CHAPTER 1

An Introduction to Financial Institutions, Instruments, and Markets

THE ROLE OF AN ECONOMIC SYSTEM

Economic systems are designed to collect savings in an economy and allocate the available resources efficiently to those who either seek funds for current consumption in excess of what their resources would permit, or else for investments in productive assets.

The key role of an economic system is to ensure *efficient allocation*. Efficient and free flow of resources from one economic entity to another is a sine qua non for a modern economy. This is because the larger the flow of resources and the more efficient their allocation, the greater is the chance that the requirements of all economic agents can be satisfied, and consequently the greater are the odds that the economy's output will be maximized.

The functioning of an economic system entails making decisions about both the production of goods and services and their subsequent distribution. The success of an economy is gauged by the extent of wealth creation. A successful economy consequently is one that makes and implements judicious economic decisions from the standpoints of production and distribution. In an efficient economy, resources will be allocated to those economic agents who are able to derive the optimum value of output by employing the resources allocated to them.

Why are we giving so much importance to the efficiency of an economic system? The emphasis on efficiency is because every economy is characterized by a relative scarcity of resources as compared to the demand for them. In principle, the demand for resources by economic agents can be virtually unlimited, but in practice, economies are characterized by a finite stock of resources. Efficient allocation requires an extraordinary amount of information as to what people need, how best goods and services can be produced to cater to these needs, and how best the produced output can be distributed.

Economic systems may be classified as command economies or as free market economies. This definition refers to the two extreme ends of the economic spectrum. In practice, most modern economies tend to display characteristics of both kinds of systems, and they differ only with respect to the level of government control.

A COMMAND ECONOMY

In a command economy, such as the former Soviet Union, all production and allocation decisions are taken by a central planning authority. The planning authority is expected to estimate the resource requirements of various economic agents, and then rank them in order of priority based on their relevance to social needs. Production plans and resource allocation decisions are then made so as to ensure that resources are directed to users in descending order of need. In practice, communist and socialist systems, which were based on this economic model, ensured that citizens complied with the directives of the state by imposing stifling legal, and occasionally, coercive measures.

The failure of the command economies was inherent in their structure. As we have discussed, efficient economic systems needed to aggregate and process an enormous amount of information. When this task was entrusted to a central planning authority, this not only proved to be infeasible in practice, but the quality of information was also substandard. The central planning authority was supposed to be omniscient and was expected to have perfect information as to what resources were available and what the relative requirements of the socioeconomic system were. This was necessary for them to ensure that optimal decisions were made about production as well as distribution.

Command economies were in practice plagued by blatant political interference. The planning authority was often prevented from making optimal decisions due to political pressures. The system gave the planners enormous powers that permeated all facets of the social system and not just the economy. One of the hallmarks of such systems was the absence of pragmatism, and a naïve idealism that was out of touch with realities. Planners used their authority to devise and impose stifling rules and regulations. These regulations, which were in principle intended to ensure optimal decision making, sometimes went to the ridiculous extent of imposing penalties on producers whose output exceeded what was allowed by the permit or license given to them.

Such economies were a colossal failure in practice and were characterized by an output that was invariably far less than the ambitious targets that were set at the outset of each financial year. When confronted with the specter of failure the planners tended to place the blame on those who were responsible for implementing the plans. The bureaucrats in charge of implementation passed the buck back by making allegations of improper decision making on the part of the planners. Eventually the contradictions in the system lead either to the total repeal of such systems or else to substantial structural changes that brought in key features of a market economy.

A MARKET ECONOMY

Such economies work in principle as follows. Economic agents are expected to make the most profitable use of the resources at their disposal. What is profit? Profit is defined as the revenues from sales less the costs of production of the goods sold. Thus, profit is a function of the prices of the inputs or the factors of production, such as land, labor, and capital, and the prices of the output. An optimal economic decision

is defined as the one that maximizes profit. Economic agents who generate surpluses of income over expenditure will obviously be able to attract more and better resources. Failure, as manifested by sustained losses, will result in those economic agents being denied access to the resources being sought by them.

In such systems the prices of both inputs and outputs are determined by factors of supply and demand. These economies, in contrast to command economies, are characterized by decentralized decision making. In principle, agents are expected to make a rational decision by evaluating competing resource needs based on their ability to generate surpluses. In practice, every decision maker will have a required rate of return on investment. The threshold return, or the return exceeding which the venture will be deemed to be profitable, is the cost of capital for the decision maker. A project is deemed to be worth the investment only if the expected rate of return from it is greater than the cost of the capital that is being invested.

As can be surmised, the key decision variables in these economies are the prices of inputs and outputs. Hence, for such economies to work in an optimal fashion, it is imperative that prices accurately convey the value of a good or a service, from the standpoints of producers who employ factors of production and consumers who consume the end products. The informational accuracy of prices results in the efficient allocation of resources for the following reasons. If the inputs for the production process, such as labor and capital, are accurately priced, then producers can take optimal production-related decisions. Similarly, if the consumers of goods and services perceive their prices to be accurate, they will make optimal consumption decisions. The accuracy of input-related costs and output prices will manifest itself in the form of profit maximization, which is the primary motivating factor for agents in such economies to engage in economic enterprise.

How do such systems ensure that prices of inputs and outputs are informationally accurate? In practice, this is ensured by allowing economic agents to trade in markets for goods and services. If an agent has the perception that the price of an asset is different from the value that he places on it, he will seek to trade. If the prevailing price is lower than the perceived value, buyers will seek to buy more of the good than the quantity on offer. If so, the market price will be bid up due to demand being greater than the amount on offer. This demand supply disequilibrium will persist till the price reaches the optimal level. Similarly, if the price of the good is perceived to be too high relative to the value placed on it by agents, sellers will seek to offload more than what is being demanded. Once again, the supply-demand imbalance will cause prices to decline till equilibrium is restored. Thus, differing perceptions of value will manifest themselves as supply-demand imbalances; resolving these will ultimately help ensure that the prices of assets accurately reflect their value.

Opinion: While free market economies have to a large extent been more successful than command economies, no one would advocate a total absence of the government's role in economic decision making. Unfettered capitalism is unlikely to find acceptance anywhere. There are disadvantaged sections of every society whose fate cannot be left to the market, and whose well-being must be ensured by policy makers to promote overall welfare. While societies characterized by command economies have historically not permitted free speech, in a country like the United States, even mild criticism of the market is considered to be heresy.

CLASSIFICATION OF ECONOMIC UNITS

Economic agents are usually divided into three categories or sectors:

- The government sector
- The business sector
- The household sector

The government sector consists of the central or federal government of a country, state, or provincial governments, and local governments or municipalities. The business sector consists of sole proprietorships, partnerships, and private as well as public limited companies. Sometimes business units are broadly subclassified as financial corporations and nonfinancial corporations.

Proprietorships: A proprietorship, also known as a sole proprietorship, is a business owned by a single person, and represents the easiest way to start a business. The owner may do business in their name or else in a trade name. For instance, a consultant named John Smith may run the business in his name, or choose a name like "Business Systems." The owner is fully responsible for all debts and obligations of the business. That is, creditors, or entities to which the business owes money, may stake a claim against all assets of the proprietor, whether they are business-related assets or personal assets. In legal parlance this is referred to as *unlimited liability*, as opposed to a corporation where the owners have *limited liability*, which we will shortly discuss in greater detail.

The start-up costs of a sole proprietorship are usually lower than those of other forms of business. Unlike a corporation, however, such businesses face relative difficulties in raising additional capital when they choose to expand the scope of their operations. Usually, in addition to the owner's personal investment, the only source of funds is a loan from a commercial bank.

Legally, the proprietorship is an extension of the owner. The owner is permitted to employ other people. The net profits from the business are clubbed with the proprietor's other income, if any, for the purpose of taxation. The lifespan of these entities is uncertain. For instance, if the owner were to die, the business would cease to exist.

Partnerships: A partnership is a business entity that is owned by at least two people or partners. One of the partners may be a corporation, which we will explain next. Legally, the partnership is an extension of the partners. Like a proprietorship, a partnership is permitted to employ others, and can conduct a business under a trade name. For instance, two lawyers named John Smith and Mike Jones may conduct their business as Smith & Jones, or else under a trade name such as "Legal Point." In a general partnership the partners have unlimited liability, and the partners are personally responsible not only for their own acts, but also for the actions of other partners and employees.

There are two categories of partnerships in many countries: *general partnerships* and *limited partnerships*. A general partnership is what we have just discussed. In a limited partnership there are two categories of partners: general partners and limited partners. The general partners are usually a corporation and have management control. They are characterized by unlimited liability. The limited partners, on the other hand, are like the shareholders of a corporation. Their potential loss is limited to the investment that they have made.

Like a sole proprietorship, a partnership is also easy to establish. However, unlike a proprietor, who is the sole decision maker, partners must share authority with the others. Consequently, it is important to draw up a partnership agreement at the outset, where issues such as profit sharing are clearly spelled out. Compared to corporations, partnerships also find it relatively difficult to raise capital to expand their businesses.

Corporations: A corporation or a limited company is a legal entity that is distinct and separate from its owners, who are referred to as shareholders or stockholders. A corporation may and usually will have multiple owners as well as many employees on its payroll. It must necessarily do business under a given trade name. Because a corporation is a separate legal entity, it has the right to sue and be sued in its own name. Shareholders of a corporation enjoy limited liability. Unlike a proprietorship or partnership, the ownership of a company can easily change hands. Each shareholder will possess shares of the company that can be usually bought and sold in a marketplace known as the stock exchange. While such share transfers may result in one party relinquishing majority control in favor of another, the transfers per se have no implications for the corporation's continued existence or its operations. Unlike proprietorships and partnerships, corporations find it relatively easier to raise both debt or borrowed capital, as well as equity or owners' capital. In most countries, however, corporations are extensively regulated, and are required by statutes to maintain extensive records pertaining to their operations. The cost of incorporation, and the costs of raising equity through share issues, can also be substantial. While owners of a corporation may be a part of its management team, very often ownership and management are segregated by entrusting the management of day-to-day activities to a team of professional managers. In some countries there exist entities known as Private Limited Companies. These companies cannot offer shares to the public, and consequently the shares cannot be traded on a stock exchange. However, the shareholders continue to enjoy limited liability and hence the name. The disclosure norms for public limited companies are generally more stringent than those for private limited companies.

During a given financial year, every economic unit, irrespective of which sector it may belong to, will get some form of income from its operations, and will also incur expenditure in some form. Depending on the relationship between the income earned and the expenditure incurred, an economic unit may be classified into one of the following three categories:

- A balanced budget unit
- A surplus budget unit
- A deficit budget unit

A balanced budget unit (BBU) is one whose income in a period is exactly equal to its expenditure. It must be reiterated that a balanced budget unit is impossible to observe in practice and consequently exists only in the realm of textbooks. For it is virtually impossible for a business or government to ensure that its scheduled income during a period is perfectly matched with its scheduled expenditure during the same period. In practice an economic unit may be a surplus budget unit (SBU) or a deficit budget unit (DBU). A surplus budget unit is one whose income exceeds its expenditure while a deficit unit is one whose expenses exceed its income. Usually, in most countries, governments and businesses invariably tend to be deficit budget units, whereas households consisting of individuals and families generally tend to be

savers, that is they tend to have budget surpluses. By this we do not mean that all households and individuals are savers or that all governments and businesses have a budget deficit. What we mean is that while it is not impossible for a government or a business to have a surplus in a financial period, taken as a group, the government sector and the business sector generally tend to be net borrowers. By the same logic, it is not necessary that all households should save, although the category generally has a budget surplus in most periods. Finally, a country may have a budget surplus or a budget deficit.

AN ECONOMY'S RELATIONSHIP WITH THE EXTERNAL WORLD

The record of all economic transactions between a country and the rest of the world is known as the Balance of Payments (BOP). It is a record of a country's trade in goods, services, and financial assets with the rest of the world or, in other words, a record of all economic transactions between a country and the outside world. The transaction may be a requited transfer of economic value or an unrequited transfer of economic value. The term *requited*, in this context, connotes that the transferor receives a compensation of economic value from the transferee. On the other hand, an *unrequited transfer* represents a unilateral gift made by the transferor.

For instance, if Microsoft exports software to Germany in return for a payment in euros, it is a requited transaction of economic value. On the other hand, if the Gates Foundation were to donate $10 million to a charity in Zimbabwe, it is an unrequited or unilateral transfer.

Economic transactions can be classified into the following five basic categories. First is the import and export of goods and services in return for a payment in financial terms. For instance, a company in Houston imports crude oil from Saudi Arabia and pays in US dollars. The second category may be illustrated as follows. Sometimes an import or export of a product may be paid for by an equivalent export or import of another. A party in India imports crude oil from Nigeria by paying in the form of wheat. This is nothing but a barter transaction in simple English. The third type of transaction entails the exchange of one financial asset for another. For instance, a party in London buys US Treasury Bonds as an investment and pays the equivalent amount in dollars. The last two categories pertain to unilateral transfers, inward and outward, respectively.

The BOP is typically broken up into three major categories of accounts, each of which is further subdivided into various components. The major categories are:

The Current Account: This accounting head includes imports and exports of goods and services, factor incomes and payments, and unrequited transfers in both directions.

