias is the tendency of people to believe, after an event has occurred, that they predicted it before it happened. If people think they predicted the past better than they actually did, they may also believe that they can predict the future better than they actually can.

Recent research by Ulrike Malmendier of the Stanford Graduate School of Business and Geoffrey Tate of the Wharton School suggests that overconfidence leads managers to overestimate their ability and the quality of their projects. This result may explain why so many corporate projects fail to live up to their stated expectations.

Review Exercises

Part I

1. What are the differences between the physical location exchanges and the Nasdaq stock market?
2. What is the bid-ask spread?
3. What characteristic most likely distinguishes brokers from dealers?
4. What is the main advantage of a call market compared with a continuous trading market?
5. What is the main advantage of a continuous trading market compared with a call market?
6. What is the efficient markets hypothesis (EMH)?
7. What are the differences among the three forms of the EMH:
    a. Weak form,
    b. Semi strong form, and
    c. Strong form?
8. What are the implications of the EMH for financial decisions?
9. What is behavioral finance? What do the new ideas in this area tell us about the stock market?
10. Investors expect a company to announce a 10 percent increase in earnings, but instead the company announces a 1 percent increase. If the market is semi strong-form efficient, which of the following would you expect to happen?
    a. The stock's price increases slightly because the company had a slight increase in earnings.
    b. The stock's price falls because the earnings increase was less than expected.
    c. The stock's price stays the same because earnings announcements have no effect if the market is semi strong-form efficient.

11. Briefly define each of the following terms and give an example:
    a. Market order

b. Limit order

c. Short sale

d. Stop loss order

Part II: True/False Items

Determine whether the following statements are true or false.

a. Derivative transactions are designed to increase risk and are used almost exclusively by speculators who are looking to capture high returns.
b. Hedge funds generally charge higher fees than mutual funds.
c. Hedge funds have traditionally been highly regulated.
d. The New York Stock Exchange is an example of a stock exchange that has a physical location.
e. A larger bid-ask spread means that the dealer will realize a lower profit.
f. The efficient market hypothesis assumes that all investors are rational.

Chapter 6

The Equity Market: Common Stock Market

6.1 The Stock Market

A **common stock** (typically just called a **stock**) represents a share of ownership in a corporation. It is a security that is a claim on the earnings and assets of the corporation. Issuing stock and selling it to the public is a way for corporations to raise funds to finance their activities. The stock market, in which claims on the earnings of corporations (shares of stock) are traded, is the most widely followed financial market in almost every country that has one; that's why it is often called simply "the market." A big swing in the prices of shares in the stock market is always a major story on the evening news. People often speculate on where the market is heading and get very excited when they can brag about their latest "big killing," but they become depressed when they suffer a big loss. The attention the market receives can probably be best explained by one simple fact: It is a place where people can get rich—or poor—quickly.

The stock market is also an important factor in business investment decisions, because the price of shares affects the amount of funds that can be raised by selling newly issued stock to finance investment spending. A higher price for a firm's shares means that it can raise a larger amount of funds, which can be used to buy production facilities and equipment.

Secondary markets are those in which outstanding, previously issued securities are traded. By far the most active secondary market, and the most important one to financial managers, is the *stock market*, where the prices of firms' stocks are established. Because the primary goal of financial managers is to maximize their firms' stock prices, knowledge of the stock market is important to anyone involved in managing a business.

6.1.1 The Physical Location Stock Exchanges

The **physical location exchanges** are tangible physical entities. Each of the larger ones occupies its own building, has a limited number of members, and has an elected governing body—its board of governors. Members are said to have "seats" on the exchange, although everybody stands up. These seats, which are bought and sold, give the holder the right to trade on the exchange.

Most of the larger investment banking houses operates *brokerage departments*, and they own seats on the exchanges and designate one or more of their officers as members. The exchanges are open on all normal working days, with the members meeting in a large room equipped with telephones and other electronic equipment that enable each member to communicate with his or her firm's offices throughout the country.

The Over-the-Counter

While the stocks of most large companies trade on stock exchange, a larger number of stocks trade off the exchange in what has traditionally been referred to as the **over-the-counter (OTC) market.** An explanation of the term "over-the-counter" will help clarify how this term arose. As noted earlier, the exchanges operate as auction markets—buy and sell orders come in more or less simultaneously, and exchange members match these orders. If a stock is traded infrequently, perhaps because the firm is new or small, few buy and sell orders come in, and matching them within a reasonable amount of time would be difficult. To avoid this problem, some brokerage firms maintain an inventory of such stocks and stand prepared to make a market for these stocks. These "dealers" buy when individual investors want to sell, and then sell part of their inventory when investors want to buy. At one time, the inventory of securities was kept in a safe, and the stocks, when bought and sold, were literally passed over the counter.

Today, these markets are often referred to as **dealer markets.** A dealer market includes all facilities that are needed to conduct security transactions, but they are not made on the physical location exchanges. These facilities include (1) the relatively few *dealers* who hold inventories of these securities and who are said to "make a market" in these securities; (2) the thousands of brokers who act as *agents* in bringing the dealers together with investors; and (3) the computers, terminals, and electronic networks that provide a communication link between dealers and brokers. The dealers who make a market in a particular stock quote the price at which they will pay for the stock (the *bid price*) and the price at which they will sell shares (the *ask price*). Each dealer's prices, which are adjusted as supply and demand conditions change, can be read off computer screens all across the world. The *bid-ask spread*, which is the difference between bid and asked prices, represents the dealer's markup, or profit. The dealer's risk increases if the stock is more volatile, or if the stock trades infrequently. Generally, we would expect volatile, infrequently traded stocks to have wider spreads in order to compensate the dealers for assuming the risk of holding them in inventory.

6.1.2 THE MARKET FOR COMMON STOCK

Some companies are so small that their common stocks are not actively traded; they are owned by only a few people, usually the companies' managers. These firms are said to be *privately owned*, or **closely held, corporations,** and their stock is called *closely held stock*. In contrast, the stocks of larger companies are owned by thousands of investors, most of whom are not active in management. These companies are called **publicly owned corporations,** and their stock is called *publicly held stock*.

6.1.2.1 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 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.

6.1.2.2 Third Market

The term **third market** describes OTC trading of shares listed on an exchange. Although most transactions in listed stocks take place on an exchange, an investment firm that is not a member of an exchange can make a market in a listed stock. Most of the trading on the third market is in well-known stocks such as General Electric, IBM, and Merck. The success or failure of the third market depends on whether the OTC market in these stocks is as good as the exchange market and whether the relative cost of the OTC transaction compares favorably with the cost on the exchange. This market is critical during the relatively few periods when trading is not available on the NYSE either because trading is suspended or the exchange is closed.

6.1.2.3 Fourth Market

The term **fourth market** describes direct trading of securities between two parties with no broker intermediary. In almost all cases, both parties involved are institutions. When you think about it, a direct transaction is really not that unusual. If you own 100 shares of AT&T Corp. and decide to sell it, there is nothing wrong with simply offering it to your friends or associates at a mutually agreeable price (for example, based on exchange

transactions) and making the transaction directly. Investors typically buy or sell stock through brokers because it is faster and easier. Also, you would expect to get a better price for your stock because the broker has a good chance of finding the best buyer. You are willing to pay a commission for these liquidity services.

The fourth market evolved because of the substantial fees charged by brokers to institutions with large orders. At some point, it becomes worthwhile for institutions to attempt to deal directly with each other and bypass the brokerage fees. Assume an institution decides to sell 100,000 shares of AT&T, which is selling for about $25 per share, for a total value of $2.5 million. The average commission on such a transaction prior to the advent of negotiated rates in 1975 was about 1 percent of the value of the trade, or about $25,000. This cost made it attractive for a selling institution to spend some time and effort finding another institution interested in increasing its holdings of AT&T and negotiating a direct sale. Currently, such transactions cost about 5 cents per share, which implies a cost of $5,000 for the 100,000-share transactions. This is lower but still not trivial. Because of the diverse nature of the fourth market and the lack of reporting requirements, no data are available regarding its specific size or growth.

