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SCHOOL OF MANAGEMENT STUDIES

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Financial Management

PAPER: FM 202

MBA (DISTANCE EDUCATION) Part-I

FINANCIAL MANAGEMENT

Lesson No. 1

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FINANCIAL MANAGEMENT: CONCEPT, OBJECTIVE, SCOPE, IMPORTANCE AND IT'S RELATIONSHIP WITH OTHER AREAS

1.0 OBJECTIVES

After studying this lesson, students would be able to

- Understand the concept of financial management.
- Various goals and functions of financial management.

1.1 INTRODUCTION

This Chapter is an introductory one and aims at explaining the student the concept of the financial management or finance function along with its scope, objectives, functions, importance and relationship with other areas. The overall understanding of business finance is based on these lessons.

Finance management is that managerial activity which is concerned with the planning and controlling of the firm's financial resources. As a separate activity or discipline. It is of recent origin; it was a branch of economics till 1890. Financial management, as an academic discipline, has-undergone fundamental changes as regards its scope and coverage. In the early years of its evolution, it was considered synonymously with the raising of funds. But in the current Literature, in addition to procurement of funds, efficient use of resources and proper management of earnings are universally recognized. In other words, finance function or financial management can be defined as a managerial function of taking investment; financing and dividend policy decisions.

1.2 SCOPE OF FINANCIAL MANAGEMENT

For proper understanding of the scope of financial management; there are two approaches:

(i) Traditional Approach, and

(ii) Modern Approach

Traditional Approach

The traditional approach to the scope of financial management refers to its subject matter in the initial stages of its evolution as a separate branch of academic study. The term Corporation Finance was used to describe what is known in the academic world as Financial

Management. The concern of corporation financing was in the finance corporate enterprises. Thus, the scope of finance function was treated by the traditional approach in the narrow sense of procurement of funds by corporate enterprises to meet their financial requirements. The term procurement was used to include three interrelated aspects of raising and administering resources from outside (i) financial institution which comprises the capital market; (ii) financial instruments through which funds are raised from the capital markets and the related aspects of practices and procedures of capital markets; and (iii) the legal and accounting relationship between a firm and its resources of funds. A related aspect was that firms require funds at certain episodic events, such as merger, reorganization, etc. A detailed description of these major events constituted the second element of the scope of financial management. The problem was how resources could best be raised from the combination available sources.

The traditional approach to the scope of finance function evolved during the 1920s and 1930s dominated the academic thinking during the forties and through the early fifties. It has now been discarded as it suffers from serious limitations.

(1) Since the finance function was equated with issues involved in raising, and administering funds, it emphasized the view point of suppliers of funds such as investors. Investment bankers etc. No consideration was given to the viewpoint of those who take internal financial decisions. Thus, the traditional approach was outsider looking.

(2) The focus of traditional approach was on financing problems of corporate enterprises. As a result, the scope of finance function was narrowed because non-corporate organizations fell outside its scope.

(3) Under the traditional approach the treatment was built around episodic events such as promotion incorporation merger, consolidation,re-organization etc. The day-to-day financial problems of a normal company did not receive any expansion and diversification attention.

(4) Under the traditional; treatment, the focus was on long-term financing. Issues involved in working capital management were not considered to lie in the purview of finance function.

Thus, financial management was confined to issues involved in procurement of external funds and it did not consider the important dimension of allocation of capital. The traditional approach failed to answer to the following questions.

Should an enterprise commit funds to certain purposes?

Do the expected returns meet the financial standards performance?

What is the cost of capital?

How does the cost of capital vary with the financing mix?

Modern Approach

The modern approach sees to the term financial management in abroad sense and provides a conceptual and analytical view for financial decision-making. According to this approach, financial function encompasses both procurement of funds and their efficient and wise allocation of various uses. It is considered an integral part of overall management.

1. What is the total volume of funds an enterprise should commit?
2. Which new proposals or specific assets for employing capital should be accepted by the firm?
3. How should the funds required be financed and how much will this cost?

4. What should be composition of its assets and liabilities?
5. What steps can be taken to increase the value of the firm's common stock?
6. How much working capital will be needed to support the company's operations?
7. Should the firm declare a cash dividend on its common stock and if so, how large a dividend should be declared?

Today's financial manager deals with a variety of different projects and activities and with the measurement of the results of each allocation. In other words, financial management, according to new approach, is concerned with the solution of these major problems relating to the financial operation of firms, namely, investment, financial and dividend decisions.

The evaluation of finances is a major factor contributing to importance of financial management. Finance has changed from primarily descriptive study to one that encompasses rigorous analysis and normative theory, form a field that was concerned primarily with the procurement of funds to one that includes the management of assets, the allocation of capital, and the evaluation of the firm in the overall market, and form a field that emphasized external analysis of the firm to one that stresses decision-making within the firm. Finance today is best characterized as over changing with new ideas and techniques. The role of the financial manager is considerably differentfrom what it was 20 years ago and from what it will no doubt be in another 20 years.

