1.2 FINANCIAL DECISIONS IN A FIRM

As mentioned in the beginning of this chapter, there are three broad areas of financial decision making viz., capital budgeting, capital structure, and working capital management.

Capital Budgeting The first and perhaps the most important decision that any firm has to make is to define the business or businesses that it wants to be in. This is referred to as strategic planning and it has a significant bearing on how capital is allocated in the firm. As strategic planning calls for evaluating costs and benefits spread out over time, it is essentially a financial decision making process.

Once the managers of a firm choose the business or businesses they want to be in, they have to develop a plan to invest in buildings, machineries, equipments, research and development, godowns, showrooms, distribution network, information infrastructure, brands, and other long-lived assets. This is the capital budgeting process.

Considerable managerial time, attention, and energy is devoted to identify, evaluate, and implement investment projects. When you look at an investment project from the financial point of view, you should focus on the magnitude, timing, and riskiness of cash flows associated with it. In addition, consider the options embedded in the investment projects.

Capital Structure Once a firm has decided on the investment projects it wants to undertake, it has to figure out ways and means of financing them.

The key issues in capital structure decision are: What is the optimal debt-equity ratio for the firm? Which specific instruments of equity and debt finance should the firm employ? Which capital markets should the firm access? When should the firm raise finances? At what price should the firm offer its securities?

An allied issue is the distribution policy of the firm. What is the optimal dividend payout ratio for the firm? Should the firm buyback its own shares?

Capital structure and dividend decisions should be guided by considerations of cost and flexibility, in the main. The objective should be to minimise the cost of financing without impairing the ability of the firm to raise finances required for value creating investment projects.

Working Capital Management Working capital management, also referred to as short-term financial management, refers to the day-to-day financial activities that deal with current assets (inventories, debtors, short-term holdings of marketable securities, and cash) and current liabilities (short-term debt, trade creditors, accruals, and provisions).

The key issues in working capital management are: What is the optimal level of inventory for the operations of the firm? Should the firm grant credit to its customers and, if so, on what terms? How much cash should the firm carry on hand? Where should the firm invest its temporary cash surpluses? What sources of short-term finance are appropriate for the firm?

1.3 GOAL OF FINANCIAL MANAGEMENT

In proprietorships and partnerships, owners are actively involved in management. But in companies, particularly large public limited companies, which have many shareholders, ownership is separated from management. For example, it is practically impossible for tens of thousands shareholders of Larsen and Toubro to participate actively in management. They have to necessarily delegate authority to the board of directors, which in turn appoints the top management.

Since shareholders differ in their tastes, wealth, investment horizons, and personal opportunities, delegation can work only if they can agree on a common objective. Indeed, there is a natural financial objective on which almost all shareholders would agree: maximise the current market value of the firm's equity. Shareholders, regardless of their personal tastes or preferences, can do more if their shares are worth more. They can give money for charity or travel to exotic locations; they can spend now or save for future.

Much of the theory in corporate finance is based on the assumption that managers should strive to maximise the value of the firm. The value of the firm is equal to the value of its equity and debt claims. Under normal circumstances the value of the debt claims remains fairly stable. So maximising the value of the firm is equivalent to maximising the value of equity.

There are three compelling arguments in support of the goal of shareholder wealth maximisation, viz., legal, economic, and decisional. From a **legal** point of view, managers, as agents of shareholders are expected to further the interests of shareholders, who are their principals, as established in Anglo-Saxon law. As Alfred Rappaport said, "In a market-based economy which recognises the rights of private property, the only social responsibility of business is to create value and do so legally and with integrity."

The **economic** argument for maximising shareholder wealth rests on the premise that the pursuit of this goal serves the larger public interest by maximising social wealth. As Bennett Stewart put it, "The quest for value drives scarce resources to their most productive uses and their most efficient users. The more effectively resources are deployed, the more robust will be the economic growth and the rate of improvement in our

standard of living. Adam Smith's invisible hand is at work when investors' private gain is a public value."

According to the **decisional** argument, for purposeful or rational behaviour, an organisation requires a single-valued objective function, because it is logically impossible to maximise in more than one dimension. If a manager is told to maximise market share, current profits, employment, future growth in profits, and something else, he cannot make a well-reasoned decision. In effect, he will be left with no objective. The absence of a well-defined function handicaps the firm in its competition for survival.

Despite the forceful arguments in favour of the goal of shareholder wealth maximisation, its supremacy has been challenged, among others, by the capital market skeptics, the strategic visionaries, and the balancers. The arguments of these critics and the rebuttal by the defendants of shareholder wealth maximisation principle are summarised below.

Critique	*Defence*
■ The *capital market sceptics* argue that the stock market displays myopic tendencies, often wrongly prices securities, and fails to reflect long-term values. Managers, on the other hand, are well-informed and make decisions based on more reliable and robust measures of value creation.	■ Based on extensive empirical evidence, financial economists argue that in developed capital markets, share prices are the least biased estimates of intrinsic values and managers are not generally better than investors in assessing values.
■ The *strategic visionaries* argue that the firms should pursue a product market goal like maximising the market share, or enhancing customer satisfaction, or minimising costs in relation to competitors, or achieving a zero defect level. If the firm succeeds in implementing its product market strategy, investors would be amply rewarded.	■ It is true that shareholder wealth is created only through successful product market strategies. For example, satisfied and loyal customers are essential for value creation. However, beyond a certain point customer satisfaction comes at the cost of shareholder value. When that happens, the conflict should be resolved in favour of shareholders to enhance the long-term viability and competitiveness of the firm.

■ The *balancers* argue that a firm should seek to 'balance' the interest of various stakeholders, viz. customers, employees, shareholders, creditors, suppliers, community and others.	■ Balancing the interest of various stakeholders is not a practical governing objective. There is no way to figure out what the right 'balance' is. When managers confront complex problems involving numerous tradeoffs, they will have no clear guidelines on how to resolve the differences. Each manager would be left to his own judgment. In a large organisation this can lead to confusion and even chaos.

Alternative Goals Are there other goals, besides the goal of maximal shareholder wealth, that express the shareholders' viewpoint? Several alternatives have been suggested: maximisation of profit, maximisation of earnings per share, maximisation of return on equity (defined as equity earnings/net worth). Let us examine them.

Maximisation of profit is not as inclusive a goal as maximisation of shareholders' wealth. It suffers from several limitations:

- Profit in absolute terms is not a proper guide to decision-making. It should be expressed either on a per share basis or in relation to investment.
- It leaves considerations of timing and duration undefined. There is no guide for comparing profit now with profit in future or for comparing profit streams of different durations.
- If profits are uncertain and described by a probability distribution, the meaning of profit maximisation is not clear.

The goals of maximisation of earnings per share and maximisation of return on equity do not suffer from the first limitation mentioned above. However, they do suffer from the other limitations and hence are also not suitable.

In view of the shortcomings of the alternatives discussed above, maximisation of the wealth of equity shareholders (as reflected in the market value of equity) appears to be the most appropriate goal for financial decision-making. Though the strict validity of this goal rests on certain rigid

assumptions, it can be reasonably defended as a guide for financial decision-making under fairly plausible assumptions about capital markets.