Review Exercises

1) Define the third market. Give an example of a third-market stock.
2) Define the fourth market. Discuss why a financial institution would use the fourth market.
3) Differentiate between closely held and publicly owned corporations.
4) Define a primary and secondary market for securities and discuss how they differ.
5) Discuss why the primary market is dependent on the secondary market.
6) You own 100 shares of Raya Beer stock and you want to sell it because you need the money to make a down payment on a stereo. Assume there is absolutely no secondary market system in common a stock. How would you go about selling the stock? Discuss what you would have to do to find a buyer, how long it might take, and the price you might receive.
7) Define each of the following terms:
    a. Closely held corporation; publicly owned corporation
    b. Physical location exchanges; over-the-counter market (OTC); dealer market
    c. Money markets; capital markets
    d. Private markets; public markets

Chapter 7
The Equity Market: Stock Options market

7.1 Options

An option is a contract giving one party the ***right***, but not the obligation, to ***buy*** or ***sell*** a financial instrument, commodity or some other underlying asset at a given price, at or before a specified date. The purchaser of the option can either exercise the right or let it lapse.

Example, A firm pays the owner of a land a non-returnable premium (say $10,000) for an option to buy the land at an agreed price (say $1mn). When the firm decides to buy the land, if the site is worth $1.5mn, the option right has intrinsic value of 0.5mn.

Return = 4,900%; gearing effect of option is visible here.

7.1.1 Share options

A share **call option** gives the purchaser a ***right***, but not the obligation, to ***buy*** a fixed number of shares at a specified price at sometime in the future. The seller of the option, who receives the premium, is referred to as the writer. The writer of a call option is obligated to sell the agreed quantity of shares at the agreed price some time in the future. Call option holder will not exercise if exercise price > market price.

Put option gives the holder the ***right***, but not the obligation, to ***sell*** a specific quantity of shares on or before a specified date at a fixed exercise prices. The writer of a put option is obligated to buy the agreed quantity of shares at the agreed price some time in the future. Put option holder will not exercise if market price > exercise price.

Here are some important definitions:

1. **Exercising the Option. The act of buying or selling the underlying asset via the option** contract is referred to as *exercising the option.*

2. **Striking or Exercise Price.** The **fixed price** in the option contract at which the holder can buy or sell the underlying asset is called the *striking price or exercise price.*

3. **Expiration Date. The maturity date** of the option is referred to as the *expiration date.* After this date, the option is dead.

4. **American and European Options.** An American option may be exercised anytime up to the expiration date. A European option differs from an American option in that it can be exercised only on the expiration date.

Call option holder (call option buyer)

Example, Call option available on an underlying share – BSkyB on Nov. 29, 2004. There could be a number of different options available for this share, but only two are presented below.

Call options on BSkyB shares, 29 Nov. 2004			
	Call option prices (premiums) pence		
Exercise price	December	January	February
550p	20.5	27.5	34.0
600p	2.0	6.5	12.0
Share price on 29 Nov. 2004 = 562p * one option contract relates to a quantity of 1,000 shares.			

If you wished to obtain the right to buy 1,000 shares on or before late January 2005, at an exercise price of 600p, you would pay a premium of $65 (1,000*6.5p). If you wished to keep your option to purchase open for another month, you could select the Feb. call, but cost you another $55. The ***longer the period***, the ***higher the premium***; the ***lower the exercise price*** the ***higher the premiums***.

Intrinsic value

Intrinsic value of an option is the pay-off that would be received if the underlying were at its current level when the option expires. The option with exercise price of 550p has intrinsic value (of 12p/share), but not the other one. The two exercise price levels in the table (S5) illustrate an ***in-the-money option*** (the 550 call option) and an ***out-of-the-***

money option (the 600 call option). Some times it is possible to buy an ***at-the-money option***, one where market share price=option exercise price.

Call option writers

For a call option, if the market price is less than the exercise price, the option will not be exercised and the call writer profits to the extent of the option premium. If market price > exercise price, the option will be exercised and the writer will be forced to deliver the promised shares for the price set. In most cases option holder sells the option in the mkt. Option writers often cancel out their exposure before expiry – for example, they could purchase an option to buy the same quantity of shares at the same price and expiry date.

Put options

A put option gives the holder the right, but not the obligation, to sell a specific quantity of shares on or before a specified date at a fixed exercise price. An option sought if you are pessimistic about the prospects of a company. If fall in price subsequently takes place, you can insist on exercising the right to sell at the pre-set price. For the put option holder, if the market price > exercise price, it will not be wise to exercise. Therefore, the maximum loss incurred is equal to the premium paid. The option writer gains the premium if the share price remains above the exercise price, but may incur a large loss if the market price falls significantly.

Traditional options

Traditional options are available on any security but there is no choice on the strike (exercise) price. This is set as the mkt price on the day the option is bought (or close to it). The option cannot be sold on to another investor; it has to be either exercised by the original purchaser or left to lapse. The purchaser may close the position during the life of an option by doing the reverse (e.g. if he has bought a call option he could sell a call option at the same strike price).

7.2 Using share options to reduce risk: Hedging

Hedging with options can give protection against unfavorable movements in the underlying while permitting the possibility of benefiting from favorable movements. Assume you've 1,000 shares of X Co. worth $5,620. There are rumors flying around the market that the co. may become the target of a takeover bid. If this materializes the share price will rocket; if it doesn't, the market will be disappointed and the price will fall dramatically. So what to do? (1) One way to avoid the downside risk is to sell the shares; but you may regret. (2) Retain the shares and buy a put option. This will rise in value as the share price falls.

Index options

Options on whole share indices can be purchased (e.g., S&P 500). Involves hedging through options on the entire index of shares. A major difference between index options and share options is that the former are 'cash settled'- so for the S&P500, 500 different shares are not delivered on the expiry day. Rather, a cash difference representing the price change passes hands.

Hedging against a decline in the market

If you are worried that the market may fall over the next few months, one strategy to lower the risk is to purchase put options on the share index. If the market does fall, losses on the portfolio will be offset by gains on the value of the index put options.

Forwards

Buyers wish to buy at lower prices; sellers wish to sell at higher prices. But both may have similar interest in reducing the ***uncertainty of price***. This will assist both to plan production and budget effectively. One way this could be done is to reach an agreement with the producer(s) to purchase a quantity of the commodity (item) at a price agreed today to be delivered at a specified time in the future.

A forward contract is an agreement between two parties to undertake an exchange at an agreed future date at a price agreed now. Unlike option contracts, forwards commit both parties to complete the deal. Forward contracts are tailor-made to meet the requirements

of the parties; give flexibility on the amount and delivery dates. Forwards are not traded on an exchange but are 'OTC instruments' – private agreements outside the regulation of an exchange. Forward agreement exposes the counterparties to the risk of default.

Futures

Future contracts are in many ways similar to forward contracts. They are agreements between two parties to undertake a transaction at an agreed price on a specified future date.

Two important differences:
Futures contracts are exchange-based instruments traded on the regular exchange. The buyer and seller of a contract do not transact with each other directly. The clearing house becomes the formal counterparty to every transaction. Reducing risk of non-compliance. The exchange provides standardized legal agreements traded in highly liquid markets. Contracts can't be tailor made; are for a specific quality of the underlying, in specific amounts with specific delivery dates. Unlike options, with futures you are committed and unable to back away.

Marking to market and margins

With the clearing house being the formal counterparty for every buyer or seller of a futures contract, an enormous potential for credit risk is imposed on the organization – given the volume of futures traded and the size of the underlying they represent.

To protect itself the clearing house operates a margining system. The futures buyer or seller has to provide, usually in cash, an ***initial margin***. The amount required depends on the futures market, the level of volatility of the underlying & the potential for default; (likely to be b/n 0.1 to 15% of the value of the underlying). The initial margin is not 'down payment'; rather a guarantee and stay with clearing house; refundable when the position is closed. The clearing house also operates a system of daily *marking to market.* At the end of every trading day the counterparty's profits or losses created as a result of

that day's price change are calculated. The counterparty that made a loss has his/her member's margin account debited.