1.3 FIELDS OF FINANCE

There are generally fiverecognized areas of finance:

1. Public Finance: It is specialized field of finance that deals with finance which further deals with government financial matters. Governments do not conduct their activities to achieve the same goals as private organizations. Businesses' try to make profits, whereas a government attempts to accomplish social or economic objectives.

2. Securities and Investments Analysis: The field of investment analysis deals with purchase of stocks, bonds and other securities and attempts to develop techniques to help the investors measure the risk involved in each investment and forecast probable in the market with a view to increasing the likely return with minimum risk from the purchase of selected securities.

3. International Finance: The study of flows of funds between individuals and organizations across national borders and the development of methods of handling the flows more efficiently lie within the scope of international finance.

4. Institutional Finance: Institutional finance deals with issues of capital information and the organization that perform the financing functions of the economy. A nation's structure contains a number of financial institutions, such as banks, insurance companies, pension funds, etc. These institutions gather money from individual savers and efficient investments. Without these institutions, funds would not be readily available to finance business transaction and purchase commercial facilities.

5. Financial Management: Financial Management is the field of greatest concern to the corporate financial officers; Individual businesses face problems dealing with the acquisition of funds to carry on their activities and with the determination of optimum methods of employing the funds. The businesses must actively manage their funds to achieve their goals. Many tools and techniques have been developed to assist financial managers to determine which sources offer the lowest cost of funds and which activities will provide the greatest return on invested capital.

- **Self- Check Questions**

a) _____ is concerned with the planning and controlling of the firm's financial resources.

b) _____ deals with issues of capital information andperforms the financing functions of the economy.

c) The field of _____ deals with purchase of stocks, bonds and other securities

d) _____ approach provides a conceptual and analytical view for financial decision-making.

1.4 FINANCE FUNCTIONS

Finance Functions are of two types:

1. Managerial Functions; and
2. Routine Functions

Managerial finance function is so-called because they require skillful planning, control and execution of financial activities. Routine finance functions, on the other hand do not require a great deal of managerial ability to carry them out. They are chiefly clerical in nature and are incidental to effective handling of the managerial finance functions.

There are four important managerial finance functions;

1. Investment Decision
2. Finance Decision
3. Dividend Policy or Profit Allocation Decision
4. Liquidity or short-term asset-mix Decision.

While performing finance functions, the financial manager should strive to maximize the market value of shares.

Investment Decision

The investment decision relation to the selection of assets in which funds will be invested by the firm. The assets which can be acquired fall into two broad groups (i) Long-term assets which yield return over a period 'of time in future, and (ii) short term of current assets defined as these assets which is normal course of business are convertible into cash usually within a year. Current assets-mix decision will be, separately covered in the fourth point. The decision as to investment of funds in long-term assets is known as capital budgeting. It is the most crucial financial decision of the firm. It relates to the firm. It relates to the selection of an assets or course of action whose benefits are likely to be available in future over the life time of the project. Future benefits are difficult to measure and cannot be predicted with certainty. Due to this uncertainty, capital budgeting decision involves risk, investment proposals, therefore, be evaluated in terms of both expected return and risk. Besides the decisions to commit funds in new investment proposals, capital budgeting also involves the question recommitting funds when an old asset becomes less productive or non-profitable.

Other major aspects of capital budgetingrelates to-the selection of a standard or hurdle rate against which the expected return can be assessed.

Financial Decision

Financial Decision is the second important function to be performed by the finance manager. Broadly he must decide when, where and how to require funds to meet the firm's investment needs. He is to decide the proportion of equity and debt. This mix of debt and equity is called capital structure. The financial manager must strive to obtain the best financing mix or optimum capital structure. The firm's capital structure is optimum when the market value of its share is maximized. -The use of debt affects the return and risk. When the shareholder's return is maximized with minimum risk, the market value per share will be maximized and the firm's capital structure would be optimum. Once the financial manager is able to determine the best combination of debt and equity, he must raise the appropriated amount through best available sources.

Dividend Policy Decision

Dividend decision is the third financial decision. The finance manager must decide whether the firm should distribute all profits or retain them or distribute a portion and return the balance. Dividend Policy should be determined in term of its impact on share holders

value. The optimum dividend policy is one which maximized the market value of the firm's shares. Thus, if shareholders are not indifferent of the firm's dividend policy, the financial manager must determine the optimum dividend payment ratio. The dividend payment ratio is equal to the percentage of dividend distributed to earnings, available to shareholders. The value if any, of a 'dividend to investors must be balanced against the opportunity cost of the retained earnings lost as a mean of equity financing. The financial manager should also consider the question of dividend stability, bonus shares and case dividend.

Liquidity Decision

The aspects of financial decision-making references to current assets are known as working capital management. Investment in current assets affects firm's profitability liquidity and risk. A exist between profitability and liquidity. If a firm does not have adequate working capital, it may become illiquid and consequently may be unable to meet its current obligation and thus, invite the risk of bankruptcy. If the current assets are too large, the profitability is adversely affected. Therefore, a trade-off between profitability and liquidity is one major dimension of working capital management, capital management, besides this, individual current assets would be efficiently managed so that neither inadequate nor unnecessary funds are locked up.