A Modification Given a certain number of outstanding shares, managers should act to maximise the current share price of their firm. However, if managers believe that the intrinsic value of their firm's share differs from the current market price of the share, then an important issue arises: Should managers seek to maximise the current market price of the share, which embeds only public information, or should they seek to maximise the intrinsic value of the share, based on their private information? If they seek to maximise the current market price they serve the interest of short-term shareholders; if they seek to maximise the intrinsic value of the share they serve the interest of long-term shareholders.

Given this inherent conflict, managers may strive to maximise a weighted average of the firm's current share price (S_C) and its intrinsic value (S_I) as shown below:

$$W_c S_c + W_I S_I$$

What Do Firms Do? Business firms often pursue several goals. They seek to achieve a high rate of growth, enjoy a substantial market share, attain product and technological leadership, promote employee welfare, further customer satisfaction, support education and research, improve community life, and solve other societal problems. Since managers spend most of their working day dealing with employees, customers, and suppliers, and building relationships with them, it is quite natural for them to consider their interests.

Some of these goals may, of course, be in consonance with the goal of shareholder wealth maximisation. For, a rapid growth rate, a dominant market position, and a higher customer satisfaction may lead to increasing returns for equity shareholders. Even efforts towards solving societal problems may further the interest of shareholders in the long run by improving the image of the firm and strengthening its relationship with the environment. When these other goals seem to conflict with the goal of maximising shareholder wealth, it is helpful to know the cost of pursuing these goals. The tradeoff has to be understood. It should be appreciated that maximisation of the wealth of shareholders constitutes the principal guarantee for efficient allocation of resources in the economy and hence is to be regarded as the normative goal from the financial point of view.

Shareholder Orientation in India Most companies in India till the early 1990s paid lip service to the goal of shareholder wealth maximisation. They showed sporadic concern for the shareholders, mainly when they approached the capital market for raising capital. Things, however, have been changing since the mid-1990s. A confluence of forces appears now to be prodding companies to accord greater importance to the goal of shareholder wealth maximisation. The important ones are as follows:

Foreign Exposure The scions of most business families have gone abroad for higher education, particularly to the U.S. Hence they seem to appreciate the importance of shareholder value more.

Greater Dependence on Capital Market In the wake of liberalisation, the investment opportunities for the private sector have expanded considerably and consequently its appetite for funds has increased substantially. Thanks to significant freedom that companies now enjoy in pricing equity issues, there is a stronger incentive to access the capital market. The higher corporate needs for funds and the greater dependence on the capital market have induced firms to become more shareholder friendly.

Growing Importance of Institutional Investors Companies are relying more on mutual funds, private equity funds, financial institutions, and foreign portfolio investors for raising equity capital. Institutional investors tend to be more discerning and have the muscle and motivation to nudge companies to pursue shareholder friendly policies.

Abolition of Wealth Tax on Financial Assets Previously wealth tax, subject to some exemptions, was payable on equity shares. This induced many controlling groups to ignore and even depress share prices. With the abolition of wealth tax on equity shares and other financial assets, there is now an incentive to enhance share prices. This gets heightened when business magnates nurture a desire to join the exclusive billionaire's club.

To sum up, in the new environment there is a greater incentive and compulsion to focus on creating value for shareholders. This new corporate thinking has been articulated very well by Infosys in these words: "Corporate governance is about maximizing shareholder value legally, ethically, and on a sustainable basis, while ensuring fairness to every stakeholder—the company's customers, employees, investors, vendor-partners, the government of the land, and the community." This view has been echoed by Anand Mahindra: "All of us are beginning to look at companies as owned by shareholders. The key is to raise shareholder

returns. Those companies where the promoters continue to believe that they own the company and everything they do is in their own interest, are in trouble."

Interestingly, the Kumar Mangalam Committee on Corporate Governance, set up by the Securities and Exchange Board of India, in its draft report mentioned that "The fundamental objective of corporate governance is the enhancement of the long-term shareholder value while at the same time protecting the interest of other stakeholders."

1.4 THE FUNDAMENTAL PRINCIPLE OF FINANCE

The key question that you have to ask before making a business decision is: will the decision raise the market value of the firm? To answer this question, let us look at the fundamental principle of finance:

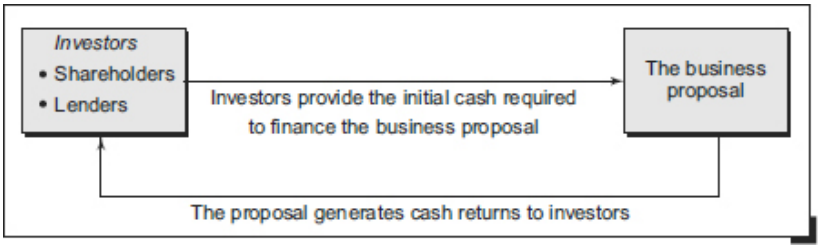
A business proposal—regardless of whether it is a new investment or acquisition of another company or a restructuring initiative—raises the value of the firm only if the present value of the future stream of net cash benefits expected from the proposal is greater than the initial cash outlay required to implement the proposal.

The difference between the present value of future cash benefits and the initial outlay represents the net present value or NPV of the proposal:

Net present value = Present value of future cash benefits − Initial cash outlay

Note that the costs and benefits of a business proposal have to be measured in cash. As shown in Exhibit 1.1, investors who finance a proposal invest cash and are hence interested in cash returns.

Exhibit 1.1 **Cash Alone Matters**



To convert the expected cash returns from the proposal into a present value figure an appropriate discount rate has to be applied. The discount rate reflects the riskiness of the proposal.

1.9 ORGANISATION OF THE FINANCE FUNCTION

Financial management is in many ways an integral part of the jobs of managers who are involved in planning, allocation of resources, and control. The responsibilities for financial management are dispersed throughout the organisation. For example:

- The engineer, who proposes a new plant, shapes the investment policy of the firm.
- The marketing analyst provides inputs in the process of forecasting and planning.
- The purchase manager influences the level of investment in inventories.
- The sales manager has a say in the determination of the receivables policy.
- Departmental managers, in general, are important links in the financial control system of the firm.

There are, however, many tasks of financial management and allied areas (like accounting) which are specialised in nature and which are attended to by specialists. These tasks and their typical distribution between the two key financial officers of the firm, the treasurer and the controller[2], are shown in Exhibit 1.3. Note that the treasurer is responsible mainly for financing and investment activities and the controller is concerned primarily with accounting and control.