The following morning the losing counterparty must inject more cash to cover the loss if the amount in the account has fallen below a threshold level, called the maintenance margin. An inability to pay a daily loss causes default and the contract is closed, thus protecting the clearing house from the possibility that the counterparty might accumulate further daily losses without providing cash to cover them. The margin account of the counterparty that makes a daily gain is credited. This may be withdrawn the next day.

Settlement

Historically the futures markets developed on the basis of the physical delivery of the underlying. But in most futures markets today, only a small proportion of contracts result in physical delivery. The majorities are closed out before the expiry of the contract and all that changes hands is cash, either as a profit or as a loss.

Speculators certainly don't want to end up with bulk of stuff and so will reverse their trade before the contract expires (E.g., if they originally bought 50tonnes of white sugar, they later sell 50tonnes of white sugar). Companies use the futures markets not as a way of obtaining goods but as a way of offsetting the risk of the price of goods moving adversely (as they will have established purchasing channels).

Example: Hedging with a share index future

It is 29 Nov. 2004 and the FT100 is at 4750. A fund manager wishes to hedge a £13,000,000 fund against decline in the market. A Dec. FTSE100 future is available at 4768.5. The investor retains the shares in the portfolio and sells 273 index future contracts. Each future contract is worth £47,685 (4768.5points* £10). So 273 contracts are needed to cover £13,000,000 (13,000,000/(10*4768.5)=273).

Outcome in December

For the sake of argument assume that the index falls by 10% to 4275, leaving the portfolio value at £11,700,000 (assuming the portfolio moves exactly in line with the FT100 index). The closing of the future position offsets this £1,300,000 loss by buying 273 futures at 4275 producing a profit of:

Able to sell at 4768.5*273* £10 = £13,018,005

Able to buy at 4275*273* £10 = £11,347,255

£ 1,347,255

These contracts are cash settled so £1,347,255 will be paid. Furthermore, the investor gets back margin, less broker's fees.

Buying and selling futures

A trader in futures must deal through a registered broker. Traders can place a price limit for their trade – a maximum they are willing to pay if buying or a minimum if they are selling. Alternatively traders can make an 'at-the-market order', that is, one to be executed immediately at the price determined by the current supply and demand conditions.

The buyer of the contract is said to be in a long position –s/he agrees to receive the underlying; & profits if price goes up. The seller who agrees to deliver the underlying is said to be in a short position. Traders may be asked to inject money into their margin accounts everyday the position is open so they can't buy/sell a future and then ignore the markets.

7.3 CALL OPTIONS

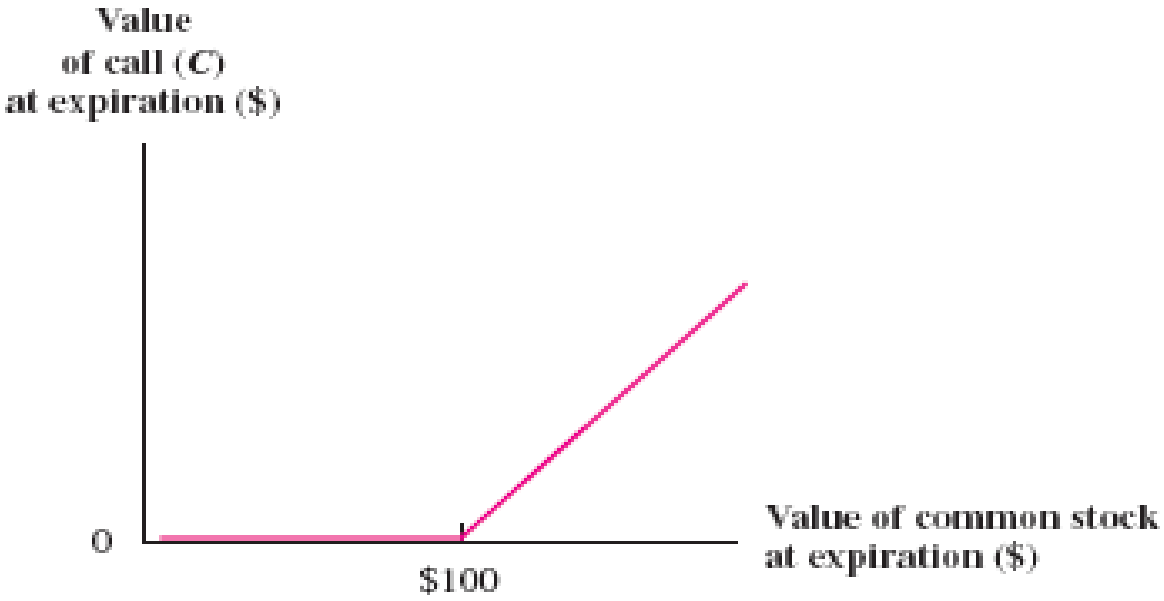
A call option gives the owner the right to buy an asset at a fixed price during a particular time period. There is no restriction on the kind of asset, but the most common ones traded on exchanges are options on stocks and bonds. Companies whose shares are being traded in the market do not issue (that is, sell) call options on their common stock. Instead, individual investors are the original buyers and sellers of call options on company's common stock.

The Value of a Call Option at Expiration

What is the value of a call-option contract on common stock at expiration? The answer depends on the value of the underlying stock at expiration. If the stock price is less than the exercise price, value of the right (call option) is 0. If the stock price is greater than the exercise price, value of the right (call option) is = stock price - exercise price. The right to buy (i.e. call option) is, therefore, exercised if stock price is greater than exercise price.

Example

A call option on IBM stock is having exercise price of $100. The Value of a Call Option on the Expiration Date:



A call option gives the owner the right to buy an asset at a fixed price during a particular time period. If IBM's stock price is greater than $100 at the expiration date, the call's value is

Stock price –$100

If IBM's stock price is less than $100 at this time, the value of the call is zero.

7.4 PUT OPTIONS

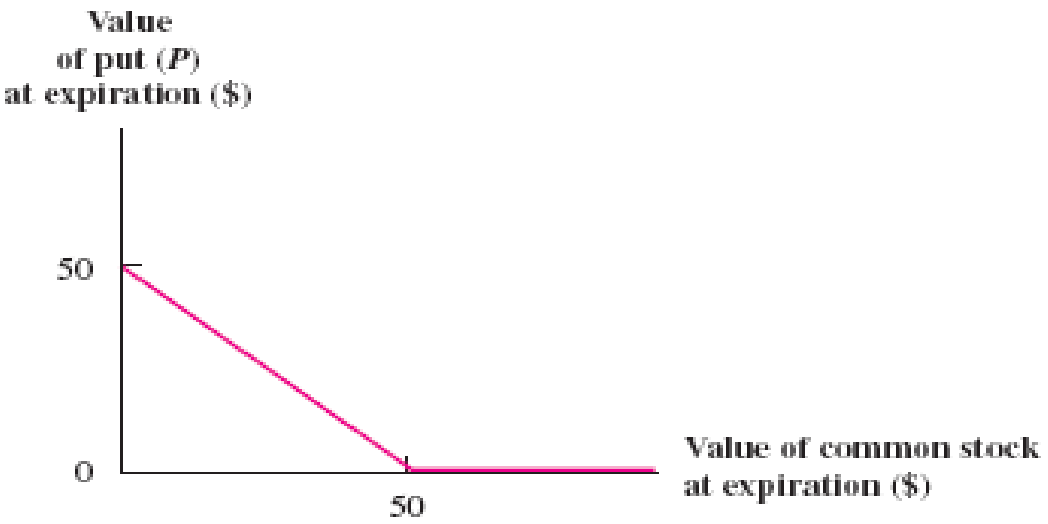
A **put option** can be viewed as the opposite of a call option. Just as a call gives the holder the right to buy the stock at a fixed price, a put gives the holder the right to *sell the stock* for a fixed exercise price.

The Value of a Put Option at Expiration

The circumstances that determine the value of the put are the opposite of those for a call option, because a put option gives the holder the right to sell shares. If the stock price is less than the exercise price, value of the right (put option) is =exercise price - stock price. If the stock price is greater than the exercise price, value of the right (call option) is 0. The put is valuable when the stock price is below the exercise price, and the call option is valuable whenever the stock is above the exercise price.