The Capital Account: Under this head we have the transactions that lead to changes in the foreign assets and liabilities of a country.

The Reserve Account: The reserve account is similar to the capital account, in the sense that it also deals with financial assets and liabilities. This account, however, deals only with reserve assets, which are assets used to settle the deficits and surpluses that arise on account of the other two categories taken together.

A reserve asset is one that is acceptable as a means of payment in international transactions, and which is held by and exchanged between the monetary authorities of various countries. It consists of monetary gold, assets denominated in foreign currencies, Special Drawing Rights (SDRs), and reserve positions at the International Monetary Fund (IMF). If there is a deficit in the current and capital accounts taken together, then there will be a depletion of reserves. However, if the two accounts show a surplus when taken together, there will be an increase in the level of reserves.

The balance of payments is an accounting system that is based on the double-entry system of bookkeeping. Consequently, every transaction is recorded on both sides, that is as a credit and as a debit. All transactions that have led to or will lead to a flow of payments into the country from the rest of the world will be shown as credits. The payments themselves should be shown as the corresponding debit entries. Similarly, all transactions which have led to or will lead to a flow of payments from the country to the rest of the world should be recorded as debits, and the corresponding payments should be recorded as credits.

The accounting principle can also be stated as follows. Any transaction which leads to an increase in the demand for foreign exchange should be shown as a debit, whereas any transaction which leads to an increase in the supply of foreign exchange should be shown as a credit. Thus, capital outflows will be debited, whereas capital inflows will be credited.

Why would the residents of a country demand foreign exchange? First, they may wish to pay for imports of goods or services. Second, they may want to make a dividend or interest payment to a party abroad. Third, they may want to repay a loan taken from an entity abroad. Unlike a company, a country does not have shareholders. Thus, all liabilities of the latter represent debt. It should also be clarified that a company's debt is what it owes to its banks or bondholders. In the case of a country, however, if a foreign entity were to take an equity stake in a domestic company, it would be treated as a part of the country's external debt.

Now let us analyze the receipts of foreign exchange by residents of a country. First, they may have exported goods or services. Second, they may have received dividend or interest payments from parties abroad. Third, they may have taken a loan from an entity abroad or may have liquidated a foreign financial asset.

A payment received from abroad will increase the country's foreign assets. Thus, an increase in foreign assets or a decrease in foreign liabilities will be shown as a debit. On the other hand, when a payment is made to an external party it will either reduce the country's holding of foreign assets or show up as an increase in its liabilities. This will obviously be shown as a credit.

The equivalence with corporate accounts: An export of goods and services by a country is equivalent to a sale by a company. It will be recorded as a credit, and the corresponding payment received or to be received will be recorded by debiting the cash account or the receivables account, if the sale is made on credit. Similarly, an import of goods and services is like a purchase by a company. It will be recorded as a debit and the payment, if made immediately, will be shown by crediting cash, or by crediting the creditor's account if the counterparty has supplied on credit. Dividends and interest payments made to foreign parties are equivalent to expenses for a company and will be debited. Inward dividends and interest are equivalent to income and

will be credited. As we said earlier, a country has only creditors and no shareholders. Consequently, foreign liabilities will go up with credits and down with debits. Unlike a company's reserves, which belong to the shareholders and are consequently a liability for it, a country's reserves are an asset for it. Thus, a country's reserves will increase with debits and decline with credits.

Unrequited or unilateral transfers may be perceived as follows. Inward transfers are like purchases by a company, where the supplier has extended a 100% discount. On the other hand, outward transfers are like sale transactions, where the company concerned has offered a 100% discount.

Clearly, the balance of payments must always balance. Thus, a current account deficit must be matched by a surplus in the capital account or by a depletion of reserves, or both. A surplus in the capital account would indicate that the country's foreign liabilities have gone up, or, in other words, that it has borrowed from abroad. In the case of a company, if the net income for a period is negative, then either its liabilities must correspondingly increase, or its assets must decline. However, If the net income were to be positive, it would manifest itself as a reduction in the entity's liabilities or as an increase in its assets.

While analyzing the BOP, it is customary to study several subcategories of accounts. We will now look at two of the most important sub-classifications.

THE BALANCE OF TRADE

The balance of trade is equal to the total of merchandise exports and imports. It consists of all raw materials and manufactured goods bought, sold, or given away. If it shows a surplus, it indicates that exports of goods from the country exceed imports into it, whereas if it shows a deficit, it would obviously indicate that imports exceed exports. The balance of trade is a politically sensitive statistic. If a country's balance of trade shows a deficit, industries that are being hurt by competition from abroad will typically raise a hue and cry about the need for a level playing field to take on the foreign competition.

THE CURRENT ACCOUNT BALANCE

The current account balance refers to the total of the following accounts:

- Exports of goods, services, and income
- Imports of goods, services, and income
- Net unilateral transfers

Services include tourism, transportation, engineering, and business services. Fees from patents and copyrights are also recognized under this category. Income includes revenue from financial assets, such as dividends from shares and interest from debt securities. Unilateral transfers are one-way transfers of assets, such as worker remittances from foreign countries and direct foreign aid.

The net foreign assets of a country may be defined as its foreign assets minus its foreign liabilities. If the net foreign assets are positive, then the nation may be deemed

to be a creditor nation; otherwise, it is a debtor nation. The change in the current account is equal to the change in net foreign assets.

$$\Delta \text{ Current Account} = \Delta \text{ Net Foreign Assets}$$
$$= \Delta \text{ Foreign Assets} - \Delta \text{ Foreign Liabilities}$$

If a country has a current account surplus, either its foreign assets will increase or its foreign liabilities will decline. On the contrary, if a country has a current account deficit, either its foreign assets will decline or its foreign liabilities will increase.

Opinion: Finance can be made incredibly complicated in the form of exotic securities and sophisticated mathematical models. But the core issue in an economy is that some entities have more than what they want, whereas others want more than what they have. The former transfer their surplus wealth to the latter, which issues securities in return. The securities themselves, and the businesses that deploy the resources, are vulnerable to different types of risks. Consequently, risk mitigation instruments, such as financial derivatives – which, incidentally, can also be used to speculate on risk – come into existence. But if we sift through the theories and the formulas, the underlying core transaction is a transfer from a Surplus Budget Unit (SBU) to a Deficit Budget Unit (DBU).

FINANCIAL ASSETS

"A financial asset is a claim against the income or wealth of a business firm, a household, or a government agency, which is represented usually by a certificate, a receipt, a computer record file, or another legal document, and is usually created by or is related to the lending of money."[1]

A financial claim is born in the following fashion. Whenever funds are transferred from a surplus budget unit (SBU) to a deficit budget unit (DBU), the DBU will issue a financial claim. It signifies that the party transferring the funds has a claim against the party accepting the funds. The transfer of funds from the lender may either be in the form of a loan to the borrower, or may constitute the assumption of an ownership stake in the venture of the borrower. In the case of loans, the claim constitutes a promise to pay the interest either at maturity or at periodic intervals and to repay the principal at maturity. Such claims are referred to as debt securities, or as fixed income securities. In the case of fund transfers characterized by the assumption of ownership stakes, the claims are known as equity shares. Unlike debt securities, which represent an obligation on the part of the borrower, equity shares represent a right to the profits of the issuing firm during its operation, if there is a profit, and to such assets that may remain after fully paying all creditors in the event of liquidation of the venture. It should be remembered that claims are always issued by the party that is raising funds and held by parties providing the funds.

To the issuer of the claim, the claim is a liability, for it signifies that it owes money to another party. To the lender, or the holder of the claim, it is an asset, for it signifies that the holder owns an item of value. The total of financial claims issued must be

[1]See Rose (2000).

equal to the total financial assets held by investors, and every liability incurred by a party must be an asset for another investor.

Why do investors acquire financial assets? Financial assets are essentially sought after for three reasons.

- They serve as a store of value or purchasing power.
- They promise future returns to their owners.
- They are fungible, in the sense that they can be easily converted into other assets and vice versa.

In addition to debt securities and equity shares, we will also focus on the following assets:

- Money
- Preferred shares
- Foreign exchange
- Derivatives
- Mortgages

MONEY

Money is a financial asset because all forms of money in use today are claims against some institution. Contrary to popular perception, money is not just the coins and currency notes handled by economic agents. For instance, one of the largest components of money supply today is the checking account balances held by depositors with commercial banks. From the banks' standpoint, these accounts obviously represent a debt obligation. Banks have the capacity to both expand and contract the money supply in an economy. Currency notes and coins also represent a debt obligation of the central bank of the issuing country, like the Federal Reserve in the United States. In today's electronic age, newer forms of money have emerged, such as credit, debit, and smart cards.

Money performs a wide variety of important functions, thus it is sought after. In a modern economy, all financial assets are valued in terms of money and all flows of funds between lenders and borrowers occur via the medium of money.

MONEY AS A UNIT OF ACCOUNT OR A STANDARD OF VALUE

In the modern economy, the value of every good and service is denominated in terms of the unit of currency. Without money, the price of every good or service would have to be expressed in terms of every other good or service. The availability of money leads to a tremendous reduction in the amount of price-related information that is required to be processed.

Take the case of a 100-good economy. In the absence of money, we would require ${}^{100}C_2$ or 4,950 prices.[2] However, if a currency were to be available, we would

[2]Obviously, the price of good A in terms of good B is the reciprocal of the price of good B in terms of good A.

require only 100 prices, a saving of almost 98% in terms of the required amount of information. Think of the saving for a modern economy, which has billions of goods.

MONEY AS A MEDIUM OF EXCHANGE

Money is usually the only financial asset that every business, household, and government department will accept as payment in return for goods and services.

Why is it that everyone is willing to readily accept money as compensation? It is primarily because they can always use it whenever needed to acquire any goods and services that they may desire. Thus, due to the existence of money, it is possible to clearly separate, in time, the act of sale of goods and services from any subsequent acquisition of goods and services. In the absence of money, we would have to exchange goods and services for other goods and services, a phenomenon which is termed as barter or countertrade.

MONEY AS A STORE OF VALUE

Money also serves as a store of value, or as a reserve of future purchasing power. However, just because an item is a store of value, it need not necessarily mean that it is a good store of value. In the case of money, inflation (the erosion of its purchasing power) is a virtually constant feature.

For instance, take the case of a good that costs $2 per unit. Thus, if an investor has $10 with him, he can acquire five units. However, if he were to keep the money with him for a year, he may find that the price in the following year is $2.50 per unit and hence he can acquire only four units. This is a manifestation of inflation, which may be considered to be a silent killer of wealth.

MONEY IS PERFECTLY LIQUID

What is a liquid asset? An asset is defined to be liquid if it can be quickly converted into cash with little or no loss of value. Why is liquidity important? In the absence of liquidity, market participants will be unable to transact quickly at prices that are close to the true or fair value of the asset. Buyers and sellers will need to expend considerable time and effort to identify each other, and very often will have to induce a transaction by offering a large premium or discount. If a market is highly liquid at a point in time, it means that plenty of buyers and sellers are available. In an illiquid or thin market, a large purchase or sale transaction is likely to have a major impact on prices. A large purchase transaction will send prices shooting up, whereas a large sale transaction will depress prices substantially. Liquid markets therefore have a lot of depth, as characterized by relatively minimal impact on prices. Liquid assets are characterized by three attributes:

- Price stability
- Ready marketability
- Reversibility

In these respects, money is obviously the most liquid of all assets because it need not be converted into another form to exploit its purchasing power.

However, liquid assets come with an attached price tag. The more liquid the asset in which an investment is made, the lower the interest rate or rate of return from it. Thus, there is a cost attached to liquidity in the form of the interest forgone due to the inability to invest in an asset paying a higher rate of return. Such interest that is forgone is lost forever, and consequently cash is the most perishable of all economic assets.

Consider a financial surplus of $100,000 that is available with an individual. The most liquid way to keep it would be in the form of cash, but there will be a nil return. If the person were to park the surplus funds in a savings account, he would have to sacrifice by way of liquidity, but would get a return. If he were to move the funds to a time deposit, he would lose even more liquidity, but would earn a greater return as compared to a savings account.

EQUITY SHARES

Equity shares or shares of common stock of a company are financial claims issued by the firm, which confer ownership rights on the investors who are known as shareholders. All shareholders are part owners of the company that has issued the shares, and their stake in the firm is equal to the fraction of the total share capital of the firm to which they have subscribed. In general, all companies will have equity shareholders, for common stock represents the fundamental ownership interest in a corporation. Thus, a company must have at least one shareholder. Shareholders will periodically receive cash payments from the firm called dividends. In addition, they are exposed to profits and losses when they seek to dispose of their shares at a subsequent point in time. These profits/losses are referred to as capital gains and losses.

Equity shares represent a claim on the residual profits after all the creditors of the company have been paid. That is, a shareholder cannot demand a dividend as a matter of right. The creditors of a firm, including those who have extended loans to it, obviously enjoy priority from the standpoint of payments, and are therefore ranked higher in the pecking order.