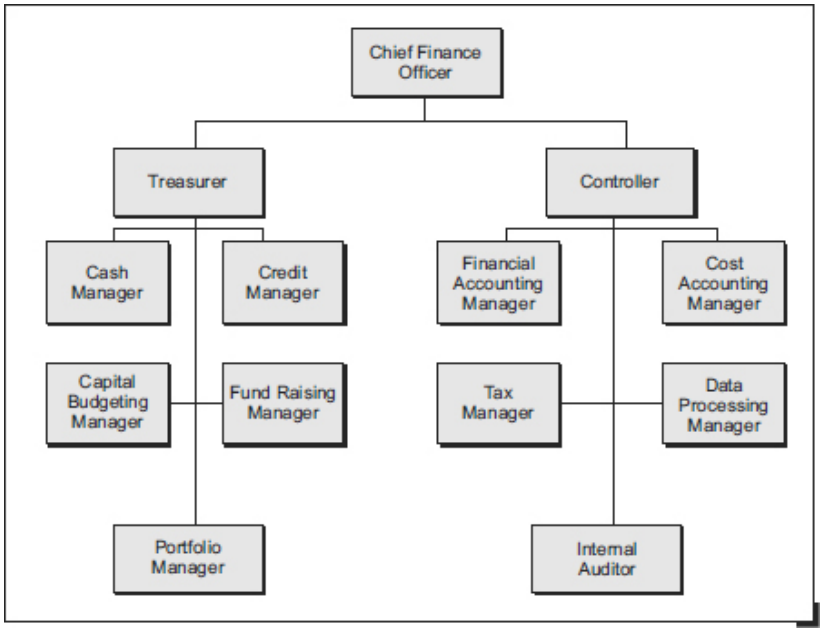
Exhibit 1.3 **Functions of the Treasurer and the Controller**

Treasurer	*Controller*
Obtaining finance	Financial accounting
Banking relationship	Internal auditing
Cash management	Taxation
Credit administration	Management accounting
Capital budgeting	and control

Typically, the chief finance officer, who may be designated as Director (Finance) or Vice President (Finance), supervises the work of the treasurer and the controller. In turn, these officers are assisted by several specialist managers working under them. The finance function in a large organisation may be organised as shown in Exhibit 1.4.

The financial officers, in addition to their specialised responsibility, have significant involvement in injecting financial discipline in corporate management processes. They are responsible for emphasising the need for rationality in the use of funds and the need for monitoring the operations of the firm to achieve desired financial results. In this respect, the tasks of financial officers have assumed new dimensions. Instead of just looking after routine financing and accounting activities, they guide and participate in the tasks of planning, funds allocation, and control so that the financial point of view is sufficiently emphasised in the process of corporate management.

Exhibit 1.4 **Organisation of Finance Function**



1.10 RELATIONSHIP OF FINANCE TO ECONOMICS AND ACCOUNTING

Financial management has a close relationship to economics on the one hand and to accounting on the other.

Relationship to Economics There are two important linkages between economics and finance. The macroeconomic environment defines the setting within which a firm operates and the microeconomic theory provides the conceptual underpinning for the tools of financial decision making.

Key macroeconomic factors like the growth rate of the economy, the domestic savings rate, the role of the government in economic affairs, the tax environment, the nature of external economic relationships, the availability of funds to the corporate sector, the rate of inflation, the real rate of interest, the market risk premium, and the terms on which the firm can raise finances define the environment in which the firm operates. No financial manager can afford to ignore the key developments in the macroeconomic sphere and the impact of the same on the firm.

While an understanding of the macroeconomic developments sensitises the financial manager to the opportunities and threats in the environment, a firm grounding in microeconomic principles sharpens his analysis of decision alternatives. Finance, in essence, is applied microeconomics. For example, the principle of marginal analysis — a key principle of microeconomics according to which a decision should be guided by a comparison of incremental benefits and costs — is applicable to a number of managerial decisions in finance.

To sum up, a basic knowledge of macroeconomics is necessary for understanding the environment in which the firm operates and a good grasp of microeconomics is helpful in sharpening the tools of financial decision making.

Relationship to Accounting The finance and accounting functions are closely related and almost invariably fall within the domain of the chief financial officer as shown in Exhibit 1.4. Given this affinity, it is not surprising that in popular perception finance and accounting are often considered indistinguishable or at least substantially overlapping. However, as a student of finance you should know how the two differ and how the two

relate. The following discussion highlights the differences and relationship between the two.

Score Keeping vs. Value Maximising Accounting is concerned with score keeping, whereas finance is aimed at value maximising. The primary objective of accounting is to measure the performance of the firm, assess its financial condition, and determine the base for tax payment. The principal goal of financial management is to create shareholder value by investing in positive net present value projects and minimising the cost of financing. Of course, financial decision making requires considerable inputs from accounting. As Gitman says: “The accountant’s role is to provide consistently developed and easily interpreted data about the firm’s past, present, and future operations. The financial manager uses these data, either in raw form or after certain adjustments and analyses, as an important input to the decision making process.”

Accrual Method vs. Cash Flow Method The accountant prepares the accounting reports based on the accrual method which recognises revenues when the sale occurs (irrespective of whether the cash is realised immediately or not) and matches expenses to sales (irrespective of whether cash is paid or not). The focus of the financial manager, however, is on cash flows. He is concerned about the magnitude, timing, and risk of cash flows as these are the fundamental determinants of values.

Certainty vs. Uncertainty Accounting deals primarily with the past. It records what has happened. Hence, it is relatively more objective and certain. Finance is concerned mainly with the future. It involves decision making under imperfect information and uncertainty. Hence, it is characterised by a high degree of subjectivity.

QUESTIONS

1. What are the advantages and disadvantages of the following forms of business organisation: sole proprietorship, partnership, cooperative society, private limited company, and public limited company?
2. Discuss the three broad areas of financial decision making.
3. What is the justification for the goal of maximising the wealth of shareholders?
4. What do the critics of the goal of maximising shareholder wealth say? What is the rebuttal provided by the advocates of maximising shareholder wealth?
5. Critically evaluate the goals of maximisation of profit and maximisation of return on equity.
6. What forces are prodding companies in India to accord greater importance to the goal of shareholder wealth maximisation?
7. Discuss the risk-return tradeoff in financial decisions.
8. Describe briefly the building blocks of modern finance.
9. Why is there a separation of ownership and management in large companies?
10. What are agency costs and how can they be mitigated?
11. "Financial management is in many ways an integral part of the jobs of managers." Comment.
12. How is the finance function typically organised in a large company?
13. Discuss the relationship of financial management to economics and accounting.
14. Comment on the emerging role of the financial manager in India.

PRACTICAL ASSIGNMENT

To enhance your learning of finance, it would be worthwhile to apply concepts, principles, and techniques discussed in this book to real-life companies. To facilitate this, a series of practical assignments are given in this book. For doing these assignments, you are expected to choose one of the following companies: Reliance Industries, ONGC, TCS, Infosys, ITC, Hindustan Unilever, BHEL, Larsen & Toubro, Coal India, ICICI Bank, Tata Steel, NTPC, Maruti Suzuki, Sun Pharma, and Mahindra & Mahindra.

You can download the annual reports of your chosen company from the company's website and get capital market trading information from sources such as National Stock Exchange (NSE) & Bombay Stock Exchange (BSE) websites, CAPITALINE Database, CMIE PROWESS Database, and Bloomberg database.

In this assignment, the first of the many to follow in the other chapters of the book, you are required to provide a brief write up on the company (covering its history, products, markets, capacity, turnover, shareholding pattern, major competitors, and so on) and comment on its objective(s).