Example

A put option on XYZ stock is having exercise price of $50. The Value of a Put Option on the Expiration Date:



A put option gives the owner the right to sell an asset at a fixed price during a particular time period. If the stock price is greater than the exercise price of $50, the put value is zero. If the stock price is less than $50, the put value is

$50 — Stock price

SELLING OPTIONS

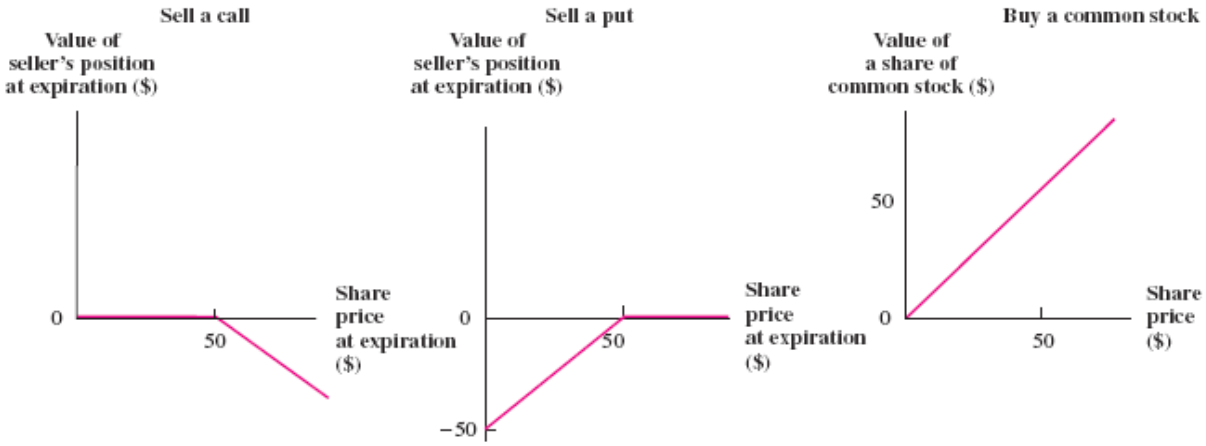
An investor who sells (or writes) a call on common stock promises to deliver shares of the common stock if required to do so by the call-option holder. Notice that the seller is obligated to do so.

If, at expiration date, the price of the common stock is greater than the exercise price, the holder will exercise the call and the seller must give the holder shares of stock in exchange for the exercise price. The seller loses the difference between the stock price and the exercise price.

Why would the seller of a call place himself in such a precarious position? The answer is that the seller is paid to take this risk. On the day that the option transaction takes place;

the seller receives the price that the buyer pays. An investor who sells a put on common stock, on the other hand, agrees to purchase shares of common stock if the put holder should so request. The seller loses on this deal if the stock price falls below the exercise price and the holder puts the stock to the seller.

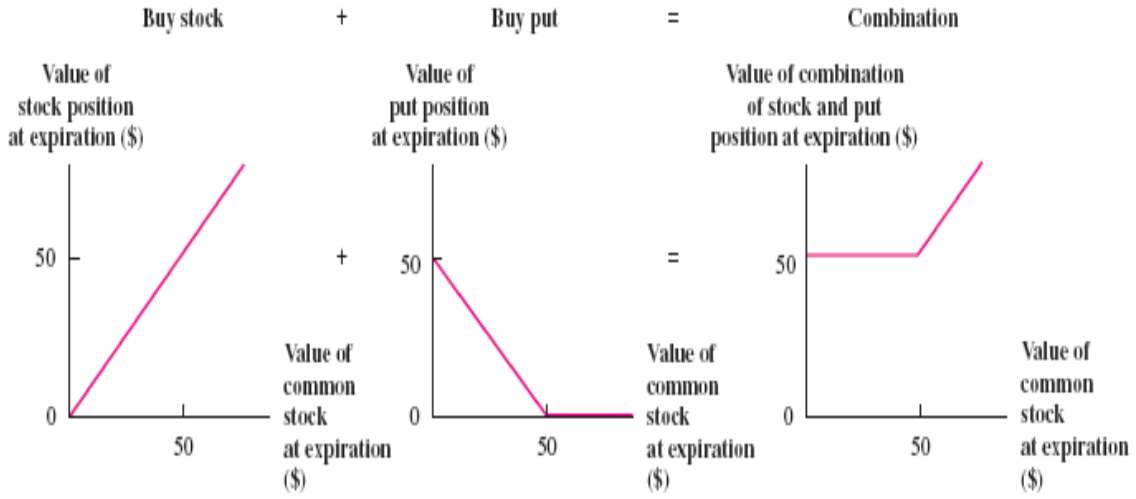
The values of the "sell-a-call" and "sell-a-put" positions are depicted as follows:



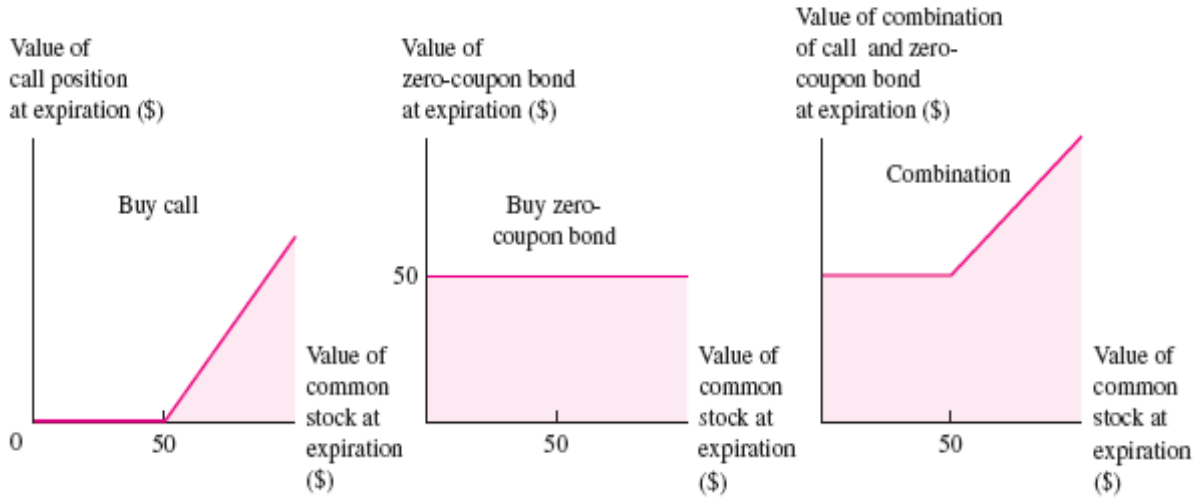
7.5 COMBINATIONS OF OPTIONS

Investors could possibly engage in different contracts simultaneously. For instance a company may buy a put option on a stock and simultaneously buy the stock. The strategy of buying a put and buying the underlying stock is called a *protective put.* If the share price is greater than the exercise price, the put option is worthless, and the value of the combined position is equal to the value of the common stock.

If instead the exercise price is greater than the share price, the decline in the value of the shares will be exactly offset by the rise in value of the put. It is as if one is buying insurance for the stock. The stock can always be sold at the exercise price, regardless of how far the market price of the stock falls. Payoff to the Combination of Buying a Put and Buying the Underlying Stock (assume exercise price of $50):



What about another strategy? Buying a call and Buying a zero-coupon bond with a face value of $50 that matures on the same day that the option expires. Payoff to the Combination of Buying a Call and Buying a Zero-Coupon Bond:



The graph of buying a call and buying a zero-coupon bond is the same as the graph of buying a put and buying the stock. The far-right graphs for the two strategies look exactly same. Thus, an investor gets the same payoff from these strategies, regardless of what happens to the price of the underlying stock. In other words, the investor gets the same payoff from

1. **Buying a put and buying the underlying stock.**
2. **Buying a call and buying a zero-coupon bond.**

If investors have the same payoffs from the two strategies, the two strategies must have the same cost. Otherwise, all investors will choose the strategy with the lower cost and avoid the strategy with the higher cost. This leads to the interesting result that:

Price of underlying stock + Price of put = Price of call + PV of exercise price.
Cost of first strategy **Cost of second strategy**

This relationship is known as **put-call parity.** It holds only if the put and the call have both the same exercise price and the same expiration date. In addition, the maturity date of the zero-coupon bond must be the same as the expiration date of the options.