Equity shares have no maturity date. Thus, they continue to be in existence as long as the firm itself continues to be in existence. Shareholders have voting rights and have a say in the election of the board of directors. If the firm were to declare bankruptcy, then the shareholders would be entitled to the residual value of the assets after the claims of all the other creditors have been settled. Thus, once again, the creditors enjoy primacy as compared to the shareholders.

The major difference between the shareholders of a company, as opposed to a sole proprietor or the partners in a partnership, is that they have limited liability. That is, no matter how serious the financial difficulties facing a company may be, neither it nor its creditors can make financial demands on the common shareholders. Thus, the maximum loss that a shareholder may sustain is limited to his investment in the business. Hence, the lowest possible share price is zero.

DEBT SECURITIES

A debt instrument is a financial claim issued by a borrower to a lender of funds. Unlike equity shareholders, investors in debt securities are not conferred with ownership rights. These securities are merely IOUs (an acronym for “I Owe You”), which

represent a promise to pay interest on the principal amount either at periodic intervals or at maturity, and to repay the principal itself at a prespecified maturity date.

Most debt instruments have a finite lifespan, that is, a stated maturity date, and hence differ from equity shares in this respect. Also, the interest payments that are promised to the lenders at the outset represent contractual obligations on the part of the borrower. This means that the borrower is required to meet these obligations irrespective of the performance of the firm in a given financial year. Quite obviously, it is also the case that in the event of an exceptional performance, the borrowing entity does not have to pay any more to the debt holders than what was promised at the outset. It is for this reason that debt securities are referred to as *fixed income securities*. The interest claims of debt holders have to be settled before any residual profits can be distributed by way of dividends to the shareholders. Also, in the event of bankruptcy or liquidation, the proceeds from the sale of assets of the firm must be used first to settle all outstanding interest and principal. Only the residual amount, if any, can be distributed among the shareholders.

While debt is important for a commercial corporation in both the public and private sectors of an economy, it is absolutely indispensable for central or federal, state, and local (municipalities) governments when they wish to finance their developmental activities. Although such entities can raise resources by way of taxes, and in the case of the federal government by printing money, they obviously cannot issue equity shares. For instance, a US citizen cannot become a part owner of the state of Illinois.

Debt instruments can be secured or unsecured. In the case of secured debt, the terms of the contract will specify the assets of the firm that have been pledged as security or collateral. In the event of the failure of the company, the security holders have a right over these assets. In the case of unsecured debt securities, the investors can only hope that the issuer will have the earnings and liquidity to redeem the promise made at the outset. In the United States, secured corporate debt securities are known as bonds, while unsecured debt securities issued by corporations are termed as debentures. In certain countries the terms *bonds* and *debentures* are used for both categories of debt securities. Also, the world over, government debt securities are known as bonds.

Debt instruments can be either negotiable or nonnegotiable. Negotiable securities are instruments which can be endorsed from one party to another, and hence can be bought and sold easily in the financial markets. A nonnegotiable instrument is one which cannot be transferred. Equity shares are obviously negotiable securities. While many debt securities are negotiable, certain loan-related transactions, such as loans made by commercial banks to business firms and savings bank accounts of individuals, are examples of assets that are not negotiable.

Debt securities are referred to by a variety of names such as *bills*, *notes*, *bonds*, *debentures*, etc. US Treasury securities are fully backed by the federal government, and consequently have no credit risk associated with them. The term *credit risk* refers to the risk that the issuer may default or fail to honor their commitment. Thus, the interest rate on Treasury securities is used as a benchmark for setting the rates of return on other, more risky securities. The US Treasury issues three categories of marketable debt instruments – T-bills, T-notes, and T-bonds. T-bills are discount securities also known as zero-coupon securities. That is, they are sold at a discount from their face value, and do not pay any interest. They have a maturity at the time of issue that is less than or equal to one year. T-notes and T-bonds are sold at face

value and pay interest periodically. A T-note is akin to a T-bond but has a time to maturity between 1 and 10 years at the time of issue, whereas T-bonds have a life of more than 10 years.

PREFERRED SHARES

Preferred stocks are a hybrid of debt and equity. They are similar to debt in the sense that holders of such securities are usually promised a fixed rate of return. However, such dividends are payable from the post-tax profits of the firm, as in the case of equity shares. On the other hand, interest payments to bondholders are made from pre-tax profits, and therefore constitute a deductible expense for tax purposes.

If a company were to refrain from paying the preferred dividends in a particular year, then the shareholders, unlike the bondholders, cannot take legal recourse as a matter of right. In practice, most preferred shares are *cumulative* in nature. This implies that any unpaid dividends in a financial year must be carried forward, and the accumulated dividends must first be paid before the company can contemplate the payment of dividends to equity shareholders.

Preferred shareholders have restricted voting rights. That is, they usually do not enjoy the right to vote unless the payment of dividends due to them is in arrears. In the event of liquidation of the firm, the preferred shareholders will have to be paid off before the claims of the equity holders can be entertained. Thus, the order of priority of the stakeholders of the firm from the standpoint of payments is bondholders first, followed by preferred shareholders, and then equity shareholders. Within the category of bondholders, secured debt holders get priority over unsecured debt holders. The term *preferred* arises because such shareholders are given preference over equity shareholders, and not because the shareholders prefer such instruments.

FOREIGN EXCHANGE

The term *foreign exchange* refers to transactions pertaining to the currency of a foreign nation. Thus, foreign exchange markets are markets where foreign currencies are bought and sold. The conversion of one currency into another is termed as *exchange*. A foreign currency is also a type of financial asset, and consequently it will have a price in terms of another currency. The price of one country's currency in terms of that of another is referred to as the *exchange rate*. Foreign currencies are traded among a network of buyers and sellers, composed mainly of commercial banks and large multinational corporations, and not on an organized exchange. Thus, the market for foreign exchange is referred to as an *over-the-counter* or OTC market. Physical currency is rarely paid out or received. What happens in practice is that currency is transferred electronically from one bank account to another.

DERIVATIVES

Derivative securities, more appropriately termed as *derivative contracts*, are assets which confer upon their owners certain rights or obligations, as the case may be. These contracts owe their availability to the existence of markets for an underlying

asset or a portfolio of assets, on which such agreements are written. In other words, these assets are derived from the underlying asset. If we perceive the underlying asset as the primary asset, then such contracts may be termed as derivatives, as they are derived from such assets.

The three major categories of derivative securities are:

- Forward and futures contracts
- Options contracts
- Swaps

FORWARD AND FUTURES CONTRACTS

A typical transaction, where the exchange of cash for the asset being procured takes place immediately, is referred to as a cash or a spot transaction. As soon as the deal is struck, the buyer hands over the payment for the asset to the seller, who in turn transfers the rights to the asset to the buyer at the same time. In the case of a forward or a futures contract, however, the actual transaction does not take place at the moment an agreement is reached between the two parties. What happens in such cases is that at the time of negotiating the deal, the two parties merely agree on the terms on which they will transact at a future point in time. The actual transaction per se occurs only at a future date that is decided at the outset, and at a price that also is decided at the beginning. Thus, no money changes hands when two parties enter into such contracts; however, both the parties to the contract have an obligation to go ahead with the transaction on the predetermined date, as per the agreed terms. Failure to do so will be tantamount to default.

EXAMPLE 1.1

WIPRO Technologies, an Indian company, has imported products from Frankfurt, and has entered into a forward contract with HSBC to acquire EUR 500,000 after 60 days at an exchange rate of INR 72.50 per euro. This is clearly a forward contract, for while the terms and conditions, including the exchange rate, are fixed at the outset, the currency itself will be procured only 60 days after the date of the agreement. Sixty days hence, WIPRO will be required to pay INR 36,250,000 to the bank and accept the euros. The bank as per the contract is obliged to accept the Indian currency and deliver the euros.

Forward contracts and futures contracts are similar in the sense that both oblige the buyer to acquire the underlying asset on a future date, and the seller to deliver the asset on that date. And in the case of either kind of security, both the buyer and the seller have an obligation to perform at the time of expiration of the contract. There is one major difference between the two types of contracts, however. Futures contracts are standardized, whereas forward contracts are customized. The terms *standardization* and *customization* may be understood as follows. In any contract of

this nature, certain terms and conditions need to be clearly defined. The major terms which should be made explicit are the following:

1. The number of units of the underlying asset that have to be delivered per contract.
2. The acceptable grade or grades that may be delivered by the seller.
3. The place or places where the seller is permitted to deliver.
4. The date or in certain cases the time interval, during which the seller has to deliver.

In a customized contract, the preceding terms and conditions have to be negotiated between the buyer and the seller of the contract. Hence, the two parties are at liberty to incorporate any features that they can mutually agree to. Forward contracts come under this category. In standardized contracts, however, there is a third party that will specify the allowable terms and conditions. The two parties to the contract have to design the terms and conditions within the framework specified by the third party and cannot incorporate features other than those that are specifically allowed. The third party in the case of futures contracts is the futures exchange, which is the trading arena where such contracts are bought and sold.

OPTIONS CONTRACTS

As mentioned, both forward and futures contracts, despite the differences inherent in their structures, impose an obligation on the buyer and the seller. Thus, the buyer is obliged to take delivery of the underlying asset on the date that is agreed upon at the outset, while the seller is obliged to make delivery of the asset on that date and accept cash in lieu.

Options contracts are different. Unlike the buyer of a forward or a futures contract, the buyer of an options contract has the right to go ahead with the transaction, subsequent to entering into an agreement with the seller of the option. The difference between a right and an obligation is that a right need be exercised only if it is in the interest of its holders, and if they deem it appropriate. Thus, the buyer or holder of the contract does not face a compulsion to subsequently go through with the transaction. However, the seller of such contracts always has an obligation to perform if the buyer were to deem it appropriate to exercise that right.

EXAMPLE 1.2

Peter Norton has acquired an options contract that gives him the right to buy 100 shares of ABC at a price of 42.50 per share after three months from Mike Selvey. If the price of ABC shares after three months were to be greater than $42.50 per share, it would obviously make sense for Peter to exercise his right and acquire the shares. Otherwise, if the share price were to be lower than $42.50, he can simply forget the option, and buy the shares in the spot market at a lower price. Notice that he is under no compulsion to exercise the option, for it confers a right on the holder, and does not impose an obligation. If Peter were to decide to exercise his

right to buy, however, Mike would have no choice but to deliver the shares at a price of $42.50 per share. Thus, options contracts always impose a performance obligation on the seller of the option, if the option holder were to exercise that right. The reason is that when two parties enter into an agreement for a transaction that is scheduled for a future date, then at the time of expiration of the contract, a price move which translates into a profit for one of the two parties will obviously lead to a loss for the other. Hence, we cannot have a contract that confers both the parties with the right to perform, for the party who is confronted with a loss will simply refuse to perform. Thus, either we can have contracts that impose an obligation on both parties, such as forward and futures contracts, or we can have a contract that confers a right on one party and imposes an obligation on the other, which is essentially what an options contract does.

When a person is given a right to transact in the underlying asset, the right can obviously take on one of two forms. That is, that person may either have the right to buy the underlying asset, or the right to sell the underlying asset. Options contracts that give the holder the right to acquire the underlying asset are known as Call options. If the buyer of such an option were to exercise that right, the seller of the option is obliged to deliver the underlying asset as per the terms of the contract. Peter, in the previous example, obviously possesses a call option.

There exist options contracts that give the holder the right to sell the underlying asset. These are known as Put options. In the case of such contracts, if the holder were to decide to exercise his option, the seller of the put is obliged to take delivery of the underlying asset.

Options give the holder the right to buy or sell the underlying asset. If the contract were to permit exercise only at the time of expiration, the option, whether a call or a put, is known as a European option. If such an option were not to be exercised at the time of expiration, then the contract itself would expire. There exists another type of contract, where the holder has the right to transact at any point between the time of acquisition of the right and the expiration date of the contract. These are referred to as American options. Quite obviously, the expiration date is the only point in time at which a European option can be exercised, and the last point in time at which an American option can be exercised.

An options contract, whether a call or a put, requires the buyer to pay a price to the seller at the outset, for giving the right to transact. This price is known as the option price or option premium. This price is nonrefundable if the contract were not to be exercised subsequently. If and when an options contract is exercised, the buyer will have to pay a price per unit of the underlying asset if exercising a call option, and will have to receive a price per unit of the underlying asset if exercising a put option. This price is known as the *exercise price* or the *strike price*. The difference between the two prices is that while the option premium has to be paid at the very outset, the exercise price enters the picture only if the option is exercised subsequently. Thus, the exercise price may or may not be paid/received eventually. Futures contracts are termed as *commitment contracts*, for they represent a binding commitment for both parties. Options, on the other hand, are termed as *contingent contracts* for they will be exercised by the holder only in the event of it being profitable. In the case of

calls, this will be contingent on the asset price being greater than the exercise price, whereas in the case of puts, it will be contingent on the asset price being lower than the exercise price.

Futures and forward contracts, however, do not require either party to make a payment at the outset, because they impose an equivalent obligation on both the buyer and the seller. The futures price, which is the price at which the buyer will acquire the asset on a future date, will be set in such a way that the value of the futures contract at inception is zero, from the standpoint of both the buyer as well as the seller.

SWAPS

A swap is a contractual agreement between two parties to exchange cash flows calculated on the basis of prespecified terms at predefined points in time.