CHAPTER 2

The Financial System

Learning Objectives

After studying this chapter you should be able to:

- ✓ Discuss the functions of the financial system.
- ✓ Describe the characteristics of financial assets.
- ✓ Classify financial markets along various dimensions.
- ✓ Explain the factors that determine the rates of return.
- ✓ Discuss the types of financial intermediaries and the rationale for financial intermediaries.
- ✓ Describe the functions of the Reserve Bank of India and the Securities and Exchange Board of India.
- ✓ Discuss the growth and trends in the Indian financial system.

The purpose of this book is to help you make better financial decisions. These decisions are made in the context of a financial system that constrains and facilitates them.

The financial system comprises of a variety of intermediaries, markets, and instruments that are related in the manner shown in Exhibit 2.1. It provides the principal means by which savings are transformed into investments. Given its role in the allocation of resources, the efficient functioning of the financial system is critical to a modern economy.

Joseph Schumpeter argued long back that financial development promotes economic growth. Several studies have documented the link between financial development and economic growth, validating the Schumpeter argument.

Financial development can contribute to economic growth in three important ways:

- It raises the level of savings.
- It directs savings toward real investments in productive capacities, thereby fostering capital accumulation.

- It improves the efficacy of investment allocation through the monitoring and signaling functions of the capital markets.

While an understanding of the financial system is useful to all informed citizens, it is particularly relevant to the financial manager. He negotiates loans from financial intermediaries, raises resources in the financial markets, and invests surplus funds in financial instruments. In a very significant way he manages the interface between the firm and its financial environment.

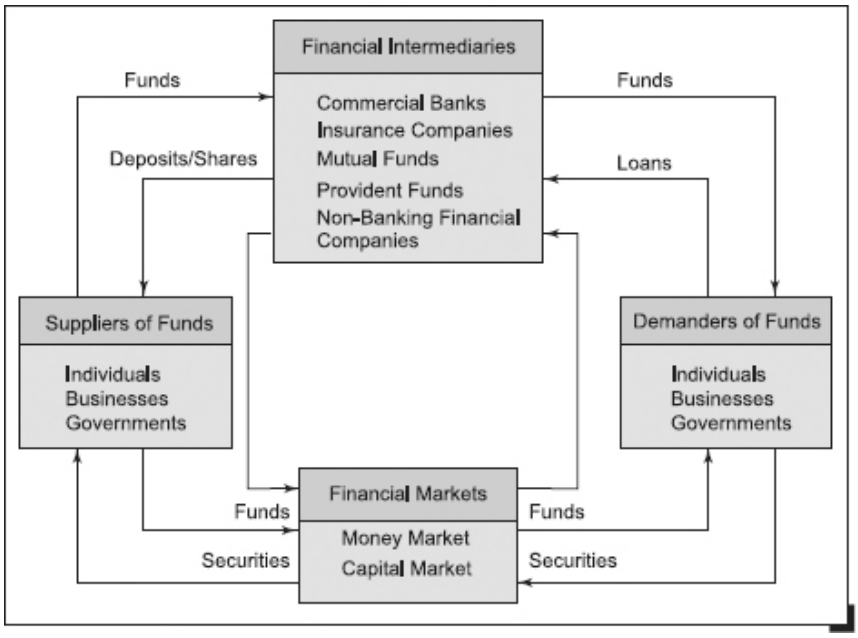
This chapter provides a conceptual framework for understanding how the financial system works, so that you can make better financial decisions.

2.1 FUNCTIONS OF THE FINANCIAL SYSTEM[1]

The financial system performs the following interrelated functions that are essential to a modern economy:

- It provides a payment system for the exchange of goods and services.
- It enables the pooling of funds for undertaking large scale enterprises.
- It provides a mechanism for spatial and temporal transfer of resources.
- It provides a way for managing uncertainty and controlling risk.
- It generates information that helps in coordinating decentralised decision making.
- It helps in dealing with the incentive problem when one party has an informational advantage.

Exhibit 2.1 **The Financial System**



Payment System Depository financial intermediaries such as banks are the pivot of the payment system. Credit card companies play a supplementary role. To realise the importance of this function, simply look at

the hardship and inconvenience caused when the payment system breaks down.

Pooling of Funds Modern business enterprises require large investments which are often beyond the means of an individual or even of hundreds of individuals. Mechanisms like financial markets and financial intermediaries, which are an integral part of the financial system, facilitate the pooling of household savings for financing business. If you look at it from the other side, the financial system enables households to participate in large indivisible enterprises.

Transfer of Resources The financial system facilitates the transfer of economic resources across time and space. As Robert Merton says:

"A well-developed, smooth-functioning financial system facilitates the efficient life-cycle allocations of household consumption and the efficient allocation of physical capital to its most productive use in the business sector."

"A well-developed, smooth-functioning capital market also makes possible the efficient separation of ownership from management of the firm. This in turn makes feasible efficient specialisation in production according to the principle of comparative advantage."

Risk Management A well-developed financial system offers a variety of instruments that enable economic agents to pool, price, and exchange risk. It provides opportunities for **risk-pooling** and **risk-sharing** for both household and business firms.

The three basic methods for managing risk are: hedging, diversification, and insurance. **Hedging** entails moving from a risky asset to a riskless asset. A forward contract, for example, is a hedging device. **Diversification** involves pooling and sub-dividing risks. While it does not eliminate the total risk, it redistributes it to diminish the risk faced by each individual. **Insurance** enables the insured to retain the economic benefits of ownership while laying off the possible losses. Of course, to do this a fee or insurance premium has to be paid.

Price Information for Decentralised Decision Making Apart from the manifest function of facilitating individuals and businesses to trade in financial assets, financial markets serve an important latent function as well. They provide information that helps in coordinating decentralised decision making. Robert Merton puts it thus:

“Interest rates and security prices are used by households or their agents in making their consumption-saving decisions and in choosing the portfolio allocations of their wealth. These same prices provide important signals to managers of firms in their selection of investment projects and financings.”

Dealing with Incentive Problem When one party to a transaction has information that the other does not have, **informational asymmetry** exists. This leads to the problems of moral hazard and adverse selection, which are broadly referred to as agency problems. The nature of these problems may be illustrated with reference to insurance. A person who has taken a fire insurance policy is likely to become somewhat negligent. This is the **moral hazard** faced by the insurance company. A person who is more likely to experience fire losses will be inclined to take fire insurance. This is the **adverse selection** problem faced by the insurance company.

Financial intermediaries like banks and venture capital organisations can mitigate the problem of informational asymmetry by handling sensitive information discreetly and developing a reputation for profitable activity.

2.2 FINANCIAL ASSETS

Broadly speaking, an asset whether tangible or intangible is any possession that has value in exchange. A tangible asset is one whose value depends on its physical properties. Examples of tangible assets are land, buildings, machines, and vehicles. An intangible asset represents a claim to some future benefits. Financial assets, for example, are intangible assets as they represent claims to future cash flows. The terms financial asset, instrument, or security are used interchangeably.

The entity that offers future cash flows is called the issuer of the financial asset and the owner of the financial asset is called the investor. Here are some examples of financial assets:

- A 10-year bond issued by the Government of India carrying an interest rate of 7 percent.
- A 7-year non-convertible debenture issued by Reliance Industries Limited carrying an interest rate of 8 percent.
- A 3-year car loan provided by Citibank to an individual at an interest rate of 12 percent.
- Equity shares issued by NTPC to the general investing public through an initial public offering.
- A call option granted by Infosys Technologies Limited to an employee that gives him the right to buy 100 shares of Infosys at an exercise price of ₹ 900.