Put-call parity is one of the most fundamental relationships concerning options. It says that there are two ways of buying a protective put:
(a) you can buy a put and buy the underlying stock simultaneously. Here, your total cost is the price of the underlying stock plus the price of the put.
(b) Or, you can buy the call and buy a zero-coupon bond. Here, your total cost is the price of the call plus the price of the zero-coupon bond. The price of the zero-coupon bond is equal to the present value of the exercise price, i.e., the present value of $50 in our example. To see how fundamental put-call parity is, let's rearrange the formula, yielding:

Price of underlying stock = Price of call - Price of put + PV of exercise price

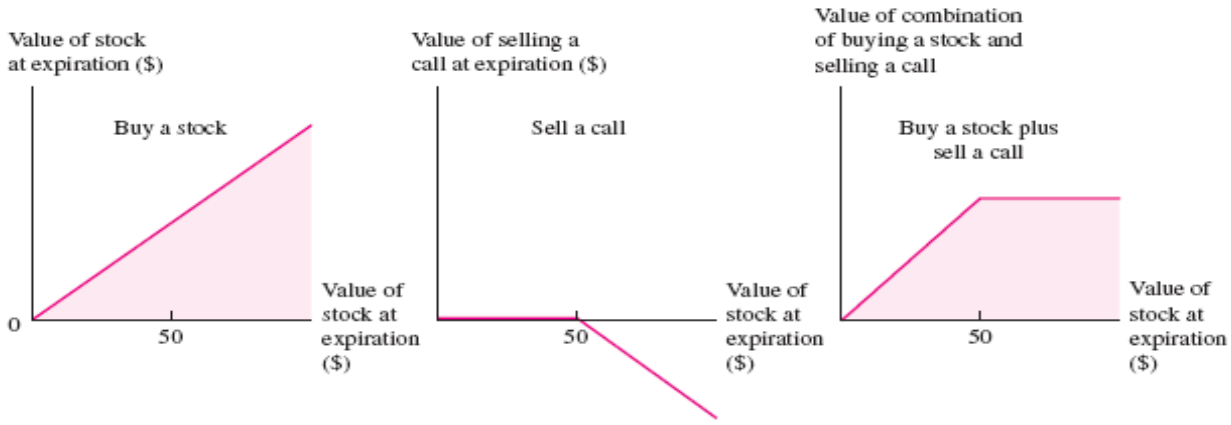
This relationship now states that you can replicate the purchase of a share of stock by buying a call, selling a put, and buying a zero-coupon bond. (Note that, because a minus sign comes before "Price of put," the put is sold, not bought.)

What about **Covered-call Strategy**?

This is when investors buy a stock and write the call on the stock simultaneously. This is a conservative strategy which is liked by many investors and is known as *selling a covered call.*

The put-call parity relationship tells us that this strategy is equivalent to selling a put and buying a zero-coupon bond.

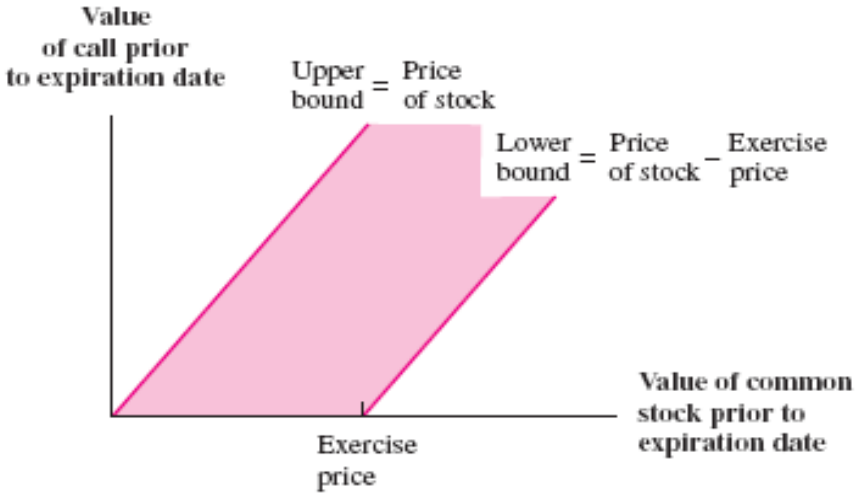
- **Price of underlying stock - Price of call = - Price of put + PV of exercise price**



The buy a stock and sell a call can be replicated by selling a put and simultaneously buying a zero-coupon bond. Of course, there are other ways of rearranging the basic put-call relationship. For each rearrangement, the strategy on the left-hand side is equivalent to the strategy on the right hand side. The beauty of put-call parity is that it shows how any strategy in options can be achieved in two different ways.

7.6 VALUING OPTIONS

The discussion in the earlier sections was on how to determine the worth of options on the expiration date. Now lets see how to determine the value of options when you buy them well before expiration. Lets start by considering the lower and upper bounds on the value of a call. The Upper and Lower Boundaries of Call-Option Values:



Value of the call must lie in the colored region.

Bounding the Value of a Call

Lower Bound: Consider an American call that is in the money prior to expiration. For example, assume that the stock price is $60 and the exercise price is $50. In this case, the option cannot sell below $10. To see this, note the simple strategy if the option sells at, say, $9.

Date		Transaction	
Today	(1)	Buy call.	−$ 9
Today	(2)	Exercise call, that is, buy underlying stock at exercise price.	−$50
Today	(3)	Sell stock at current market price.	+$60
Arbitrage profit			+$ 1

Arbitrage profits come from transactions that have no risk or cost and cannot occur regularly in normal, well-functioning financial markets. The excess demand for these options would quickly force the option price up to at least $10 ($60 - $50). Of course, the price of the option is likely to sell above $10. Investors will rationally pay more than $10 because of the possibility that the stock will rise above $60 before expiration.

Upper Bound: Is there an upper boundary for the option price as well? It turns out that the upper boundary is the price of the underlying stock. That is, an option to buy common stock cannot have a greater value than the common stock itself. A call option can be used to buy common stock with a payment of an exercise price. It would be foolish to buy stock this way if the stock could be purchased directly at a lower price.

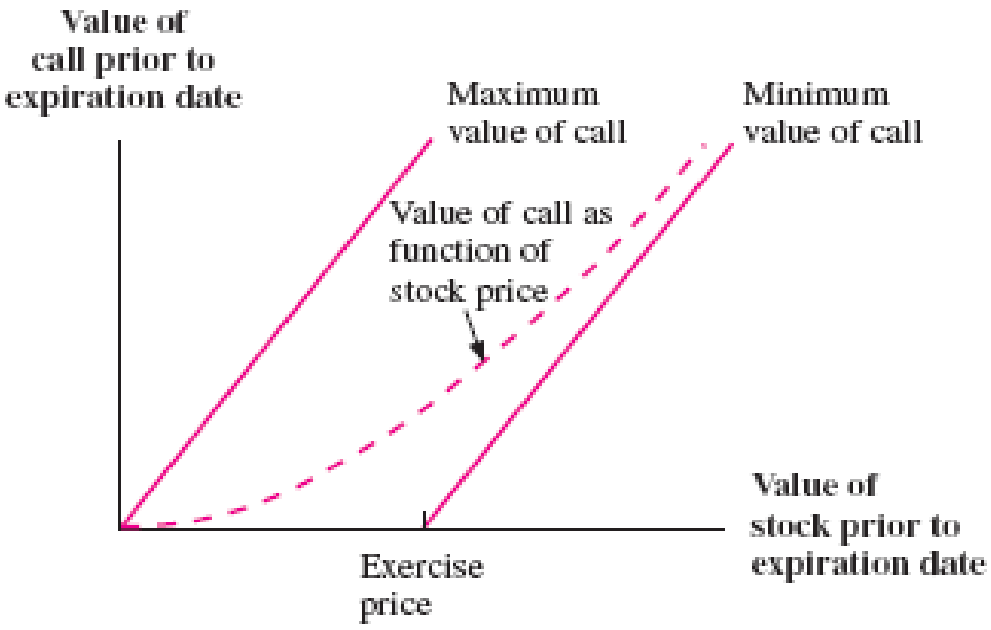
The Factors Determining Call-Option Values

The factors that determine a call's value can be broken into two sets. The first set contains the features of the option contract. The two basic contractual features are the ***exercise price*** and the ***exercise date***.