The cash flows being exchanged represent interest payments on a specified principal amount, which are computed using two different yardsticks. For instance, one interest payment may be computed using a fixed rate of interest, while the other may be based on a variable benchmark such as the T-bill rate.

A swap where both payments are denominated in the same currency is referred to as an Interest Rate Swap. The motivation for such a transaction may be understood as follows. Consider the case of a commercial bank that has entered into a fixed rate loan with one of its clients. It may now be of the opinion that interest rates are going to rise. Renegotiation of the loan may not be feasible. Even if it were, it would involve substantial legal and administrative efforts. It would be much easier for the bank concerned to enter into a swap transaction with an institution, perhaps another commercial bank, wherein it pays a fixed rate of interest and receives a variable rate based on a benchmark such as LIBOR. By doing so it would have converted its fixed rate income stream to a floating rate income stream and would stand to benefit if interest rates rise as anticipated. Thus, in a nutshell, the objective of a swap is to enable a party to dispose of a cash flow stream in exchange for another cash flow stream. Diagrammatically we can depict the above transaction as follows (Figure 1.1).

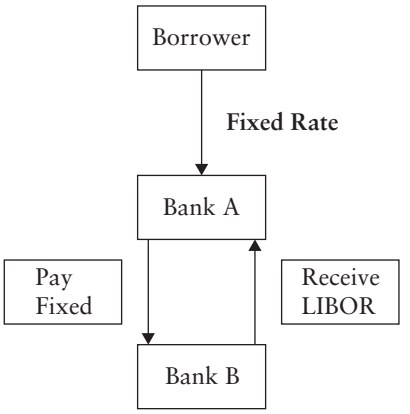

FIGURE 1.1

There also exist swaps where two parties exchange cash flows denominated in two different currencies. Such swaps are referred to as Currency Swaps.

MORTGAGES AND MORTGAGE-BACKED SECURITIES

A mortgage is a loan that is backed by the collateral of specified real estate property. The borrower of funds, the mortgagor, is obliged to make periodic payments to the lender, the mortgagee, to retire the debt. In the event of the mortgagor defaulting, the lender can foreclose the mortgage, which means that the lender can take over the property to recover the balance due.

A mortgage by itself is an illiquid asset for the party that makes the loan to the home buyer. Such lenders are called originators. To rotate their capital, lenders will typically pool mortgage loans and issue debt securities backed by the underlying pool. Such securities, the cash flows for which arise from the payments made by borrowers of the underlying loans, are referred to as mortgage-backed securities. The process of converting an illiquid asset such as a home loan into liquid marketable securities is referred to as *securitization*. The process of securitization, although it is common in the case of mortgage lending, is not restricted to such loans. In practice, receivables from automobile loans and credit card receivables are also securitized. The securities generated in the process are referred to as *asset-backed* securities.

HYBRID SECURITIES

A hybrid security combines the features of more than one type of basic security. We will discuss two such assets, namely convertible bonds and warrants.

A convertible bond is a debt security that permits the investor to convert the bond into shares of equity at a predetermined rate. Until and unless the investor converts the bond, it will continue to trade in the form of a standard debt security. The interest rate on such bonds will be lower than the rate on securities without the option to convert because the conversion feature will be perceived as a sweetener by potential investors. The rate of conversion from debt into equity will typically be set in such a way that the conversion price is higher than the market price prevailing at the time of issue of the debt. For instance, a bond with a principal value of $1,000 may be convertible to 25 shares of equity. In this case the conversion price is $40, and the share price prevailing at the time of issue of the convertible will be less than $40.

A warrant is a right given to investors which allows them to subscribe to the equity shares of the company at a future date at a predetermined price. Such rights are usually offered along with debt securities to make the bonds more attractive to investors. Once issued, the warrants can be detached from the parent security, and can be traded in the secondary market.

PRIMARY MARKETS AND SECONDARY MARKETS

The function of a primary market is to facilitate the acquisition of new financial instruments by investors, both institutional and individual. Thus, when a company goes in for an issue of equity shares to the public it will be termed as a primary

market transaction. Similarly, if the government were to raise funds by issuing Treasury bonds, it will once again be termed as a primary market transaction.

Once a financial asset has been created and sold to an investor in the primary market, subsequent transactions in that instrument between two investors are said to take place in the secondary market. For instance, assume that GE went in for a public issue of five million shares out of which Frank Reitz was allotted 10,000 shares. This would obviously be termed as a primary market transaction. Now assume that, six months hence, Frank sells the shares to Mike Pierce on the New York Stock Exchange. This would obviously constitute a secondary market transaction. Thus, while primary markets are used by governments and business entities to raise medium- to long-term capital for making productive investments, secondary markets merely facilitate the transfer of ownership of an asset from one party to another.

Primary markets by themselves are insufficient to ensure the functioning of the free market system. That is, secondary markets are a sine qua non for the efficient operation of the market economy. Why is this so? Consider an economy without a secondary market. In such an economy, an investor who subscribes to a debt issue would obviously have to hold on to it until its date of maturity. In the case of equity shares, the problem will be more serious, for such securities never mature. Consequently, acquirers of shares in a primary market transaction and future generations of their family would have no option but to hold the shares for ever. In practice, no investor will make an investment unless they are confident there exists an avenue for a subsequent sale if they were to decide they no longer required it.

The ability to trade in a security after acquiring it in a primary market transaction is important for two reasons. First, one of the key reasons for investing in financial assets is that they can always be liquidated or converted into cash. In practice, such needs can never be perfectly predicted, and consequently investors would desire access to markets that facilitate the ready conversion of securities to cash and vice versa. Second, most investors do not hold their wealth in the form of a single asset but prefer to hold a basket or portfolio of securities. As the old adage says, "Don't keep all your eggs in one basket." Thus, a prudent investor would seek to diversify wealth among various asset classes such as stocks, bonds, real estate, and precious metals such as gold. In practice this kind of diversification will usually be taken a step further in the sense that the entire wealth that an investor has earmarked to be held in stocks will not be invested in the shares of a single company like IBM. That is, a rational investor will diversify across industries, and within an industry they will choose to invest in multiple companies. The logic is that all the companies are unlikely to experience difficulties at the same time. For instance, if the workers at GM were to be on strike, it is not necessary that workers at Ford should also be on strike at the same point in time. Consequently, if one segment of the portfolio were to be experiencing difficulties, the odds are that another segment would be doing well and will hence tend to pull up the performance of the portfolio.

Secondary markets are critical from the standpoint of holding a diversified portfolio of assets. In real life, investors' propensity to take risk does not stay constant over their life cycle. We know that debt securities promise contractually guaranteed rates of return and are paid off on a priority basis in the event of liquidation. On the other hand, equity shareholders are residual claimants who are entitled to payments only if there were to be a surplus after taking care of the other creditors. Thus, the risk of a debt investment will be lower as compared to an equivalent

equity investment. Young investors who are having steady and appreciating income usually have a greater capacity to take risk, and consequently tend to invest more in equity securities. Even from the standpoint of equity shares, young investors are less concerned about steady dividend payments and tend to focus more on the odds of getting significant capital gains in the medium to long term. Senior citizens, on the other hand, want predictable periodic income from their investments and have little appetite for risk. Such investors therefore tend to hold a greater fraction of their wealth in debt securities. If and when such investors acquire equity shares, they display a marked preference for high-dividend-paying and less risky stocks.

Thus, as they grow older, investors periodically make perceptible changes in the composition of their portfolios. Young single investors who have recently secured employment may be willing to take more risks and would probably put a greater percentage of their wealth in equities. Later, as the family grows and investors approach middle age with children ready to go to college, they will probably distribute wealth more or less evenly between debt and equities. A similar redistribution of wealth across asset classes is observed when an investor approaches retirement. Elderly investors tend to have their wealth primarily in the form of debt securities. There is a saying in financial markets that an investor should allocate a percentage of his wealth to equity shares that is equal to 100 minus his age. That is, a person who is 30 years old should have 70% of their wealth in equities, whereas a person who is 70 years old should have 30% of their wealth in equities. Another way of stating this is that the percentage of wealth that is invested in debt securities should be equal to the investor's age.

Hence, from the standpoints of providing liquidity and permitting portfolio rebalancing, it is important to have active secondary markets. The absence of such markets would severely affect individuals' willingness to save, and consequently lower the level of investment in the economy.

EXCHANGES AND OVER-THE-COUNTER (OTC) MARKETS

A securities exchange is an organized trading system where traders interact to buy and sell securities. Thus, a securities exchange is a secondary market for securities. Public traders cannot directly trade on these exchanges but are required to route their orders through a securities broker who is a member of the exchange. Historically, trading took place on a trading floor, where member brokers would congregate and seek to match buy and sell requests received from their clients. These days most exchanges are electronic markets. Traders do not get to interact face-to-face but are required to key in their orders into a computer terminal which conveys the orders to a central processing system. The procedure for matching and executing orders is coded into the software.

There are two types of orders that can be placed by an investor. In the case of market orders, investors merely specify the quantity they seek, with the understanding that they will accept whatever price is offered. However, investors who are very particular about the price they pay or receive will place what are known as limit orders. The limit orders require not only the specification of the quantity sought, but also a limit price. The limit price is a ceiling in the case of buyers, that is, it represents the maximum amount that the investor is willing to pay. In the case of sell orders, the

limit price is a floor, which represents the lowest price at which the investor is willing to sell. To ensure that traders are given access to the best available prices, all limit buy orders are ranked in descending order of price, while limit sell orders are ranked in ascending order of price. This is known as the price priority rule. Thus, potential buyers are given access to the lowest price on the sell side while potential sellers are given access to the highest price on the buy side. If two or more limit buy or sell orders were to have the same limit price, then the order that came in first would be ranked higher. This is known as the time priority rule.

The newer exchanges like EUREX in Frankfurt are fully automated electronic systems. Some of the older exchanges have changed with the times and have abandoned their trading rings or floors and have embraced electronic trading platforms. However, some of the other older exchanges continue to operate with a hybrid model. The New York Stock Exchange and the CME Group continue to run floor-based and screen-based trading platforms in parallel.

An over-the-counter or OTC network is an informal network of securities brokers and dealers who are linked by phone and fax connections. Most deals on such markets tend to be institutional in nature and are of sizeable volumes. The foreign exchange market globally is an OTC market, and most of the trading in bonds also takes place on such markets.

BROKERS AND DEALERS

A broker is an intermediary who arranges trades for clients by helping them to locate suitable counterparties. The broker's compensation is in the form of a commission paid by the client. Brokers do not finance the transaction, in the sense that they do not carry an inventory of the asset(s) being sought. They are merely facilitators of the trade, who receive a processing fee for the services rendered. Brokers are very common in real estate markets. For instance, if we were to contemplate the purchase of a house, we would approach a realtor, who will have a list of properties whose owners have evinced interest in selling. Realtors do not own an inventory of houses they have financed.

A dealer, on the other hand, is a market intermediary who carries an inventory of the asset in which he is making a market. Thus, unlike a broker, a dealer has funds locked up in the asset. Effectively, a dealer takes over the trading problem of the client. If the client is seeking to sell, the dealer will buy the asset from them in anticipation of the latter's ability to resell it subsequently at a higher price. Similarly, when a client wishes to buy the asset, the dealer will sell the asset from their inventory in the hope of being able to replenish their stock subsequently at a lower price. Thus, in order to ensure profits from trading activities, a dealer has to be a master of the art of trading. In developed countries, dealers will usually specialize in narrow segments of the securities market. That is, some will handle Treasury bonds, while others may choose to specialize in municipal debt securities. This is because, considering the volumes of transactions, skill is of the essence, and even small errors could lead to huge losses, given the magnitude of the deals.

How do dealers make money? Obviously, the price they quote for acquiring an asset will be less than the price at which they hope to sell to another party. The price at which a dealer is willing to buy from a client is called the bid and the price at which

the dealer is willing to sell to a client is called the ask. The difference between the bid and the ask is called the bid–ask spread, or quite simply *the spread*. Dealers seek to make money by rapidly rotating their inventories. A purchase at the bid followed by a subsequent sale at the ask will result in a profit equal to the spread. Such a transaction is termed as a *round-trip transaction*. Dealers doing many round-trip transactions can survive on a lower spread. However, if transactions are few and far between, then the spreads will be high. In other words, if the volumes are high, then margins can be low. However, if the volumes are low, then the margins need to be high.

Many dealers don the mantle of both brokers and dealers. Thus, in certain transactions they will act as trade facilitators who provide services in anticipation of a commission, while in other cases they will position themselves on one side of the trade, by either buying or selling securities. Such dealers are called dual traders. A transaction where the dealer functions merely as a broker is referred to as an agency trade. However, a trade where the dealer is one of the parties to the transaction is termed as a proprietary trade.

Dealers who undertake to provide continuous two-way price quotes are referred to as market makers. Their role is to create a liquid secondary market. On the New York Stock Exchange (NYSE) there is only one market maker for a security. However, one dealer may make a market in multiple securities. This monopolist market maker is referred to as a *specialist*, and is also known as an *assigned dealer* because that role has been assigned by the exchange. When a company seeks to list its securities on the exchange, a number of potential market makers will express their desire to act as the specialist for the stock being introduced. They will be interviewed by representatives of the company as well as the exchange, and finally one of them will be selected as the specialist for that particular stock. There are also interdealer brokers who act as intermediaries for trades between market makers.