Debt Versus Equity Claims A financial asset may entitle its owner to a fixed amount or a varying, residual amount. In the former case, the financial asset is called a debt security – the 10-year Government of India bond and the 7-year non-convertible debenture of Reliance Industries Limited are examples of debt security. In the latter case, the financial asset is referred to as an equity security – the equity shares issued by NTPC are an example of equity security.

Some securities straddle both the categories. Preference shares, for example, represent an equity claim that entitles the owner to get a fixed rupee amount. This payment, however, can be made only when the issuer earns a profit.

2.3 FINANCIAL MARKETS

A financial market is a market for creation and exchange of financial assets. If you buy or sell financial assets, you will participate in financial markets in some way or the other.

Functions of Financial Markets Financial markets play a very pivotal role in allocating resources in an economy by performing three important functions:

1. Financial markets **facilitate price discovery**. The continual interaction among numerous buyers and sellers who throng financial markets helps in establishing or discovering the prices of financial assets. Well-organised financial markets seem to be remarkably efficient in price discovery. Price discovery means the discovery of price at which demand and supply are matched.
2. Financial markets **provide liquidity** to financial assets. Investors can readily sell their financial assets through the mechanism of financial markets. In the absence of financial markets which provide such liquidity, the motivation of investors to hold financial assets will be considerably diminished. Thanks to negotiability and transferability of securities through the financial markets, it is possible for companies (and other entities) to raise long-term funds from investors with short-term and medium-term horizons. While one investor is substituted by another when a security is transacted, the company is assured of long-term availability of funds.
3. Financial markets considerably **reduce the cost of transacting**. The two major costs associated with transacting are search costs and information costs. **Search costs** comprise explicit costs such as the expenses incurred on advertising when one wants to buy or sell an asset and implicit costs such as the effort and time one has to put in to locate a customer. **Information costs** refers to costs incurred in evaluating the investment merits of financial assets.

Classification of Financial Markets There are different ways of classifying financial markets. One way is to classify financial markets by the type of financial claim. The **debt market** is the financial market for fixed claims (debt instruments) and the **equity market** is the financial market for residual claims (equity instruments).

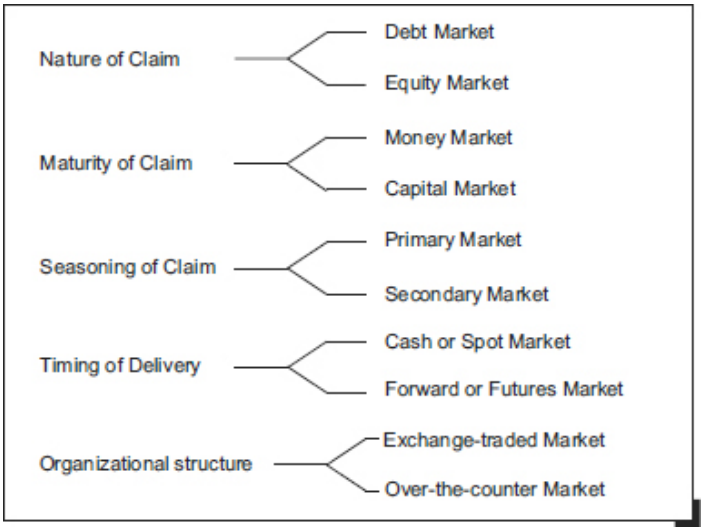
A second way is to classify financial markets by the maturity of claims. The market for short-term financial claims is referred to as the **money market** and the market for long-term financial claims is called the **capital market**. Traditionally the cut off between short-term and long-term has been one year – though this dividing line is arbitrary, it is widely accepted. Since short-term financial claims are almost invariably debt claims, the money market is the market for short-term debt instruments. The capital market is the market for long-term debt instruments and equity instruments.

A third way to classify financial markets is based on whether the claims represent new issues or outstanding issues. The market where issuers sell new claims is referred to as the **primary market** and the market where investors trade outstanding securities is called the **secondary market**.

A fourth way to classify financial markets is by the timing of delivery. A **cash** or **spot** market is one where the delivery occurs immediately and a **forward** or **futures** market is one where the delivery occurs at a predetermined time in future.

A fifth way to classify financial markets is by the nature of its organisational structure. An **exchange-traded market** is characterised by a centralised organisation with standardised procedures. An **over-the counter market** is a decentralised market with customised procedures. Exhibit 2.2 presents a summary of the classification of financial markets.

Exhibit 2.2 **Summary Classification of Financial Markets**



Rise of Formal Financial Markets The role of formal financial markets has expanded rapidly in recent years. The key factors which have

contributed to this are as follows:

- Robust mechanisms for ensuring that trades are completed according to agreed terms.
- Adequate legal procedures to settle disputes.
- Low transaction costs.
- Transparent availability of information on trades and prices.
- Adequate protection to investors.
- High liquidity.

Forces of Changes Financial markets have undergone significant transformation since the mid-1980s, thanks to the following factors:

- Technological advances in computing and telecommunications.
- The wave of deregulation and liberalisation that has been sweeping the world.
- Consolidation and globalisation in the wake of heightened competition.

2.4 FINANCIAL MARKET RETURNS

Everyday we are bombarded with news and reports on financial market returns like interest rates and equity returns over various media like newspapers, television, radio, and on-line computer service.

Interest Rates An interest rate is a rate of return promised by the borrower to the lender. Different interest rates apply to different kinds of borrowing and lending. For example, the mortgage rate applies to a home loan whereas the term lending rate applies to a term loan for an industrial project.

The interest rate on any type of loan (or fixed income security) depends on several factors, the most important being the unit of account, the maturity, and the default risk. The *unit of account* is the medium such as rupees, dollars, pounds, yen, or gold in which payments are denominated. The *maturity* of a loan is the period over which it is paid back. *Default risk* is the possibility that the borrower may not honour his commitment to pay interest and principal as promised.

Generally, the interest rate is low when the unit of account depreciates very little due to inflation, the maturity period is short, and the default risk is negligible. On the other hand, the interest rate is high when the unit of account depreciates due to inflation, the maturity period is long, and the default risk is high.

Rates of Return on Risky Assets Interest rates represent promised returns on debt instruments. However, many assets do not promise a given return. For example, if you invest in equity shares or real estate or a piece of art or for that matter any risky asset you don't earn an assured return.

How should one measure the rate of return on a risky asset like equity stock? The return from such an asset comes from two sources: cash dividend and capital gain (or loss).

To illustrate, suppose you buy a share of a company's equity stock at a price of ₹ 100. After one year you get a dividend of ₹ 5 and the share price rises to ₹ 115. Your one-year return, *r*, is:

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

$$= \frac{5}{100} + \frac{115 - 100}{100}$$

$$= 5\% + 15\%$$

The first component is called the dividend income component (or dividend yield) and the second component is called the capital change component (or capital yield).