The second set of factors affecting the call price concerns ***characteristics of the stock*** and the ***market***.

- **Exercise Price:** An increase in the exercise price reduces the value of the call.
- **Expiration Date:** The value of an American call option must be at least as great as the value of an otherwise identical option with a shorter term to expiration.
- **Stock Price:** Other things being equal, the higher the stock price, the more valuable the call option will be.

The **Value** of an American Call as a Function of Stock Price can be depicted as follows:



The call price is positively related to the stock price. In addition, the change in the call price for a given change in the stock price is greater when the stock price is high than when it is low.

The figure shows the relationship between the call price and the stock price prior to expiration. The curve indicates that the call price increases as the stock price increases. Furthermore, it can be shown that the relationship is represented, not by a straight line, but by a *convex curve. That is, the increase in the call price for a given change* in the stock price is greater when the stock price is high than when the stock price is low.

There are two special points on the curve:

1. *The Stock Is Worthless. The call must be worthless if the underlying stock is worthless.* That is, if the stock has no chance of attaining any value, it is not worthwhile to pay the exercise price in order to obtain the stock.

2. *The Stock Price Is Very High Relative to the Exercise Price. In this situation, the owner* of the call knows that he will end up exercising the call. He can view himself as the owner of the stock now, with one difference. He must pay the exercise price at expiration.

Thus, the value of his position, i.e., the value of the call, is:
= Stock price - Present value of exercise price

The Key Factor:

The Variability of the Underlying Asset: The greater the variability of the underlying asset, the more valuable the call option will be.

The Interest Rate: Call prices are also a function of the level of interest rates. Buyers of calls do not pay the exercise price until they exercise the option, if they do so at all. The ability to delay payment is more valuable when interest rates are high and less valuable when interest rates are low. Thus, the value of a call is positively related to interest rates.

Factors Determining Put-Option Values

Given the extended discussion of the factors influencing a call's value, the effect of these factors on puts can be examined very easily. The effect of three factors on puts are the opposite of the effect of these three factors on calls:

1. The put's market value *decreases as the* **stock price** *increases because puts are in the* money when the stock sells below the exercise price.
2. The value of a put with a high **exercise price** is *greater than the value of an otherwise* identical put with a low exercise price for the reason given in (1).
3. A high **interest rate** *adversely affects the value of a put. The ability to sell a stock at a* fixed exercise price sometime in the future is worth less if the present value of the exercise price is diminished by a high interest rate. The effect of the other two factors on puts is the same as the effect of these factors on calls:
4. The value of an American put with a distant **expiration date** is greater than an otherwise identical put with an earlier expiration. The longer time to maturity gives the put holder more flexibility, just as it did in the case of a call.
5. **Volatility** of the underlying stock increases the value of the put. The reasoning is analogous to that for a call. At expiration, a put that is way in the money is more valuable

than a put only slightly in the money. However, at expiration, a put way out of the money is worth zero, just as is a put only slightly out of the money.

Review Exercises

1) What distinguishes a derivative security, such as a forward, futures, or option contract, from more fundamental securities, such as stocks and bonds?
2) What are the similarities and differences between forward and futures contracts?
3) What do the payoff diagrams look like for investments in put and call option contracts?
4) How are forward contracts, put options, and call options related to one another?
5) How can derivatives be used in conjunction with stock and Treasury bills to replicate the payoffs to other securities and create arbitrage opportunities for an investor?
6) How can derivative contracts be used to restructure cash flow patterns and modify the risks in existing investment portfolios?

Chapter 8
Overview of Ethiopian Economy

8.1 Introduction

The **economy of Ethiopia** is largely based on agriculture, which accounts for 46.6% of the gross domestic product (GDP) and 85% of total employment.

Ethiopia is one of the fastest-growing economies in the world and is Africa’s second most populous country. Many properties owned by the government during the previous regime have now been privatized and are in the process of privatization. However, certain sectors namely Telecommunications, Financial and Insurance services, Air and Land Transportation services, and retail are considered as strategic sectors and would remain under state control for the foreseeable future. Almost 50% of Ethiopia's population is under the age of 18, and even though education enrollment at primary and tertiary level has increased significantly, job creation has not caught up with the increased output from educational institutes. The country must create hundreds of thousands of jobs every year just to keep up with population growth.

The Ethiopian constitution defines the right to own land as belonging only to "the state and the people", but citizens may only lease land (up to 99 years), and are unable to mortgage, sell, or own it. Various groups and political parties have sought for full privatization of land, while other opposition parties are against privatization and favor communal ownership.

The current government has embarked on a program of economic reform, including privatization of state enterprises and rationalization of government regulation. While the process is still ongoing, the reforms have begun to attract much-needed foreign investment. Despite recent improvements, with an exploding population Ethiopia remains one of the poorest nations in the world.

8.2 The Agriculture in Ethiopian Economy

The economy of Ethiopia is based on agriculture, which accounts for 46.3% of gross domestic product (GDP), 60% of exports, and 80% of total employment.

Ethiopia's agriculture is plagued by periodic drought, soil degradation caused by overgrazing, deforestation, high population density, high levels of taxation and poor infrastructure (making it difficult and expensive to get goods to market). Yet agriculture is the country's most promising resource. A potential exists for self-sufficiency in grains and for export development in livestock, grains, vegetables, and fruits. As many as 4.6 million people need food assistance annually.

Agriculture accounts for almost 41 percent of GDP, 80 percent of exports, and 80 percent of the labor force. Many other economic activities depend on agriculture, including marketing, processing, and export of agricultural products. Production is overwhelmingly of a subsistence nature, and a large part of commodity exports are provided by the small agricultural cash-crop sector. Principal crops include coffee, pulses (e.g., beans), oilseeds, cereals, potatoes, sugarcane, and vegetables. Exports are almost entirely agricultural commodities, with coffee as the largest foreign exchange earner, and its flower industry becoming a new source of revenue: for 2005/2006 (the latest year available) Ethiopia's coffee exports represented 0.9% of the world exports, and oilseeds and flowers each representing 0.5%. Ethiopia is Africa's second biggest maize producer. In 2000, Ethiopia's livestock contributed to 19% of total GDP.

As of 2008, some countries that import most of their food, such as Saudi Arabia, had begun planning the development of large tracts of arable land in developing countries such as Ethiopia. This has raised fears of food being exported to more prosperous countries while the local population faces its own shortage.

Forestry

Forest products are used in construction and manufacturing, and as energy sources.

Fishing

Ethiopia's fisheries are entirely freshwater, as it has no marine coastline, and are a small part of the economy.

8.3 The Industrial Sector

Minerals and mining

The mining sector is small in Ethiopia. The country has deposits of coal, opal, gemstones, kaolin, iron ore, soda ash, and tantalum, but only gold is mined in significant quantities. In 2001 gold production amounted to some 3.4 tons. Salt extraction from salt beds in the Afar Depression, as well as from salt springs in Dire and Afder districts in the south, is only of internal importance and only a negligible amount is exported.

On 30 August 2012 it was announced that British firm Nyota Minerals was about to become the first foreign company to receive a mining license to extract gold from an estimated resource of 52 tones in western Ethiopia.

Energy

Waterpower and forests are Ethiopia's main energy sources. The country derives about 90 percent of its electricity needs from hydropower, which means that electricity generation, as with agriculture, is dependent on abundant rainfall. Present installed capacity is rated at about 2000 megawatts, with planned expansion to 10,000 megawatts. In general, Ethiopians rely on forests for nearly all of their energy and construction needs; the result has been deforestation of much of the highlands during the last three decades.