THE NEED FOR BROKERS AND DEALERS

Why do we require market intermediaries such as brokers and dealers? The reason is that when investors seek to buy or sell assets in the secondary market, they have to locate a suitable counterparty. Thus, a potential buyer needs to locate a seller and vice versa. Second, not only should a counterparty be available, there should be compatibility in terms of price expectations of the two parties, and the quantity that each of them is seeking to transact. Every trader seeks to trade at a price that is good from their own standpoint. Buyers will therefore be on the lookout for sellers who are willing to offer securities at prices which are less than or equal to what they are willing to pay. Similarly, sellers will seek to locate buyers who are willing to offer a price which is greater than or equal to the price at which they are willing to sell. As we have explained earlier, limit orders are arranged in descending order of the limit price on the buy side and in ascending order of the limit price on the sell side. Thus, buyers are guaranteed access to the lowest prices quoted by sellers while sellers are guaranteed access to the highest prices quoted by buyers. In addition, it is important that the quantity on offer matches the quantity being demanded. Often a large buy or sell order may require more than one trader to take the opposite position before execution.

On an organized exchange it is necessary to go through a broker or a dealer for certain reasons. First, access to the exchange is provided to only registered brokers

and dealers. For exchanges that are totally automated, only brokers and dealers will have terminals through which orders can be routed to the central processing system of the exchange. Thus, it is essential for a public trader to go through a licensed market intermediary. Of course, big institutional investors may be provided with order routing systems so that they can seamlessly send orders to the exchange via the intermediary. Similarly, Internet brokers facilitate the access of electronic exchanges by retail clients. On exchanges with floor-based trading, only regular traders will be familiar with the jargon and protocol required for trading. Allowing a novice to step in would cause unnecessary chaos and confusion.

The other reason why exchanges insist on dealing with market intermediaries is to reduce the possibility of settlement failure. The term *settlement* refers to the delivery of securities from the seller to the buyer and the delivery of cash from the buyer to the seller. Default on the part of either party to a transaction can substantially dent the public's confidence in the system. To prevent settlement failure, exchanges have elaborate risk management systems in place. Market intermediaries are required to post performance guarantees or collateral called margins with the exchanges to rule out the possibility of a failed trade. Obviously, it makes sense for a party to have such a financial relationship with the exchange only if trading regularly and in large volumes. For public traders who trade relatively infrequently, it will not be practical to develop such an arrangement with the exchange. However, brokers and dealers who either trade regularly on their own account and/or have a large number of trades routed through them will find it worth the cost and effort to have such a financial relationship with the exchange.

The brokerage industry has now been deregulated in most countries. Prior to deregulation, a minimum brokerage fee was specified by the authorities. What was therefore happening in practice was that institutional clients were subsidizing retail clients. That is, institutional clients were paying more than they ought to have, considering the magnitude of their transactions, while retail investors were paying less than what they ought to have paid. The immediate impact of deregulation was a sharp increase in retail brokerage rates. However, a brand-new industry was born as a consequence, which is termed as *discount brokerage*. A regular broker, referred to as a *full-service broker*, will sit one-on-one with the client seeking to ascertain their investment objectives in order to provide suitable recommendations. The broker will also provide extensive research reports to facilitate decision making. A discount broker, on the other hand, will offer no advice. This broker's only task is to execute orders placed by clients. There is also a category of brokers referred to as deep-discount brokers. These brokers also provide no investment-related advice, but they insist on transactions of a substantial magnitude and charge commissions that are even lower than what are levied by discount brokers.

TRADING POSITIONS

Traders are said to have a long position when they own an asset. An investor with a long position will gain if the price subsequently rises and will lose if it were to fall subsequently. A rise in price will constitute a capital gain at the time of sale, whereas a price decline would be termed as a capital loss. The principle behind the assumption

of such a position is: buy low and sell high. Investors who take long positions in anticipation of rising prices are said to be bullish in nature and are termed as bulls.

All traders in the market need not be bullish about the future. Some may be of the opinion that prices are going to decline. Such investors will assume what are termed as short positions. Traders are said to have taken a short position when they have sold an asset they do not own. In practice, this is accomplished by borrowing the asset from another investor. Such a transaction is called a short sale. In such cases, traders will have to eventually purchase the asset and return it to the lender. If their reading of the market is correct, and prices do decline by the time the asset is bought back to close out the position, they stand to make a profit. When someone with a short position acquires the asset, they are said to be covering their position. Short sellers, therefore, seek to sell high and buy low. Short-selling is considered a bearish activity and such investors are termed as bears.

THE BUY-SIDE AND THE SELL-SIDE

The trading industry can be classified into a buy-side and a sell-side. The buy-side consists of traders who seek to buy the services being offered by the exchange. The traders on the sell-side are those who are offering the services of the exchange. Thus, the terms buy-side and sell-side have no implications for the purchase and sale of securities. Traders on both sides of the market regularly buy and sell securities.

Of all the services offered by the exchange, the key is liquidity. The sell-side traders sell liquidity to the buy-side traders by giving them the opportunity to trade whenever they desire. The buy-side consists of individuals, investment funds, institutions, and governments that use the markets to achieve objectives like cash flow management and/or risk management. The sell-side consists of brokers and dealers who help buy-side traders to trade at their convenience.

INVESTMENT BANKERS

An investment banker is an investment professional who facilitates the issuance of securities in the primary market. These institutions help the issue process in two ways. First, they help the borrower to comply with various legal and procedural requirements that are usually mandatory for such issues. For instance, a prospectus or an offer document must accompany any solicitation efforts for the issue. Most issues have to be registered with the capital markets regulator of the country, which is the Securities and Exchange Commission (SEC) in the United States. Finally, most issues are listed on at least one stock exchange. Listing is a process by which an exchange formally admits the issue for trading between investors, after the securities have been allotted. An IT firm or an automobile manufacturer will be clueless about the latest regulations and procedures. Hence, they require professional advice to facilitate a successful issue of securities, and this is where investment banks can help.

Second, investment bankers provide insurance to the issuer by underwriting the issue. This means that they stand ready to buy that portion of the issue which remains unsubscribed, if the issue were to be undersubscribed. Underwriting helps

in two ways. First, it reduces the risk for the issuer. Second, it sends a positive signal to the potential investors about the quality of the issue, since the investment banker stands ready to buy whatever they choose not to subscribe to. To give an example, consider an issue that has been underwritten by UBS. This means that if investors do not subscribe to the entire amount on offer, UBS will accept the remainder. This would reassure a potential investor, for obviously a bank like UBS would not give such an undertaking without doing its homework. In certain cases, an investment bank may not desire to take upon itself the entire risk of a new security issue, for the issue may be very large, or else may be perceived to be extra risky. Consequently, a group of investment banks may underwrite the issue together, thereby spreading the risk. This is called syndicated underwriting. The chief underwriter is referred to as the lead manager. The next rung of investment bankers are referred to as co-managers. There is also a selling group associated with most issues. It consists of relatively smaller investment banks, who do not underwrite the issue, but who have been roped in because of their expertise in marketing such issues in their zones of influence.

At times the investment bank, instead of underwriting the issue, will offer to sell it on a best efforts basis. That is, the bank will merely offer to do its level best to ensure that the issue is fully subscribed. In these cases, the investment bank merely performs a marketing function without providing the insurance that characterizes the process of underwriting. Consequently, the bank's commission in such cases will be lower.

Most public offerings are usually underwritten because issuers are more comfortable with such arrangements. This is because the investment bank has a greater incentive to sell the securities when there is a risk of devolvement. What is devolvement risk? It is the risk that the bank may have to buy the unsold securities in the event of undersubscription. Such an eventuality will inevitably lead to a loss for the bank, in the sense that the shares so acquired will have to be subsequently offloaded in the market at a price that is lower than the issue price. This is because devolvement is a clear sign of negative market sentiments about the issue, and an issue that fails will experience a fall in price on listing.

DIRECT AND INDIRECT MARKETS

In a direct market, the surplus budget units in the economy deal directly with the deficit budget units. That is, funds flow directly from the ultimate lenders to the ultimate borrowers. For instance, if 3M were to be making a public issue of shares and an investor were to purchase them, then it would be termed as a direct market transaction. Similarly, if the government were to issue bonds to individual as well as institutional investors, it too would constitute a direct market transaction. In practice, an issuer of equity shares or debt securities can do so either through a public issue or through a private placement. A public issue entails the sale of the issue to a large and diverse body of investors, both retail and institutional. Such issues are usually underwritten by an investment banker. In the case of private placements, which are more common for debt issues, the issuer will sell the entire issue directly to a single institution or a group of institutions.

In the case of indirect financing the ultimate lender does not interact with the ultimate borrower. There is a financial intermediary who in such markets comes in between the eventual borrower and the ultimate lender. The role of such an

intermediary is, however, very different from that of a broker-dealer or an investment banker, who too are financial intermediaries albeit in a different sense.

A classic example of a financial intermediary in an indirect market is a commercial bank. Take the case of a bank like BNP Paribas. It raises deposits from individual and institutional investors. From the standpoint of the depositor, who is the surplus unit in this case, the bank is the corresponding deficit unit. The bank will issue its financial claims to the depositors for whom these claims will constitute an asset. A bank passbook, or computerized statement, or a certificate issued in lieu of a longer-term deposit, is a manifestation of such a claim. The rate of interest on such claims is the rate of return for the depositors. The risk for such depositors is that the bank could fail. If so, they may lose all or a part of their deposits. In the United States bank deposits up to $100,000 are insured by the Federal Deposit Insurance Corporation (FDIC).

After accumulating funds by way of deposits, the bank will then lend to corporate and noncorporate entities in need of funds. For such borrowers, the bank is the surplus budget unit, and for the bank they constitute the deficit units. The bank will hold claims issued by such borrowers in return for the funds lent to them and will be entitled to all cash flows emanating from them. Obviously, the bank is exposed to the risk that the borrowing entities could go bankrupt.

As can be seen, the link between the ultimate lenders and the ultimate borrowers is broken by a financial intermediary such as a bank in the case of indirect markets. The ultimate lenders, that is, the deposit holders at the bank, have no claim on the assets of the eventual borrowers, nor do they have a claim on the cash flows generated by such assets. It is the bank that has a claim on such assets and the corresponding cash flows. The depositors have a claim solely against the bank and are dependent on its performance in order to get the promised return on their savings. Besides commercial banks, other financial intermediaries in indirect markets include insurance companies, mutual funds, and pension funds.

MUTUAL FUNDS

A mutual fund is a financial intermediary in the indirect financial market. It is a collection of stocks, bonds, and other assets that are purchased by pooling the investments made by a large group of investors. The assets of the fund are managed by a professional investment company.

When investors make an investment in a mutual fund, their money is pooled with that of other investors who have chosen to invest in the fund. The pooled sum is used to build an investment portfolio if the fund is just commencing its operations, or to expand its portfolio if it is already in business. The investors receive shares of the fund in proportion to the amount of money they have invested. When a fund is offering shares for the first time, known as an Initial Public Offering or IPO, the shares will be issued at par. Subsequent issues of shares will be made at a price that is based on what is known as the Net Asset Value (NAV) of the fund. The Net Asset Value of a fund at any point in time is equal to the total value of all securities in its portfolio less any outstanding liabilities, divided by the total number of shares issued by the fund.

There are two broad categories of mutual funds, open-ended and closed-ended. Open-ended funds permit investors to acquire and redeem shares at any point in time,

at the prevailing NAV. Thus, the capital of these funds is variable. Closed-ended funds make a one-time issue of shares to investors; however, such funds are usually listed on a stock exchange, which ensures that investors have the freedom to trade. Shares of such funds may be priced above or below the prevailing NAV.

The NAV will fluctuate from day to day as the value of the securities held by the fund changes. On a given day, from the perspective of shareholders, the NAV may be higher or lower than the price they paid per share at the time of acquisition. Thus, just like the shareholders of a corporation, mutual fund owners partake in the profits and losses as well as in the income and expenses of the fund.

One of the advantages of a direct market transaction is that the borrower and lender can save on the margin that would otherwise go to the intermediary to the transaction. After all, how does a depository institution like a bank make profits? Obviously, the rate of interest it pays to its depositors will be lower than the interest rate it charges borrowers who avail of loans. This profit margin is called the Net Interest Margin. So, if the borrowing firms could directly interact with parties who would otherwise deposit their funds with a bank, then they could profitably share the spread, which would otherwise constitute income for the bank. We will illustrate this with the help of an example.

EXAMPLE 1.3

First National Bank is accepting deposits at the rate of 3.50% per annum and is lending to companies at 4.50% per annum. Thus, the bank has a margin of 1% of the transaction amount. Now assume that the borrowing companies opt to directly issue debt securities to the public, with an interest rate of 4.00% per annum. If so, the investors would be getting 0.50% more than what they would were they to deposit their funds with a bank. The issuing companies too stand to incur an interest cost that is 0.50% less. Thus, both the parties to the transaction stand to benefit. What we have essentially done is that the profit margin of 1% which was going to the bank has been split 50/50 between the lending public and the borrowing firm. In practice the split need not be 50/50. All that is required is that the total benefit to the two counterparties should be 1%. Hence, a borrower with a high credit rating can directly tap the capital market without going through an intermediary.