Inflation and Real Interest Rate To make meaningful economic comparisons over time, the prices of goods and services must be corrected for the effects of inflation. A distinction has to be made between *nominal prices*, or prices in terms of some currency, and *real prices*, or prices in terms of purchasing power. This point may be illustrated with an example. Suppose the price of butter increases from ₹ 200 per kg in year 0 to ₹ 220 per kg in year 1. During this period the Consumer Price Index increases from 500 to 540, that is by 8 percent. So we say that even though the nominal price of butter increased by 10 percent, its real price rose by only 1.85 percent ((1.10/1.08) − 1).

Just as a distinction is made between nominal and real prices, so too a distinction is made between nominal and real interest rates. The nominal interest rate on a bond is the rate of return in nominal terms whereas the real rate is the nominal rate corrected for the inflation factor. For example, if you earn a nominal rate of 15 percent in a year when the inflation rate is 10 percent, your real rate works out to 4.55 percent ((1.15/1.10) − 1).

The general relationship between these rates is as per *Fisher hypothesis* as follows:

$$1 + \text{Real rate} = \frac{1 + \text{Nominal rate}}{1 + \text{Inflation rate}}$$

Put differently

$$\text{Real rate} = \frac{\text{Nominal rate} - \text{Inflation rate}}{1 + \text{Inflation rate}}$$

Determinants of Rates of Return What factors determine the rates of return in a market economy? The principal factors are:

- Expected productivity of capital
- Degree of uncertainty characterising the productivity of capital
- Time preferences of people
- Degree of risk aversion

Expected Productivity of Capital Capital resources, comprising of tangible capital and intangible capital, help in producing goods and services. Tangible capital consists of physical assets like factories, mines, dams, railway networks, power stations, roads, and inventories. Intangible capital consists of non-physical assets like patents, copyrights, technical know-how, and brand image.

The productivity of capital is expressed as a percentage per year, referred to as the return on capital. The expected return on capital varies across time and place. *Inter alia*, it depends on the state of technology, availability of other factors of production, and the strength of demand for goods and services produced by capital.

The returns earned by investors ultimately depend on how productive the capital is. Hence, the higher the expected productivity of capital, the higher rates of return in the economy, and vice versa.

Degree of Uncertainty about Productivity of Capital The return on capital is subject to uncertainty stemming from a host of factors like technological changes, shifts in consumer preferences, erratic weather, policy changes, social unrest, and so on.

Equity securities have a claim to the profits earned on capital. Other things being equal, the higher the degree of uncertainty about the productivity of capital, the higher the risk premium required by equity investors, and vice versa.

Time Preferences of People People prefer current consumption to future consumption. Why? A principal reason is that they know that they are alive now and can enjoy current consumption whereas they are not sure whether they will be alive in future to enjoy deferred consumption. Other things being equal, the greater the preference of the society for current consumption, the higher the interest rate in the economy and vice versa.

Degree of Risk Aversion The return on capital in any economy, as we have learnt, is uncertain. The financial system provides a mechanism for partitioning the uncertain return on capital into different streams subject to different risks. Very broadly, it splits the uncertain return on capital into two components: a risk-free return earned on debt securities and a risky return earned on equity securities. The following relationship holds:

Risk-free return on debt securities < Expected return on capital < Expected return
on equity securities

Put differently, risk-averse people who want a risk-free return have to compensate risk-tolerant people for bearing risk in the form of risk premium. Other things being equal, the higher the degree of risk-aversion of the population, the higher will be the risk premium, and correspondingly the lower will be the risk-free rate.

Other Factors that Influence Interest Rate Levels The following are the other factors that influence interest rates: monetary policy, fiscal deficit or surplus, international flows, and the level of business activity.

Money Supply The Reserve Bank of India (RBI) regulates the money supply in the economy. An expansionary monetary policy of RBI lowers the interest rates. A contractionary monetary policy, on the other hand, pushes the interest rates up.

Fiscal Deficit (or Surplus) If the government spends more than its revenues, it runs a fiscal deficit which is met by borrowing or printing money. It the government borrows, it pushes the interest rate up. If it prints money, the increased money supply raises inflationary expectations, which eventually pushes interest rates up. Thus, other things being equal, the larger the fiscal deficit, the higher the interest rate. A fiscal surplus has the opposite effects.

International Factors If India buys more (less) than it sells to other countries, it has a trade deficit (surplus). A trade deficit has to be financed through borrowings. Hence, the larger the trade deficit, the higher the level of borrowing which pushes the interest rates up. A trade surplus has the opposite effects.

Level of Business Activity When business activity expands the demand for funds increases which tends to push interest rates up. On the other hand, when business activity contracts, the demand for funds decreases which tends to push interest rates down.

Interest Rates in India Interest rates in India traditionally were highly regulated. There was a time when the bank deposit rates, bank lending rates, lending rates of financial institutions, corporate fixed deposit rates, and so on were completely regulated by the government. In the wake of financial liberalisation, most of these rates have been substantially deregulated.

There is a variety of interest rates in the economy. The key interest rates are as follows. The *repo rate* is the rate at which banks obtain funds from the RBI by selling securities and simultaneously agreeing to repurchase them at a later date at a predetermined price. The *bank rate* is the rate at which banks, which need cash temporarily, can borrow from the RBI. The *treasury bill rate* is the rate on money market instruments issued by the Government of India. The *base rate* is the minimum interest rate at which banks lend. The *term deposit rate* is the rate paid by banks on fixed deposits. The *10-year government bond rate*, often taken as the representative of the government-borrowing rate, is the yield on 10-year government bonds.

The key interest rates in India as on 23.01.2014 were as follows:

■ Bank rate	: 6.75 percent	■ Term deposit rate > 1 year	: 6.25 to 7.5 percent
■ Repo rate	: 6.50 percent	■ Yield on 10-year Government bond	: 7.58 percent
■ 364 day Treasury bill rate	: 6.82 percent	■ Base rate	: 8.95 to 9.45 percent

2.5 FINANCIAL INTERMEDIARIES

Financial intermediaries are firms that provide services and products that customers may not be able to get more efficiently by themselves in financial markets. A good example of a financial intermediary is a mutual fund which pools the financial resources of many people and invests in a basket of securities. It enjoys economies of scale in conducting research, in maintaining records, and in executing transactions. Hence it offers its customers a more efficient way of investing than what they can generally do on their own. The important products and services of financial intermediaries include checking accounts, savings accounts, loans, mortgages, mutual fund schemes, insurance contracts, credit rating, and so on.

Rationale for Financial Intermediaries

Before we learn about various financial intermediaries in India, let us understand the rationale for financial intermediaries. Put differently, what are the benefits to individual investors when they invest indirectly through financial intermediaries rather than directly in operating companies? It seems that there are several advantages:

Diversification The pool of funds mobilised by financial intermediaries is invested in a broadly diversified portfolio of financial assets (stocks, money market instruments, bonds, and loans). Individual investors can scarcely achieve such diversification on their own. Remember that a diversified portfolio reduces risk.

Lower Transaction Cost The average size of a transaction of a financial institution is much higher than that of an individual investor. The transaction cost in percentage terms tends to decrease as the transaction size increases. Hence, financial intermediaries, compared to individual investors, incur lower transaction costs.