Less than one-half of Ethiopia's towns and cities are connected to the national grid. Petroleum requirements are met via imports of refined products, although some oil is being hauled overland from Sudan. Oil exploration in Ethiopia has been underway for decades, ever since Emperor Haile Selassie granted a 50-year concession to SOCONY-Vacuum in September 1945. Plans are afoot to exploit natural gas reserves in the southeastern lowlands, estimated at 4 trillion cubic feet (110×10^9 m^3). Exploration for gas and oil is underway in the Gambela Region bordering Sudan.

Manufacturing

This sector constitutes about 4 percent of the overall economy, although it has shown some growth and diversification in recent years. Much of it is concentrated in Addis Ababa. Food and beverages constitute some 40 percent of the sector, but textiles and leather are also important, the latter especially for the export market. A program to privatize state-owned enterprises has been underway since the late 1990s.

8.4 The Service Sector

Transport

Prior to the outbreak of the 1998–2000 Eritrean–Ethiopian War, landlocked Ethiopia mainly relied on the seaports of Asseb and Massawa in Eritrea for international trade. As of 2005, Ethiopia uses the ports of Djibouti, connected to Addis Ababa by the Addis Ababa – Djibouti Railway, and to a lesser extent Port Sudan in Sudan. In May 2005, the Ethiopian government began negotiations to use the port of Berbera in Somaliland. Of the 23,812 kilometers of Ethiopia's all-weather roads, 15% are asphalt. Mountainous terrain and the lack of good roads and sufficient vehicles make land transportation difficult. However, the government-owned airline, Ethiopian Airlines, is one of Africa's best airlines. It serves 41 domestic airfields and has 65 international destinations.

Telecommunications

Telecommunications are provided by a state-owned monopoly, Ethio Telecom, formerly the Ethiopian Telecommunications Corporation.

Tourism

Aside from wholesale and retail trade, transportation, and communications, the services sector consists almost entirely of tourism. Developed in the 1960s, tourism declined greatly during the later 1970s and the 1980s under the military government. Recovery began in the 1990s, but growth has been constrained by the lack of suitable hotels and other infrastructure, despite a boom in construction of small and medium-sized hotels and restaurants, and by the impact of drought, the 1998–2000 war with Eritrea, and the specter of terrorism. In 2002 more than 156,000 tourists entered the country, many of them Ethiopians visiting from abroad, spending more than US$77 million. In 2008, the number of tourists entering the country had increased to 330,000.

8.5 Foreign Trade and the Ethiopian Balance of Payment

Exports

The overall performance of merchandize exports has been favorable as reflected by a high growth rate. For instance, it grew on average by about 22% per year between 2005/06 and 2010/11, and by 34.9% between 2009/10 and 2010/11. Similarly, exports of goods and services as a share of GDP have increased from 12% in 2000/01 to 17% in 2010/11. In value terms, total exports increased from 1 billion USD in 2005/06 to 2.7 billion in 2010/11. It grew by 22% per year over this period. Similarly, compared with 2009/10, in 2010/11 the value of total exports has increased.

Coffee, gold, flowers, and pulses have significantly contributed to the growth of total export between 2005/06 and 2010/11.[2]Note that with the exception of oilseeds, and leather and leather products, the performance of major exports items improved in real terms as well between 2005/06 and 2010/11. In particular, the real value of exports of

flowers, live animals, fruits and vegetables and meat and meat products have increased over the same period. However, the share of exports in GDP, and the value and volume of exports have declined in 2008/09 and this period corresponds to the global economic meltdown. In terms of the sectoral composition of exports, the share of non-primary exports of goods accounted for a small share of total exports. Consideration of the sector composition of exports determines the shares of primary, manufacturing and services exports. This highlights whether or not the shares of manufacturing and high-value services are increasing to reduce excessive reliance on primary commodity exports. In particular, primary goods exports rose rapidly between 2003/04 and 2010/11, compared to a 13% increase in non-primary exports over the same period.

A look at the export structure indicates that the country exports mainly few primary commodities. There is limited diversification across sectors. Although primary commodities continued to dominate the country's merchandize exports, the dominance of traditional export commodities has declined. For instance, in 2000/01 coffee, chat, oilseeds, leather and leather products, and gold were the top five export commodities, accounting for about 94% of the total value of merchandize exports.

In 2010/11, the top five export commodities were coffee, oilseeds, chat, gold and flowers, and accounted for three-fourths of the total value of exports. This seems to indicate that primary export products are moving towards higher-value agricultural products such as cut flowers and oilseeds.

Imports

Imports have generally been increasing since the late 1990s. Imports of goods and services as a share of GDP increased from 24% in 2000/01 to 34% in 2010/11. Imports of merchandise goods grew by about 24% over the same period. Ethiopia's imports are dominated by capital, consumer goods and intermediate goods, which together accounted for, on average, 82% of the total imports between 2000/01 and 2010/11. Imports of consumer goods have also taken a larger share of the import bill, accounting for 31% of the import bill between 2000/01 and 2010/11. Similarly, the share of imported capital goods in total value of imports has increased from 29% in 2000/01 to 33% in 2010/11.

In terms of growth rates, total imports have increased by 6.6% per year between 2007/08 and 2010/11. Both imports of capital goods and consumer goods grew by about 13% and 14%, respectively, over the 2007/08 to 2010/11 period. Imports of raw materials and semi-finished goods have decreased over the same period by 10.7% and 0.8% respectively. The fact that imports of capital goods increased indicates higher domestic demand for investment goods.

Balance of payments

The fact that imports of goods and services grew faster than exports implies deteriorations in the current account deficit. Figure 18 presents the pattern of trade balance, current accounts and overall balance as percentage of GDP. Three points can be noted for the period 2001/02-2010/11. First, trade deficit as a share of GDP worsened between 2001/02 and 2005/06, and this deficit is largely due to a relatively higher growth in imports. For instance, imports grew by about 28%, compared with a 22% growth of exports over the same period. Second, trade deficit improved between 2006/07 and 2009/10 due to a relatively higher growth of exports compared with imports. Third, between 2009/10 and 2010/11, both trade balance and current account balance as a percentage of GDP declined. However, the absolute magnitudes of both improved between 2009/10 and 2010/11. Improvement in current account balance is due to an increase in private transfers. Though public transfers declined from 1905.6 in 2009/10 to 1891in 2010/11 this is more than offset by private transfers. Although current account balance including public transfers has shown improvements in recent years, it has remained negative in most of the years.

8.6 National Economic Planning in Ethiopia

The Plan for Accelerated and Sustained Development to End Poverty (PASDEP): Progress and Challenges under PASDEP

Progress

The development policies and strategies pursued during Sustainable Development and Poverty Reduction Program (SDPRP), the country's vision and achievements registered under SDPRP were the basis for the PASDEP. The Plan for Accelerated and Sustained Development to End Poverty (PASDEP) is the First Five Year Phase to attain the goals and targets set in the MDGs at a minimum. The main objective of the PASDEP is to lay out the directions for accelerated, sustained, and people-centered economic development as well as to pave the groundwork for the attainment of the MDGs by 2015.

Eight Pillar Strategies were developed under PASDEP which have been carrying forward important strategic directions pursued under SDPRP and also embodying some bold new directions. Foremost among them is a major focus on growth with a particular emphasis on greater commercialization of agriculture and enhancing private sector development, industry, urban development and a scaling-up of efforts to achieve the Millennium Development Goals (MDGs). These pillar strategies were:

- ✓ Building all-inclusive implementation capacity;
- ✓ A massive push to accelerate growth;
- ✓ Creating the balance between economic development and population growth;
- ✓ Unleashing the potentials of Ethiopia's women;
- ✓ Strengthening the infrastructure backbone of the country;
- ✓ Strengthening human resource development;
- ✓ Managing risk and volatility; and,
- ✓ Creating employment opportunities.