Of course, if direct markets were to be all about advantages, then obviously indirect markets will fail to exist. There are certain shortcomings of such markets. One of the major problems in the case of direct markets is that the claims the borrower wants to issue are often not exactly of the type that individual investors want. Such problems could arise with respect to the denomination of the issue, or the maturity of the issue, or both.

For instance, take the case of a firm that is issuing securities with a principal value of $5,000. It will automatically lose access to investors who seek to invest less than that amount. This is known as the denomination problem. Second, in practice, borrowers like to borrow long-term. This is because most projects tend to be long-term in nature, and entrepreneurs would like to avoid approaching the market at frequent intervals in order to raise funds. But lenders usually prefer to commit their funds for

relatively shorter periods. Thus, a company issuing debt securities with twenty years to maturity may find that it has few takers if it were to approach the public directly. This is referred to as the maturity problem.

Yet another problem with direct markets is that they are highly dependent on active secondary markets for their success. If the secondary market were to be relatively inactive, borrowers would find it difficult to tap the primary market. This is because most individuals who invest in debt and equity issues place a premium on liquidity and ready marketability, as manifested by an active secondary market. In times of recession, the secondary markets will be less active than normal, and such periods are therefore usually characterized by small and less frequent issues of fresh securities.

Besides, for an issuer of claims, the cost of a public issue can be high. Such issues require a prospectus and application forms to be printed and also require aggressive marketing. This is obviously not cheap. The investment banker has to be paid his fees, which can be substantial in practice. Finally, the issuing firm needs to hire other professionals like lawyers, CPAs, and public relations firms, whose services will also have to be paid for.

As we have discussed, companies that issue financial claims directly to the public find that many potential investors find the denomination and/or maturity of the securities offered to be unsuitable. Financial intermediaries, however, are able to resolve these issues, for they have the ability to invest relatively large amounts and for long periods of time. This is despite the fact that for a depository institution such as a bank, the average deposit may not be for a very large amount, and most deposits tend to be for relatively short periods. We say that such intermediaries are able to perform denomination transformation and maturity transformation.

Intermediaries like banks are able to effect such transformations because they sell their own claims to the public and, after pooling the funds so garnered, purchase financial claims from the borrowing entities. A large commercial bank will have many depositors ranging from those who deposit a few dollars to those who deposit a few million dollars. Similarly, a mutual fund will have investors ranging from those who seek to buy 100 shares to those seeking to acquire 100,000 shares. Since these institutions cumulatively receive funds on a large scale, they can profitably transform the relatively smaller amounts deposited with them into large loans for commercial borrowers. This is the essence of denomination transformation.

As mentioned earlier, most borrowers prefer to borrow long-term due to the nature of the projects they are executing. Lenders, on the contrary, like relatively short-term liquid assets that can be converted to cash on demand. Banks can pool short-term deposits and package them into medium- to long-term loans. They are in a position to do so because the deposits will periodically get rolled over, either because of renewal by existing depositors or on account of new depositors. Similarly, in the case of an open-ended mutual fund, share redemptions during a given day will be accompanied by fresh investments by either existing or new investors.

Financial intermediaries in the indirect market are also able to provide their depositors with risk management and risk diversification. All rational investors dislike risk and are said to be risk averse. This does not, however, mean that people will not take risks while investing. For, after all, every financial market transaction is fraught with a degree of risk. It is just that the magnitude varies from transaction to transaction and from instrument to instrument. The term *risk aversion* connotes that,

for a given level of expected return, an investor will prefer that alternative that has the least risk associated with it. Put differently, while considering an investment in assets with the same degree of associated risk, an investor will choose the security that has the highest expected return. Alternatively, if the choice is between two assets with the same expected return, the investor will choose the one that has lower risk.

Intermediaries like banks have considerable expertise in dealing with risk as compared to individual investors. Thus, investors who lend indirectly through a bank can be assured that their funds will be deployed by the bank after doing a more thorough evaluation of the credit worthiness of the borrower than what they themselves could have done had they chosen to lend directly.

There is another dimension to the role played by banks from the standpoint of risk. We have already discussed the principle of diversification. That is, it is optimal to hold one's wealth in a portfolio of securities. However, in reality it is not easy for an individual investor to construct a well-diversified portfolio. Most individual investors will have a relatively small corpus of funds at their disposal and extensive diversification will be neither feasible nor cost-effective considering the magnitude of transactions costs that they are likely to incur. An intermediary like a bank has a large pool of funds at its disposal and therefore invests across a spectrum of projects from the standpoint of risk. Thus, depositors are assured that every dollar they deposit is effectively being lent to multiple borrowers, thereby ensuring diversification.

Financial intermediaries are also able to derive substantial economies of scale. That is, their fixed costs of operation get spread over a vast pool of transactions and assets. They are therefore able to ensure that they are relatively cost-efficient, and this benefit will be passed on to the depositors to a degree. We will illustrate the concept of economies of scale with a simple illustration.

EXAMPLE 1.4

Take the case of a business operation that costs $5,000 to mount and $2.50 per unit that is processed. If 2,000 units were to be processed, the cost per unit would be $5. If the number of units processed were to be 20,000, however, then the cost per unit would be only $2.75. Of course, the cost per unit cannot be reduced beyond a limit. This is because as the production volume increases, at a point in time the fixed costs will have to be incurred again, for a given production structure can support output only up to a point.

MONEY AND CAPITAL MARKETS

One of the ways of classifying financial markets is based on the original term to maturity of the financial claims that are traded. The market in which instruments with one year or less to maturity are traded is called the money market, whereas the market in which medium- to long-term instruments are traded is called a capital market. Obviously, all money market securities have to be debt securities since equity shares never mature. Capital market securities can be equity securities or medium- to long-term debt securities.

The two markets differ fundamentally from the standpoint of their roles in a market economy. Money markets provide a means for economic agents to adjust their liquidity positions. As we discussed at the outset, every economic agent will receive some form of income in a financial year and also incur some form of expenditure; however, for any economic unit, it will rarely be the case that cash inflows and outflows are perfectly matched with respect to their timing. The mismatch between inflows and outflows leads to short-term deficits and surpluses, which are bridged by borrowing and lending in the money market.

Consider the case of a government. Revenue comes primarily in the form of taxes and is lumpy in nature. However, expenses are incurred on a daily basis. Consequently, if the government were to have a budget surplus, which is rare in practice, for most governments have budget deficits, during most of the year there will be a deficit. Consequently, governments need to constantly borrow to meet the shortfalls. Similarly, a business may have a substantial profit in a financial year but may have a cash deficit on most days. Thus, it would need to borrow periodically to bridge the shortfall.

A capital market, on the other hand, performs a very different economic function. The purpose of a capital market is to channelize funds from people who wish to save to those who wish to make long-term investments in productive assets in an effort to earn income. Thus, when a government or a municipality needs to finance developmental activities that are long-term in nature, such as building a metro railway or putting up an oil refinery, or when a business wants to expand or diversify, it will approach the capital market for the required funds.

THE EUROCURRENCY MARKET

The development of the Eurocurrency market was one of the early factors in the growth of international investment. A eurocurrency is a freely traded currency deposited in a bank outside its country of origin. For example, Eurodollars are dollars deposited outside the United States while Euroyen are yen deposited outside Japan. The term *euro* refers to the fact that the funds are placed with an institution outside the country to which the currency belongs. The institution need not be located in Europe. While London, Zurich, and Frankfurt are major financial centers for such deposits, so are Singapore, Tokyo, and Hong Kong in the Far East, and Dubai and Bahrain in the Middle East.

The rapid growth of the Eurodollar market can be attributed to the following factors.

- After World War II the US dollar became the preferred currency for international trade, displacing the British pound, which was the primary vehicle for commercial transactions prior to the war.
- All countries sought to keep dollar balances to finance their imports. The former Warsaw Pact countries (satellites of the Soviet Union) were no different. However, they were reluctant to hold dollars with banks in the United States. A cold war was going on, and there was a legitimate fear that such deposits could be impounded by the US government. Thus, these countries began depositing their dollars with European banks. As trade grew, the European banks soon

discovered that there was a ready demand for these dollars by parties based outside the United States. As a consequence, an active Eurodollar market came into existence.

- Due to capital market controls imposed by the US government. In the 1960s, through a legislation called regulation Q, the US government imposed low interest rate ceilings on US banks, and simultaneously imposed significant reserve requirements.

An interest ceiling meant that banks could not offer depositors more than the rate that had been mandated by the law, even if prudent business practices required them to do so. The implications of bank reserves may be explained as follows. When a unit of currency is deposited with a bank, only a fraction of it can be lent out. The balance has to be kept either in the form of approved securities or as cash. This amount is known as a reserve. The lower the reserve ratio, the more will be the money available with the bank for commercial lending. Consequently, the lower the reserve ratio, the higher will be the rates paid on deposits and the lower will be the lending rates, for the larger the amount of funds available for lending, the smaller will be the net interest margin that banks can afford to operate with.

As a consequence of these two factors, depositors became reluctant to park their funds with American banks, for these institutions could not offer attractive interest rates. At the same time, borrowers too were disenchanted, for the rates on loans were very high.

- Lack of government regulations on Eurodollar deposits: Eurodeposits are relatively unregulated. For instance, the Federal Reserve, which is the central bank of the United States, does not regulate dollar deposits maintained outside the borders of the United States. Besides, such deposits do not suffer from statutory reserve requirements. Even if there is no statutory reserve requirement, however, banks by themselves usually maintain voluntary reserves as a measure of caution.
- Due to the large flow of Petrodollars into international banks from the Oil Producing Export Countries (OPEC): There was a war in the Middle East in 1973 after which the oil-exporting countries recognized the full worth of their oil reserves as an economic weapon. Rising crude oil prices ensured that these countries were flush with funds, and the Euromarket, due to its lack of reserve requirements, and relatively low cost of operation due to economies of scale, was instrumental in recycling these so-called Petrodollars.

THE INTERNATIONAL BOND MARKET

The international bond market provides borrowers with a source of medium- to long-term funds. Borrowers include multinational corporations, domestic corporations, governments, national, and supranational financial institutions. It gives investors in the debt markets a way to diversify their portfolios over several different currencies. We have already highlighted the wisdom of not putting all one's eggs in one basket. But it is not necessary that all the securities chosen should be from the same country. Transnational diversification enables investors to take the diversification process a step further. The market consists of two broad segments: Eurobonds and Foreign Bonds.

Eurobonds are bonds denominated in one or more currencies other than the currency of the country in which they are sold. For example, bonds denominated in a currency other than the Japanese yen that are sold in Japan would be called Eurobonds.

A bond denominated in the currency of the country in which it is sold, but issued by an entity from a foreign country, is called a foreign bond. For example, if a US company were to sell yen-denominated bonds in Japan, it would be classified as a foreign bond.

Thus, bonds may be classified into three categories: domestic bonds, foreign bonds, and Eurobonds. If Sony were to issue yen-denominated bonds in Japan, it would be categorized as a domestic bond, for the issuer and the currency of issue are local. But if IBM were to issue yen-denominated bonds in Japan, it would come under the category of a foreign bond. This is because although the currency is local, the issuer is from a foreign country. Finally, if either IBM or Sony were to issue US dollar–denominated bonds in Japan, it would be categorized as a Eurobond issue, because the currency is foreign. In this case, the nationality of the issuer is irrelevant.

Foreign bonds are known by nicknames. Bonds sold in the United States are called Yankee bonds; those sold in Japan are called Samurai bonds; and those sold in the United Kingdom are called Bulldog bonds.

The Eurobond market has grown much more rapidly than the foreign bond market. This is due to several reasons.

Eurobond issues are not subject to the regulations of the country in whose currency they are denominated. Consequently, they can be brought to the market quickly and with less disclosure. This gives the issuer of the bonds greater flexibility to take advantage of favorable market conditions. Consider a bond issue from the issuers' perspective. The greater the regulations, the greater the time lag between planning and implementation; thus there is a greater chance of missing favorable market conditions. Consequently, issuers, and the investment banks that advise them, prefer markets characterized by minimal regulations. On the other hand, domestic securities issues are regulated by the market regulator of the country. In the United States it is the Securities and Exchange Commission (SEC).

The origin of the Eurobond market was fueled by the imposition of a tax called the Interest Equalization Tax, which was imposed by the US government in 1963 on the interest received by American investors from Yankee bonds. What had happened was that due to the interest rate ceiling in the United States, domestic institutions were unable to pay a high rate of interest to investors. Foreigners sought to take advantage of this situation by issuing Yankee bonds with relatively higher rates of return. The objective of the Interest Equalization Tax was to ensure that American investors did not perceive Yankee bonds to be attractive, despite their higher interest rates. The motivation for this measure was to arrest the perceived flight of capital from the United States. As a consequence, foreigners were forced to relocate their dollar borrowings to outside the United States.