Economies of Scale Buying and holding securities (or for that matter granting loans and supervising them) calls for information gathering and processing and regular monitoring. These functions entail cost. Financial intermediaries, thanks to their bigger size and professional resources, enjoy economies of scale in performing these functions and hence they have a comparative advantage over individual investors.

Confidentiality Companies seeking funds or the continuing support of existing investors are required to disclose information that they like to keep confidential for competitive reasons. They would feel more comfortable in dealing with a few financial intermediaries rather than numerous individual investors. Information shared with financial intermediaries may be kept confidential whereas information disclosed to numerous individual investors falls in the domain of public knowledge.

Signaling With greater professional expertise at their command, financial intermediaries can pick up and interpret signals and cues provided by companies which are likely to gravitate to them. In this manner, financial institutions perform a signaling function for the investing community.

Key Financial Intermediaries

The key financial intermediaries in India are commercial banks, financial institutions, insurance companies, mutual funds, non-banking financial companies, and non-banking financial service companies.

Commercial Banks Commercial banks (public sector banks, foreign banks, and private sector banks) represent the most important financial intermediary in the Indian financial system.

Public sector banks, led by the State Bank of India, came into being largely on account of nationalisation of privately-owned commercial banks. Presently, they dominate the banking scene in the country. They have contributed immensely to wider geographical spread and deeper penetration in rural areas, higher mobilisation of deposits, and reallocation of bank credit to priority sectors.

Foreign banks, such as Citibank, have been in India for a long time and have been steadily expanding their operations. The newest entrants on the commercial banking scene have been the private sector banks like HDFC Bank and ICICI Bank which were set up in mid-1990s in the wake of banking liberalisation. This segment has shown remarkable growth and vitality since the beginning.

The banking sector in India has grown at a compound annual growth rate (CAGR) of about 20 percent in the first decade of this millenium. Total deposits have grown 4.8 times, assets 6.6 times, interest income 9.5 times, and net worth 4.5 times. Over the same period, the employee strength has grown by just 5 percent! This radical transformation has been facilitated by massive computerisation that has led to anywhere, anytime banking across various channels. Most reassuringly, this metamorphosis has been achieved at an incredibly low cost. According to RBI, the total cost of computerisation for PSU banks has been around ₹ 17,900 crore, or less than $ 4 billion, an amount that a global tier-I bank spends annually.

Financial Institutions Since independence a number of financial institutions have been set up to cater to the long-term financing needs of the industrial sector and meet specialised financing requirements. An elaborate structure of financial institutions consisting of all-India term-lending institutions like IFCI, ICICI, and IDBI (the last two have transformed themselves into banks), State Financial Corporations, and State Industrial Development Corporations, has come into being.

There are many specialised financial institutions like Small Industries Development Bank of India (SIDBI), Export-Import Bank (EXIM Bank), National Bank for Agricultural and Rural Development (NABARD), Shipping Credit and Investment Corporation of India (SCICI), Power Finance Corporation (PFC), Rural Electrification Corporation (REC), and National Housing Bank (NHB).

Insurance Companies Till recently there were just two insurance companies in India: the Life Insurance Corporation of India (LIC) and the General Insurance Corporation of India (GIC). The GIC was initially a holding company with four fully owned subsidiaries. Subsequently, GIC was renotified as the Indian Reinsurer and it also ceased to be a holding company of its subsidiaries. With the liberalisation of the insurance sector, many private sector players like ICICI–Prudential, Tata AIG, Bajaj ALLIANZ, Birla Sunlife, and HDFC Standard have set up insurance business in India. Insurance companies, LIC in particular, have massive resources at their command because insurance policies usually have a substantial element of savings and insurance premiums are payable in advance.

Mutual Funds A mutual fund is a collective investment vehicle. It mobilises resources from investors and invests in various types of securities. While there was only one mutual fund in India, viz., the Unit Trust of India, till 1986, presently there are a number of mutual funds in public and private sector. In the last decade or so, private mutual funds like ICICI Prudential Mutual Fund, Reliance Mutual Fund, HDFC Mutual Fund and Templeton Mutual Fund have grown impressively.

Non-Banking Financial Companies From mid-1980s many non-banking financial companies have come into being in the public sector as well as the private sector. Some of the well-known names are HDFC, Sundaram Finance, Kotak Mahindra Finance, IDFC, ICICI Ventures, Infrastructure Leasing and Finance, and SBI Factors. These companies engage in a variety of activities like leasing finance, hire-purchase finance, housing finance, infrastructure finance, venture capital financing, factoring, and investment in securities.

Non-Banking Financial Services Companies This group consists of merchant banks, credit rating agencies, depositories, and others. **Merchant banks, also called investment banks**, are firms which help business, government, and other entities in raising finances. They also

facilitate mergers, acquisitions, and divestitures. Kotak Investment Banking, Axis Capital Limited, ICICI Securities, J P Morgan, and Citibank are among the leading merchant banks in India. **Credit rating** agencies rate debt and other instruments. CRISIL, CARE, and ICRA are the leading credit rating agencies in India. **Depositories** are institutions which dematerialise physical securities and effect transfer of ownership by electronic entries. Presently, there are two depositories in India, viz. the National Securities Depository Limited (NSDL) and the Central Securities Depository Limited (CSDL).

2.6 REGULATORY INFRASTRUCTURE

There are five entities involved in regulating the financial sector: Ministry of Finance, Reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI), Insurance Regulatory and Development Authority, and Pension Fund Regulatory and Development Authority (PFRDA).

The Financial Legislative Reforms Commission (FSLRC) has recommended the creation of a new financial regulatory structure where regulators SEBI, IRDA, FMC, and PFRDA are subsumed into a single agency. The FSLRC believes that the merger of various regulators will streamline regulations, resolve conflicts between regulators, and bring a holistic approach to issues.

From the point of view of corporates, RBI and SEBI are more important. A brief description of their functions follows:

Reserve Bank of India As the central banking authority of India, the Reserve Bank of India performs the following traditional functions of the central bank:

- It provides currency and operates the clearing system for the banks.
- It formulates and implements monetary and credit policies.
- It functions as the banker's bank.
- It supervises the operations of credit institutions.
- It regulates foreign exchange transactions.
- It moderates the fluctuations in the exchange value of the rupee.

In addition to the traditional function of the central banking authority, the Reserve Bank of India performs several functions aimed at developing the Indian financial system:

- It seeks to integrate the unorganised financial sector with the organised financial sector.
- It encourages the extension of the commercial banking system in the rural areas.
- It influences the allocation of credit.
- It promotes the development of new institutions.

Securities and Exchange Board of India The Securities and Exchange Board of India (SEBI)has been entrusted with the responsibility of dealing with various matters relating to the capital market. SEBI's principal tasks are to:

- Regulate the business in stock exchanges and any other securities markets.
- Register and regulate the capital market intermediaries (brokers, merchant bankers, portfolio managers, and so on).
- Register and regulate the working of mutual funds.
- Promote and regulate self-regulatory organisations.
- Prohibit fraudulent and unfair trade practices in securities markets.
- Promote investors' education and training of intermediaries of securities markets.
- Prohibit insider trading in securities.
- Regulate substantial acquisition of shares and takeovers of companies.
- Perform such other functions as may be prescribed.