To realize the objective of PASDEP by employing the above pillar strategies, the Government had established two alternative growth scenarios under PASDEP. The first scenario (the base case) was established in line with the requirements of MDGs, while the second scenario (the high case) which is equivalent to the 'MDGs Plus' scenario was based on the requirements of the country's vision. In the base case scenario, 7 % annual average real GDP growth was targeted while the target in the higher case scenario was set at an average real GDP growth of 10 %. In both scenarios the performance achieved in the past five years of PASDEP implementation was remarkable. The statistical observation is indicated hereunder:

Growth Targets and Performance under PASDEP

Sector	**Average Growth Targets (2005/06-2009/10)**		**Average Growth Achieved (2005/06-2009/10)**
	Base case scenario	High case scenario	
Real GDP (%)	7.0	10.0	11.0
• Agriculture and allied activities	6.0	6.4	8.0
• Industry	11.0	18.0	10.0
• Services	7.0	10.3	14.6

As shown in the Table above, the growth performance as measured by real GDP growth has exceeded the growth targets set under both scenarios of PASDEP. The registered GDP growth rate, in comparison with an average population growth rate of 2.6%, implies that the average annual per capita income growth rate was 8.4 %

The shift to a high growth path due to a combination of emphasis on diversification and commercialization of small scale agriculture , expansion of non-agricultural production in services and industry, capacity building and good governance, off farm employment especially through small enterprises, massive investment in infrastructure.

Major Challenges Encountered

The major challenges encountered in the past five years of PASDEP implementation were:-

- ✓ High inflationary pressure which partly induced by external factors was a serious challenge to the macroeconomic stability. However, this inflationary challenge had been effectively managed by the Government to a single digit through fiscal and monetary policy and administrative measures.
- ✓ Inadequate capacity for domestic revenue collection was another challenge encountered during the period of PASDEP implementation. This challenge has significantly improved through reform and administrative measures of the government towards the end of the planning period.
- ✓ Low level of domestic savings to support the huge demand of the country's investment for accelerating growth and development in the process of eradicating poverty.
- ✓ In some areas of the country, delayed entrance of rainy seasons, early withdrawal and mal-distribution of rain were challenges from which great lessons have been drawn.

Lessons Drawn

The lessons drawn from the implementation of PASDEP include:-

- ✓ Best experiences have been drawn in the process of leading and managing the economy on how to coordinate and mobilize the people at large, the private sector and non government organization for accelerated and sustained growth.

- ✓ A number of model farmers who registered the highest productivity and production, particularly in agricultural sector have been emerged. Best practices of these model farmers for increased productivity and production have been drawn for scaling up to the rest of the farmers in the upcoming five year Growth and Transformation Plan so as to increase productivity and production of most of farmers nearer to the model farmers.

8.7 Growth and Transformation Plan: Bases and Objectives of the Plan

Bases of Growth and Transformation Plan

The country's long term vision, achievements of PASDEP and lessons drawn from its implementation are the bases for conceiving the next five year Growth and Transformation Plan. The plan has also been prepared considering growth constraining factors that emerged in the course of implementation and external shocks.

Ethiopia's long-term vision is

"to become a country where democratic rule, good-governance and social justice reigns, upon the involvement and free will of its peoples; and once extricating itself from poverty and becomes a middle-income economy."

Its vision in the economic sector is

"to build an economy which has a modern and productive agricultural sector with enhanced technology and an industrial sector that plays a leading role in the economy; to sustain economic development and secure social justice; and, increase per capita income of citizens so that it reaches at the level of those in middle-income countries."

Since 2003/04, the economy has shifted to a higher growth trajectory and the growth momentum has been sustained during the PASDEP period (2005/06-2009/10). Infrastructure development and social services has expanded. Involvement of private investors and the community in general has reached its encouraging level. Domestic resource mobilization effort has increased the capacity of the country to finance development projects. The process of laying-out foundation for democracy and good governance has been given emphasis through several reform programs.

The Growth and Transformation Plan(GTP) is directed towards achieving Ethiopia's long term vision and sustaining the rapid and broad based economic growth anchored on the

experiences that has been drawn from implementing development policies and strategies and undertaking policy measures for the challenges that has been surfaced in the course of implementation. The overriding development agenda of GTP is to sustain rapid and broad-based growth path witnessed during the past several years and eventually end poverty.

Objective of the Plan

The Growth and Transformation Plan has the following major objectives.

1. Maintain at least an average real GDP growth rate of 11% and meet the Millennium Development goals,
2. Expand and ensure the qualities of education and health services thereby achieving the MDGs in the social sectors,
3. Establish favorable conditions for sustainable state building through the creation of stable democratic and developmental state
4. Ensure growth sustainability by realizing all the above objectives within stable macroeconomic framework.

Pillar strategies

Ethiopia's strategy for sustaining the rapid and broad-based growth path hinges on the following pillars:

1. Sustaining faster and equitable economic growth
2. Maintaining agriculture as a major source of economic growth
3. Creating favorable conditions for the industry to play key role in the economy
4. Enhancing expansion and quality of infrastructure development
5. Enhancing expansion and quality of social development
6. Building capacity and deepen good governance
7. Promote women and youth empowerment and equitable benefit

Macroeconomic Framework of the Development Plan

Macroeconomic Objectives

Macroeconomic policy objectives of the next five years entails maintaining macroeconomic stability thereby encouraging savings and investment through adopting appropriate policies that are designed to promote rapid and broad based growth. Fiscal and monetary policies will be managed in a manner consistent with macroeconomic objectives.

Macroeconomic policies and Goals

Macroeconomic goals of the Growth and Transformation Plan is set with the overall policy objectives of maintaining the growth momentum witnessed during the period of the PASDEP and considering Ethiopia's long term vision of becoming middle income country and meeting the MDGs at a minimum.

Economic Growth, Savings and Investment

As discussed earlier, sustaining rapid and equitable growth is central to GTP. It is growth that will help expand employment and income, eventually eradicating poverty. Two growth scenarios are considered under GTP in the coming five years: Base Case and High Case Scenarios. These are discussed below.

A. Base Case Scenario

Under the Base Case Scenario Ethiopia's economy is projected to grow at an average annual rate of 11.2 percent. This is the average rate of growth attained during PASDEP period. Thus, GTP intends to maintain the growth momentum of the last five years. It is assumed that under the Base Case Scenario, the economy would be able to grow under the appropriate policies and strategies designed at macroeconomic and sectoral levels, all MDG targets will be met by 2014/15, prudent monetary and fiscal policy inflation remains at single digit and strengthening tax collection and administration systems will increase domestic revenue substantially.

Real GDP Projection

Sector	Base Year (2009/10)	Five Year Average (2010/11-2014/15)	
		Base Case	High Case
Agriculture and allied activities	6.0	8.1	14.9
Industry	10.2	20.0	21.4
Services	14.5	11.0	12.8
Real GDP	10.1	11.2	14.9

Real GDP Projection: Percentage Distribution

Sector	Base Year (2009/10)	Five Year Average (2014/15)	
		Base Case	High Case
Agriculture and allied activities	41.0	35.5	41.0
Industry	13.0	18.7	16.9
Services	46.0	45.7	42.2
GDP	100	100	100

As shown in the above Tables, growth is expected to be broad based with agriculture on average growing by 8.1 percent per annum. Industry and services are expected to show average annual growth of 20 percent and 11 percent, respectively.

B. Higher Case Scenario

The basic assumption under high case scenario is placing the economy on higher growth trajectory by way of doubling agricultural value added through scaling up the productivity level of smallholder farmers/pastoralists to the productivity level of model farmers. Owing to its multiple effects increase in agricultural supply will stimulate the growth of other economic activities.

Under the High Case Scenario, it is assumed that agricultural value added will double by the end of the plan period, the possible upward shift of demand will be stabilized by high supply response in agricultural sector thereby the change in inflation will remain within single digit and given the overall economic shift to higher growth path revenue generating capacity of the economy will increase substantially.

Review Exercises

1. What was the main objective of The Plan for Accelerated and Sustained Development to End Poverty (PASDEP)?

2. List the pillar strategies adopted by The Plan for Accelerated and Sustained Development to End Poverty (PASDEP).

3. List and explain the major challenges encountered when implementing The Plan for Accelerated and Sustained Development to End Poverty (PASDEP).

4. List the pillars strategies of the Ethiopian Growth and Transformation Plan (GTP).

5. What are the major challenges being encountered in the Ethiopian Agricultural Sector?

6. What are the major objectives of the Ethiopian Growth and Transformation Plan (GTP)?

7. Two growth scenarios are considered under the Ethiopian Growth and Transformation Plan (GTP) in five years of the plan. What are they?

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