Eurobonds offer favorable tax status. They are usually issued in bearer form, that is, the name and address of the owner are not mentioned on the bond certificate. There are two broad categories of securities: registered securities and bearer securities. In the case of the first category a record is maintained of the owners at any point in time, by an entity known as a registrar or share transfer agent. Each time the security is transferred from one investor to another, the records are updated; however, in the

case of bearer securities, physical possession is the sole evidence of ownership. These securities are like currency notes. If one were to drop a hundred dollar bill on the floor, it is impossible to prove that it belongs to us. Such securities are easier to transfer and offer investors the potential freedom to avoid and evade taxes. Thus, holders who desire anonymity can receive interest payments from such securities without revealing their identity. Also, interest on Eurobonds is generally not subject to withholding taxes, or tax deduction at source.

Because of their unique features, investors are willing to accept a lower yield from Eurobonds than from other securities of comparable risk, but which lack the favorable tax status.

Eurobonds are not usually registered with any particular regulatory agency but are, however, listed on a stock exchange, typically London or Luxembourg. Listing is done not so much for the purpose of facilitating trading, but to circumvent restrictions imposed on certain institutional investors like pension funds, which are prohibited from purchasing unlisted securities. Most of the trading in Eurobonds takes place OTC.

GLOBALIZATION OF EQUITY MARKETS

Compared to debt markets, equity markets have been relatively slow to globalize. However, the winds of change are blowing across the world and markets are increasingly becoming modernized as well as integrated. The doctrine of LPG – Liberalization, Privatization, and Globalization – is gaining currency across the world. New developments in communications technology, coupled with deregulatory changes, and greater awareness of the benefits of international portfolio diversification on the part of investors, have led to rapid integration of equity markets in recent years. Some of the major deregulatory measures in the past two decades are the following:

- On 1st May 1975, the United States abolished fixed brokerage commissions.
- In 1985 the Tokyo Stock Exchange started admitting foreign brokerage firms as members.
- In 1986 the London Stock Exchange (LSE) eliminated fixed brokerage commissions and began admitting foreign brokerage houses as full members. This event is known as the "big bang" in financial circles. These changes were designed to give London an open and competitive international market. Until the end of World War II, London was the center of global financial activity. For obvious reasons, the center of postwar economic activities moved across the Atlantic to New York. London is, however, critical for global financial activities, for it lies in an ideal time zone. The city is located in between the capital markets of North America and those of Singapore and Tokyo. Consequently, it is the middle link for what is effectively a 24-hour market.
- In 1987, financial institutions in London were permitted to participate in both commercial and investment banking.
- In 1999 the Glass-Steagall Act, which sought to segregate commercial and investment banking activities in the United States, was repealed. The Act was a product of the Great Depression and sought to insulate commercial banks from the vagaries of the stock market. Once this Act was enacted, institutions were given

a clear choice. Either they could accept deposits and make loans, or they could provide underwriting and broker-dealer services. Thus, US institutions in the business of deposit taking and loan making were precluded from trading and market making in securities. For instance, Morgan Stanley was formed as a splinter from JP Morgan. While JP Morgan continued as a commercial bank, Morgan Stanley went into the areas of securities dealing and investment banking. In 1999 the Financial Services Modernization Act, known as the Gramm-Leach-Bliley Act, did away with this restriction and paved the way for giant financial conglomerates who could undertake both investment banking as well as commercial banking activities.

DUAL LISTING

Dual or multiple listing allows the shares of a company to be traded on the exchanges of many different countries. Foreign equity is traded in global markets, in the form of Depository Receipts (DRs). On the US exchanges, they are traded in the form of American Depository Receipts (ADRs). Such securities are special shares of foreign equity that are priced in US dollars. The issuance of such assets facilitates the ownership of foreign equity by American residents. An ADR is essentially a receipt issued by a depository bank in the United States that is backed by foreign shares that are deposited with a custodian bank in the country of issue of the original shares. ADRs are quoted and traded in US dollars just like domestic US shares.

The mechanism of issuing ADRs is as follows. A US depository bank will acquire shares of the foreign company in its domestic market. These shares will then be deposited with a local custodian bank in the foreign country. The US depository bank will then issue ADRs to the investors in the United States, where each ADR will correspond to a specified number of foreign shares.

Shareholders receive dividends in US dollars. The depository takes on the task of collecting dividends in the foreign currency, converting the dividends to dollars, and making payments.

An ADR may represent either a fraction or a multiple of the underlying shares, packaged in such a way that it will trade at the appropriate price range in the United States. This can be illustrated with the help of an example.

EXAMPLE 1.5

Take the case of a company based in India that is being traded at INR 60.00 per share, at a time when the exchange rate is INR 75 per US dollar. If an ADR were set to be equal to one Indian share, it will trade for approximately 80 cents in the United States. In order to ensure that the ADRs trade at a more respectable price, one ADR may be made equivalent to 10 domestic shares, thereby ensuring that it trades at approximately $8.00.

On the other hand a share may be trading at a very high price in its home country. For instance, if a share is trading at INR 37,500 in India, it will trade

(*continued*)

(*continued*)

at approximately $500 in the United States, assuming a 1:1 issue ratio and an exchange rate of INR 75 per dollar. In such circumstances one ADR may be set equal to 0.05 Indian shares, thereby ensuring that it trades at approximately $25 in the United States.

The ADR market is growing from the standpoints of both supply as well as demand. Foreign companies are being increasingly attracted to the US market for it is the largest in the world and is arguably the most efficient. Unlike other nations, the United States presents fewer barriers to entry. Compared to other countries the United States has more High-Net-Worth Individuals (HNWIs) who are not only better endowed financially, but are more aware of the benefits of international diversification and willing to take the attendant risks.

Although an American investor can always acquire a share that is traded on a foreign stock exchange, it is a lot simpler in practice to invest in an ADR. There is no need to locate a foreign broker or be conversant with the systems and practices of a foreign stock exchange and its related institutions. Besides, acquiring a foreign security will expose the investor to exchange rate risk. In most countries reporting standards are not as stringent as those prevalent in the United States. Consequently, companies abroad are able to get away with less disclosure, which may not be adequate for an American. A practical difficulty from the standpoint of trading foreign shares is that such transactions can be undertaken only when the overseas market is open, and the timings of these trading venues usually do not overlap with American market hours.

One of the advantages of ADRs is that an ADR may offer greater liquidity in the United States than the underlying shares do in their domestic market. Moreover, certain US pension funds and investment managers have a strong preference for ADRs because they are legally required to invest in ADRs while investing in non-US securities. Many institutional investors prefer investing in securities that are listed for trading in the US market rather than investing directly in foreign equity markets.

In order to list its shares on the exchange of a developed country, the issuing company must meet the securities market regulations of the foreign country as well as those of the stock exchange on which the shares are to be listed. This very often requires the company to comply with stringent disclosure norms. For instance, in order to list on the New York Stock Exchange (NYSE), it is necessary to comply with US GAAP (generally accepted accounting principles). For companies based in developing countries, such compliance has ensured more transparency in their operations, leading to the benefit of not just global investors, but also the domestic shareholders. However, after issues like the ENRON collapse, it is arguable as to whether the disclosure norms in the United States are as commendable and effective as once believed. Besides, many other countries have considerably beefed up their security-related regulations to a large extent, as a response to financial scams and scandals.

Foreign listing provides a multinational corporation (MNC) with indirect advertising for its product brands in the foreign market. It also raises the profile of the company in international capital markets, making it easier for it to raise finances in the future, and provides greater mileage for its international marketing efforts.

Take the case of an Indian company which is seeking to raise a bank loan in London. It will have greater credibility in the eyes of the international lending community if it were to be listed on an exchange in the developed world. Besides, when a firm's equity is held by shareholders across the globe, the risk of a hostile takeover of the firm may reduce somewhat.

There could be instances where foreign investors put a higher premium on the issue than do domestic investors. This could be the case, for instance, if the foreign market were to have greater experience in dealing with a particular industry. As Geddes points out, there was a flood of issues by international mining companies on the Toronto Stock Exchange in the mid-1990s.[3] This is because it was felt that Canadian investors had greater experience in evaluating shares of such firms.

At times a firm may go in for a global issue because it perceives its domestic market to be too small for an issue of the size it is contemplating. In Europe, for example, this fact has compelled Scandinavian and Eastern European firms to access markets across their borders.

There are two broad categories of ADR programs: sponsored and unsponsored. In the case of a sponsored program, the exercise is initiated by the foreign firm whose shares are sought to be traded in the United States. In the case of an unsponsored issue, the process will typically be initiated by an investment bank in the United States that has acquired shares in a foreign market.

FUNGIBILITY

Fungibility means the ability to interchange with an identical item. ADRs may be one-way fungible or two-way fungible. If an ADR is one-way fungible, then a US investor can sell the ADR back to the depository in the United States and have the equivalent number of underlying shares sold in the home country. However, if the ADRs were to be two-way fungible, then an investor could also surrender shares to the custodian bank in the home country and acquire ADRs in lieu. The problem with one-way fungibility is that it makes ADRs less attractive for American investors, because it has the potential to reduce the liquidity and the floating stock of ADRs in the United States. Besides, two-way fungibility is essential to preclude arbitrage opportunities.

ARBITRAGE

What is arbitrage? The term *arbitrage* refers to the strategy of making costless, riskless profits by simultaneously transacting in two or more markets. This is one of the fundamental principles underlying modern finance theory. One of the basic tenets of finance is the concept of risk aversion; that is, an investor will demand a risk premium for bearing a certain level of risk, and the higher the risk associated with an investment, the greater will be the premium demanded over and above the riskless rate of interest.

[3]See Geddes, 2001.

Arbitrage may be defined as the presence of a rate of return greater than the riskless rate on an investment devoid of risk or, equivalently, as the specter of a positive rate of return from a trading strategy that entails neither an investment nor an assumption of risk.

Take the case of a city like Mumbai, which has two major stock exchanges, namely the Mumbai Stock Exchange (BSE) and the National Stock Exchange (NSE). Assume that a share is trading at INR 100 on the BSE and at INR 100.75 on the NSE. An arbitrageur will place a buy order for 500,000 shares on the BSE while simultaneously placing a sell order for an equivalent amount on the NSE. Before accounting for transactions costs, he is assured of a profit of $500{,}000 \times (100.75 - 100) =$ INR 375,000. Considering the fact that he did not have to invest any money and was able to implement the strategy without taking any risk, such an opportunity should not exist.

There are certain practical issues to be considered while evaluating what looks like an opportunity for free money. First, can the trader make a profit after factoring in transactions costs like brokerage commissions? Most retail investors will have to incur such expenses; however, a securities dealing firm has a tremendous advantage for it does not have to pay such transactions-related charges. Consequently, such strategies that appear infeasible for retail traders may be profitable for institutions.

The second issue is that in this example both the exchanges have a T+2 settlement cycle. That is, if an investor were to trade on a particular day, the payment of cash to the seller and the delivery of securities to the buyer will take place two business days later. Thus, the arbitrageur cannot wait to take delivery on the BSE before giving delivery on the NSE. Consequently, to capitalize on such opportunities a potential arbitrageur needs access to a stockpile of cash as well as a long position in the security right at the outset.

In practice such opportunities will not remain for long. As arbitrageurs start buying on the BSE the price there will be driven up by the increasing demand. Similarly, as they start selling on the NSE, the increased supply will push prices down. After a brief while such opportunities will not be apparent.

In practice such opportunities exist for fleeting moments. They can be exploited by players who are always in the thick of the action such as financial institutions. The issue may be viewed as follows. A mispriced security offers a potential arbitrage opportunity. The possibility of making arbitrage profits ensures that securities are not mispriced in practice. To ensure that such avenues for profit are seized and exploited, traders increasingly rely on automated systems. One well-known type of arbitrage is Stock Index Arbitrage, which entails the exploitation of deviations from the postulated pricing relationship between stock indices and futures contracts based on them. This is not easy in practice, for if we take an index like the Standard and Poor's 500 (S&P), 500 constituent stocks have to be either bought or sold in the right proportions. Thus, the availability of a computer becomes imperative, and consequently the implementation of such arbitrage strategies is referred to as Program Trading.

ARBITRAGE WITH ADRs

Mispriced ADRs will be exploited by arbitrageurs. We will illustrate this with the help of an example.

Let's assume that shares of the Indian information technology company Infosys Technologies are quoting at INR 1,500 on the National Stock Exchange (NSE) in Mumbai, and that Infosys ADRs, where each ADR represents 20 domestic shares, are quoting at $410 on the NYSE. The current exchange rate is INR 75 per USD.

Quite obviously the ADRs are overvalued, for the dollar equivalent of 20 shares should be $400. An arbitrageur will short sell the ADRs in New York, acquiring 20 shares on the NSE for every ADR that is sold short, and then deliver them to the custodian bank in Mumbai, which will inform the depository bank in New York. On receiving intimation from Mumbai, the bank in New York will issue an ADR which can be used to cover the short position. The cost of acquisition of 20 shares in Mumbai will be INR 30,000 or $400. The proceeds from the short sale in New York will be $410. Consequently, an arbitrage profit of $10 can be earned.