Market-based Versus Bank-based Financial Systems

The financial systems in U.K. and U.S. are more market-based whereas the financial systems in Germany and Japan are more bank-based.

Market-based systems appear to be more successful in spawning new industries. For example, the railways, first developed in U.K. in 19th century, were financed mainly through the stock market. Likewise, in the 20th century, the U.S. spearheaded the development of automobile industry, though the automobile was a German invention. Similarly, the U.S. led the development of commercial aircraft industry, computer industry, and more recently the Internet and biotechnology industries.

Bank-based financial systems are more successful in supporting established industries. For example, Germany and Japan have sustained their competitive advantages in automobiles (in both countries) and electronics (in Japan).

Why are financial markets more effective in nurturing innovative industries? As Brealey and Myers explain: "When new products or processes are discovered, there is a wide diversity of opinion about the prospects for a new industry and the best way to develop it. Financial markets accommodate this diversity." This enables young companies to find like-minded investors who share their vision. If financing is done by a few major banks, this is less likely.

Market-based systems seem to be equally effective in withdrawing capital from companies with declining fortunes. But in bank-based financial systems, unviable firms are often artificially supported for long periods.

2.7 GROWTH AND TRENDS IN THE INDIAN FINANCIAL SYSTEM

The Indian financial system experienced an impressive growth in the post-1950 era. This is evident from the following:

- Emergence of a wide array of financial institutions to provide a variety of services.
- Significant expansion of the network of commercial banks and operations of the financial institutions.
- Introduction of a variety of schemes and instruments for mobilising savings.
- Remarkable growth in the primary as well as the secondary segments of the capital market.

In the wake of the significant growth that has occurred in the Indian financial system, the financial development measures improved substantially over the last few decades. Overall, one can conclude that the Indian financial system is widening, deepening, maturing, and gaining in sophistication.

Financial Sector Reforms in India Until the beginning of the 1990s, the Indian financial sector was characterised by administered interest rates, large pre-emption of resources, and extensive micro regulations. It was a classic example of "financial repression," *a la* Mackinnon and Shaw.

The financial sector reforms initiated from the early 1990s have focused on the following objectives:

- Removal of financial repression.
- Creation of an efficient, productive, and profitable financial sector.
- Evolution of market-determined interest rates.
- Granting of operational and functional autonomy to institutions.
- Opening up of the external sector in a calibrated fashion.
- Maintenance of financial stability in face of domestic and external disturbances.

Thanks to the reform measures, the Indian financial sector has become fairly sophisticated, diverse, vibrant, responsive, and resilient. It must be emphasised that this transformation has been achieved through well sequenced and coordinated policy measures.

Notwithstanding these developments, there is a serious shortcoming in the Indian financial system. The government, through its regulation over banks and a number of special savings schemes, absorbs more than two-thirds of the savings in the economy. In addition, it directs banks to lend to what government deems priority areas. Such control over the flow of domestic savings hurts India's economy in two ways: (i) Capital is diverted from private sector, whose productivity and efficiency is higher than public sector. (ii) The development of corporate bond market has been stunted.

Trends The key trends discernible in the Indian financial system are as follows:

- The ambit of market-determined interest rates is increasing and correspondingly the domain of administered interest rates is shrinking. This is accompanied by greater volatility in interest rates.
- In the regulation of financial markets and financial intermediaries, prudential regulation and supervision (capital adequacy, disclosure, transparency, and so on) are being emphasised and product and price controls are being done away with.
- The Indian financial system is getting gradually integrated with the world financial system.
- Financial innovation (introduction of new financial instruments or processes) is gaining momentum. Options and futures have been introduced in India.

Financial Development Measures The financial development of a country is commonly assessed in terms of the following ratios.

$$\text{Finance ratio} = \frac{\text{Total finance claims}}{\text{National income}}$$

$$\text{Financial interrelations ratio} = \frac{\text{Total finance claims}}{\text{Net physical capital formation}}$$

$$\text{New issue ratio} = \frac{\text{Primary issues (claims created by non-financial sectors)}}{\text{Net physical capital formation}}$$

$$\text{Intermediation ratio} = \frac{\text{Issues of financial institutions}}{\text{Total financial issues in the economy}}$$

In terms of these ratios, India has steadily developed in the last six decades.

Impact of Technology

While modern banking and finance still deal with the same functions that have been around thousands of years, what has changed is technology and, in response, the institutional structure.

Technological progress has (a) enriched the world so that more wealth has to be managed, creating economies of scale, (b) lowered the cost of communication which in turn has transformed local markets into national markets and, recently, into global markets, (c) reduced transaction costs, triggering massive increases in the volume of trading, and (d) reduced the costs of computing and tracking positions, leading to much greater sophistication in financial products.

SUMMARY

- The **financial system** provides the principal means by which savings are transformed into investments.
- The financial system provides a **payment mechanism**, enables the **pooling of funds**, facilitates the **management of uncertainty**, generates information for **decentralised decision making**, and helps in dealing with **informational asymmetry**.
- **Financial assets** such as bonds and stocks represent claims against the future income and wealth of others. **Financial liabilities** are the counterparts of financial assets.
- A **financial market** is a market for the creation and exchange of financial securities. Financial markets facilitate price discovery, provide liquidity, and reduce the cost of transacting.
- The **interest rate** on a loan or fixed income security depends on factors like the unit of account, maturity, and default risk.
- The **real interest rate** is the **nominal interest rate** adjusted for the inflation factor.
- The key determinants of the rates of return in a market economy are: expected productivity of capital, degree of uncertainty characterising the productivity of capital, time preferences of people, and degree of risk aversion.
- **Financial intermediaries** are firms that provide services and products that customers may not be able to get efficiently by themselves in financial markets.
- Financial intermediaries seem to offer several advantages: diversification, lower transaction cost, economies of scale, confidentiality, and signaling benefits.
- The Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI) are the major regulators of the financial system.

QUESTIONS

1. Discuss the functions performed by the financial system.

2. Give some examples of financial assets.
3. Discuss the important functions performed by financial markets.
4. What are the different ways of classifying financial markets?
5. Define the relationship between real rate, nominal rate, and inflation rate.
6. Discuss the factors that determine the rates of return in a market economy.
7. What is the rationale of financial intermediaries?
8. Describe briefly various financial intermediaries in India.
9. What functions are performed by the Reserve Bank of India?
10. What are the principal tasks of the Securities and Exchange Board of India?
11. What have been the key developments and reforms of the Indian financial sector since 1950s.

PROBLEMS

2.1 Nominal and Real Rates As a rule of thumb, real rates of interest are calculated by subtracting the inflation rate from the nominal rate. What is the error from using this rule of thumb for calculating real rates of return in the following cases.

Nominal rate (%)	5	10	20	60
Inflation rate (%)	2	4	10	40

[1] This section is based on Chapter 1 of the book *Cases in Financial Engineering* by Robert Merton *et. al.*, published by the Harvard Business School Press in 1994.

Online Resources

http://highered.mheducation.com/sites/9353166527/student_view0/chapter2/index.html

- Additional Solved Problems