Now let's examine a situation where ADRs are undervalued. What if the price of the Infosys ADR were to be $390? If so, an arbitrageur would acquire an ADR for $390 and deliver it to the depository bank in New York with instructions to sell the underlying shares in Mumbai. The sale proceeds will amount to INR 30,000 or $400. Once again, the arbitrageur will realize an arbitrage profit of $10.

J.P. Morgan was a pioneer in the creation of ADRs. They created the first ADR in 1927 to facilitate investment in foreign companies by American investors. An ADR is considered to be an American security, and consequently is freely tradable in the United States. It is akin to any other domestic security for the purpose of clearing and settlement.

GDRs

While ADRs are the most common type of depository receipts, there are other similar securities called GDRs. A global depository receipt (GDR) differs from an ADR in the sense that it is offered to investors in two or more markets outside the issuer's home country. Most such issues will include a tranche for US investors, as well as a separate tranche for international investors.

EDRs or Euro Depository Receipts represent ownership of shares in a corporation that is based in a country outside the European Monetary Union (EMU). While depository receipts are primarily issued to facilitate ownership of overseas equity, they can also be structured to permit investors to take a stake in a foreign debt issue. An American Depository Debenture (ADD) is a security that is based on a debt security issued by a foreign company.

RISK

Risk is defined as a position whose outcome is uncertain, and which has the potential to give rise to a loss for the holder. Assume that you are offered a security that will give a 20% return with a probability of 50% and a 40% return with the same probability. This is not a risky position, for, although the outcome is uncertain, there is no possibility of a loss. Similarly, take the case of an investment that is guaranteed to give a return of –10%. This too is not a risky position, for while there is a loss for the investor, there is no uncertainty regarding the outcome. So, what is an example of a risky position? Take the case of an investment in a share that will give a return of 0%

with 25% probability, –10% with 25% probability, and 10% with 50% probability. This is clearly risky, for the outcome can take one of three possible values, one of which would lead to a loss for the investor. Financial securities are exposed to multiple types of risks.

- Credit Risk: This is the risk that the deficit budget unit, which raises funds, may not make payments as promised to the investor. For instance, a business may issue bonds to the public with a face value of $1,000, and an assured interest rate of 10% to be paid every year. At the end of a financial year, however, it may be unable to make the promised interest payment. Or else, at the time of maturity of the security, it may be unable to repay the principal in full. Similarly, a financial institution like a bank, which makes loans to borrowers, is also faced with the specter of nonpayment. Such risk is also termed as default risk.
- Price Risk: Price risk or market risk is the risk that the price of the security at the time of purchase may be higher than its price at the point of a subsequent sale. In other words, it is the risk that there could be a capital loss for the investor. All marketable securities are subject to such risk.
- Reinvestment Risk: Whenever investors receive a cash flow from a security, they should reinvest it in the market, in order to ensure that they get an anticipated compounded rate of return. There is always a risk, however, that the prevailing market interest rate may be lower than what was expected at the outset. If so, the investor will have to settle for a lower than anticipated compounded rate of return. Such risk is termed as reinvestment risk.
- Inflation Risk: Inflation, or the erosion of purchasing power of money, is associated with every investment. Every investor will have a required rate of return that will include a premium for the anticipated rate of inflation; however, if the rate of inflation were to be higher than anticipated, the effective rate of return in terms of the ability to buy goods and services may be lower than expected. The return from a security in the absence of inflation is termed as the *real rate*. All investors will obviously demand a positive real rate of return. They will add a mark-up to this for the expected inflation, to arrive at what is called the nominal or money rate of interest. If inflation is higher than anticipated, however, the real rate received at maturity may be less than expected and can possibly be negative. The anticipated interest rate is referred to as the ex-ante rate. The interest rate that is eventually received is termed as the ex-post rate. In the absence of default, the ex-ante nominal rate will be equal to the ex-post nominal rate. However, because of inflation, the ex-post real rate may be lower or higher than anticipated and may possibly be negative.

  For instance, assume that the ex-ante real rate is 4% per annum and the expected inflation is 2.5% per annum. Thus, the nominal rate will be set at $1.04 \times 1.025 - 1 = 6.60\%$. However, if the actual rate of inflation is 4% per annum, the ex-post real rate will be only 2.5% per annum. If the actual rate of inflation were to be 8% per annum, the ex-post real rate will be a negative 1.30% per annum.
- Liquidity Risk: We have already expounded on this issue. Whenever funds are blocked in an investment, there is always the risk that at the time of its subsequent sale, the market may not be as liquid as it was at the time the securities were

acquired. If so, the seller may have to make a substantial concession by way of a reduction in price in order to complete the transaction. It must be remembered that if a transaction takes a considerable amount of time for execution, there is an associated cost, for time is money. Thus, the absence of an adequate number of buyers or sellers poses a risk for a party seeking to sell or to buy.

- Foreign Exchange Risk: This is a risk that is associated with an investment in a foreign country. If the domestic currency were to appreciate with respect to the currency in which the assets are denominated, there could be a loss for the investor.

  Assume that a US investor makes an investment of $100 in an Indian security when the exchange rate is INR 75 per dollar. At the end of one year, the price of the asset has increased from INR 7,500 to INR 7,800. Thus, there is a 4% return in rupee terms. However, the exchange rate at the end of the year is INR 80 per dollar. That is, the rupee has depreciated or the dollar has appreciated. Now, if the funds are repatriated to the United States, the American investor will receive only $97.50. Thus, there is a loss of 2.50% for him in dollar terms.
- Sovereign Risk: Such risk is associated with the structure of foreign economies and governments. Assume that a bank makes a loan to a party in Latin America, which subsequently defaults. In such cases, the lender may not have access to the same legal means of redressal that prevail in the United States. Besides, foreign governments may not be democratically elected or legally accountable. In certain countries, governments may suddenly impose exchange controls for instance, which could preclude a foreign company from repatriating the funds invested by it. It is not only foreign corporate securities that pose such risk; foreign government securities too are risky. There is always a likelihood that a Latin American government, for instance, which has issued bonds denominated in US dollars, may default. Such parties need not default on debt securities denominated in their own currencies, for they have the freedom to print money; however, such countries cannot print foreign currencies like the dollar or the euro.

AFTER THE TRADE – CLEARING AND SETTLEMENT

After a trade has been matched by a trading system, a post-trade process called clearing and settlement needs to commence in order to ensure that the seller receives the cash that is due to him, while the buyer receives the securities that he has acquired.

Clearing refers to all the post-trade processes other than final settlement, where the term *settlement* refers to the payment of cash to the seller and transfer of ownership of the securities from the seller to the buyer. Settlement is the last step in the post-trade process.

Different security types have different settlement cycles. Money market securities such as negotiable CDs and commercial paper settle *for cash*, that is on the same business day. Most US Treasury securities settle on the next business day. Most foreign exchange transactions settle *for spot*, that is two business days after the trade date (T+2 settlement). Equity and municipal bond transactions in the United States settle three business days after the trade date (T+3) settlement.

DEMATERIALIZATION AND THE ROLE OF A DEPOSITORY

A depository is a facility for holding securities in electronic form so that the purchase and sale of shares can take place via a process of book entry. The shares may be either *dematerialized* or *immobilized*. The term *dematerialization* refers to the replacement of physical share certificates by electronic records. On the other hand, if the securities were to be immobilized, an electronic record would be created without destroying the original physical certificates, which would continue to be held in secure storage.

The function of a depository is akin to that of a commercial bank. We will illustrate the similarities with the help of a simple tabular format as shown in Table 1.1.

The benefits of holding securities with a depository in dematerialized form are as follows.

1. It offers a safe and convenient way to hold securities.
2. It facilitates immediate transfers of securities.
3. No stamp duty is payable in most cases when securities are transferred in dematerialized form.
4. Transfer of shares in physical form has certain attendant risks such as
   - **(a)** Bad delivery
   - **(b)** Fake certificates
   - **(c)** Delays
   - **(d)** Thefts

   These can be eliminated by holding securities in dematerialized form.
5. There is considerable reduction of paperwork involved in the transfer of securities.
6. There is a reduction in the transactions costs involved in securities trading.
7. The concept of lot size has no meaning. Even one share can be bought or sold.
8. Nomination facility is available.
9. A change of address of holders gets registered with all the companies in which they hold securities. This eliminates the need for them to correspond with each company individually.
10. If there is a corporate action such as a stock dividend or a stock split, the shares are automatically credited to the investor's account.

TABLE 1.1 Commercial Banks and Depositories (Similarities and Differences)

Commercial Bank	Depository
1. Holds funds in an account	1. Holds securities in an account
2. Enables fund transfers between accounts after receiving instructions from the account holder	2. Enables transfers of securities between accounts after receiving instructions from the account holder
3. Facilitates transfers of funds without having to handle money	3. Facilitates transfers of share ownership without having to handle securities
4. Facilitates safekeeping of money	4. Facilitates safekeeping of securities

CUSTODIAL SERVICES

A custodian bank, a.k.a. a custodian, is a financial institution entrusted with the responsibility of safeguarding the financial assets of an individual or, more commonly, an institutional investor. The custodian typically performs one or more of the following functions:

1. It holds stocks and bonds in safekeeping.
2. It arranges for settlement whenever securities are purchased or sold. In the event of a purchase it ensures that securities are credited and cash is debited, while in the event of a sale it ensures that securities are debited and that cash is credited.
3. It collects dividends on shares and interest on bonds and ensures that the investor's account is credited.
4. It provides information related to the companies whose securities are being held by the investor, such as the schedule of their annual general meetings (AGMs).
5. It provides foreign exchange transactions if required.

Global custodians hold assets for their clients in multiple locations around the globe, using their own local branches or other local custodians. The advantage of employing a global custodian is that a settlement instruction needs to be sent to a single destination. Investors may also opt to use a network of local custodians, one in each financial center where they undertake trades.

If a custodial facility is availed of, the shares will be held in the name of the custodian, with the investor continuing to remain as the beneficial owner of the securities. The advantages of employing the facilities of a custodian may be summarized as follows:

1. It makes it easier and quicker to trade securities, particularly international shares.
2. It simplifies the management and reporting of share transactions. At the end of every financial year, the investor will receive a single consolidated statement giving details of purchases and sales, and any dividend or interest income received during the period.
3. The custodial facility also makes it easier to track the performance of the investor's portfolio.

GLOBALIZATION – THE NEW MANTRA

The word *globalization* indicates international integration of markets and economies, whereby they become interdependent and interconnected. In today's world, large corporations obtain financing from major money centers around the world in many different currencies to finance their global operations. The major money markets in the world include New York, London, Singapore, and Tokyo. The global nature of operations also forces many corporate treasurers to establish international banking relationships and place short-term funds in several different currencies. The effective management of foreign exchange risk is therefore an integral part of the duties of a

modern treasury department. Individual investors too have started investing in the securities of many different countries to take advantage of the better performance potential from internationally diversified portfolios of financial assets.

The integration of financial markets around the world is due to four major factors.

Many countries have deregulated their money and capital markets substantially. The developed and some of the developing countries allow foreign brokerage firms to operate in their domestic stock exchanges to facilitate greater competition. The majority of countries have eliminated the structure of fixed brokerage commissions which used to exist. Commissions are now largely negotiable between the brokers and the clients and very often are a function of the trading volume and the quality of service that is sought. Interest rate ceilings have been largely removed, and offshore banking facilities (international banking facilities, or IBFs, in the United States) are available.

IBFs allow US banks to use domestic branches to service foreign customers with international transactions, both deposit and loan services, free of reserve requirements and interest rate regulations. Other countries have followed suit. The objective was obviously to make US banks competitive with respect to players outside the United States who were accepting deposits denominated in dollars and making loans in dollars.

Many countries have also sought to do away with the distinction between Commercial Banking and Investment Banking, and thus move toward Universal Banking. Most major banks these days are giant financial conglomerates that serve as one-stop financial solutions providers.

EXAMPLE 1.6

(An Illustration from India)

Take, for instance, the case of ICICI Bank, which is India's second largest bank. It is a traditional commercial bank on the one hand, in the sense that it accepts deposits from the public and makes loans. It has, however, an Asset Management Company that manages mutual funds in collaboration with Prudential Plc. ICICI Prudential is into Life Insurance. ICICI Lombard is into General Insurance. ICICI Home Finance is a subsidiary that makes real estate loans.

Constant product and process innovations are a major feature of the modern financial market. Innovations have manifested themselves in two forms: (1) many new products have been created and (2) new methods have been devised to facilitate the transfer of risks.

Of course, none of the observed advances in global markets would have been feasible without the developments in telecommunications, computer hardware, and software that we have witnessed in the recent past. They have helped develop systems where links can be instantly established, and funds and securities can be transferred

safely and quickly. Companies like Bloomberg now provide round-the-clock access to prices and news from financial centers round the world. Most exchanges are now fully automated and electronic.

Today's markets are also characterized by the increasing sophistication of investors and borrowers. Multinational corporations and, surprisingly, even governments have become more sophisticated. Corporate treasurers, fund managers, and bureaucrats are highly educated and aware. Today's markets also tend to be largely dominated by institutions. These giants can take advantage of economies of scale worldwide. They can also afford to employ large teams of highly qualified experts.