For the effective execution of the managerial finance function routine functions have to be performed. These decisions concern procedures and systems and involve a lot of paper work-and time. Some of the important routine finance functions are:

1. Supervision of cash receipts and payments and safeguarding of cash balances
2. Custody and safeguarding of securities, Insurance policies and other valuable papers.
3. Taking care of the mechanical details of new outside financing.
4. Record keeping and reporting

The finance manager in the modern enterprises is mainly involved in the managerial finance functions, the routine finance functions are carried out by the people at lower levels. His involvement in the routine functions is to the extent of setting up rules of procedure, selecting 'forms to be used establishing standards for the employment of competent personal and to check up the performance to see that the rules are observed and forms properly used.

1.5 OBJECTIVE OF FINANCIAL MANAGEMENT:

Firm's financial decisions are continuous. In order to make them rationally, the firm must have an objective or goal. The objective provides a framework for optimum financial decision-making. Objective goal is used in the sense of decision criterion of the decision involved in financial management. It is a base for analysis. The objective of the firms is to create value for its shareholder. Value is represented by the market price of the company's common stock, which in turn, is reflection of the firm's investment, financing and dividend decisions. The idea is to acquire assets whose accepted return exceeds their cost, to finance with those instruments where there is particular advantage tax or otherwise, and to undertake meaningful dividend policy for shareholders.

Profit Maximization

The first frequency state decision criterion for financial management is the profit maximization objective or goal. According to this objective, actions that increase profit should be undertaken and that decrease that the investment, financing and dividend policy decision of a firm should be maximization of profits, the term profits is used in two senses. In the first sense, profit means total profits, i.e., the amount paid to the owners of business. In the second

sense, it means profitability. Profitability is a situation where output exceeds input. Today it is used in the second sense.

The rationale behind profitability maximization is that first profit is a test of economic efficiency. It leads to efficient allocation of resources. It ensures maximum social welfare. It is a yardstick for measuring performance.

However, the profit maximation criterion has been criticized on several counts. It is argued that profit maximation, as business was self-financing characterized by private property and single entrepreneurship. The only aim of single owner was to enhance is individual wealth and personal power, which could be easily done by profit maximization objectives. The modern business is characterized by limited liability and `divorce between management and ownership. There are other interested parties connected with the business such as customers employees, government and society. Thus, in this new environment, profit maximization is regarded as unrealistic, difficult, inappropriate and immoral.

It is also feared that profit maximization objective in a market economy may tend to produce goals and services that are wasteful and unnecessary from society's point of view. It might lead to inequality of income and wealth. Thus, the profit maximizationbehavior is doubtful to lead to the optimum social welfare.

Apart from the aforesaid objections, profit maximization fails to serve as an operational criterion for maximizing the owner's economic welfare. It fails to provide an operationally feasible measure for ranking alternative courses of action in term of their economic efficiency. It suffers from the following limitations.

1. It is Vague

Profit is a vague and ambiguous concept it has no precise connection. It is akin to different interpretations by different people. Profit may be short-term or long term, it may be total profit or rate of profit, it may be before-tax or after-tax, it may be return on total capital employed or total assets or shareholders equity and so on, Question arises, which of these variants of profit should a firm try to maximize? If we adopt maximizing earnings per share as financial objectives of firms, it will not ensure the maximizing of owners, since it ignores timing and risk of expect benefits.

2. It ignores Time value of Money

Because money received today has a higher value than money received next year, a profit seeking organization must consider the timing of cash flows and profits. The profits maximization criterion ignores the timing of benefits, Consider Table 1: Profit

	Alternative 'A' (Rs.)	**Alternative 'B' (Rs.)**
Period I	15000	
Period II	30000	30000
Period III	15000	30000
Total	60000	60000

As per profit maximization objective, both the alternatives are equally profitable. However, alternative 'A' provides higher returns in earlier years the returns from alternative *B' are larger in later years. Hence, the two alternatives are not identical. The profits received earlier from alternative 'A' could be reinvested to earn return, and hence it is more profitable than alternative 'B'. Thus, profits maximization criterion ignores time value of money.

- **Self-Check Questions:**

a) Which objective of financial management ignores the time value of money?

b) Which objective of financial management considers the time value of money?

c) Which decision is related to the selection of assets in which funds will be invested by the firm?

d) Which decision should be taken by a firm in case of inadequate working capital?

3. It ignores Risk

More certain the expected return, the higher the quality of benefits. An uncertain and fluctuating return implies risk to the investors. But investors are risk averters. They have preference for return which is more certain than the higher return with uncertainty.

Wealth Maximization

This is also known as value maximization or net present worth maximization. It is universally recognized decision criterion as it satisfies all the three requirements, namely, exactness, timing of benefits and risk. Wealth maximization criterion is based on the concept of cash flows generated by the decision rather than accounting profit which is the basis for measurement of benefits in the case of profit maximization criterion. Cash flow is a precise concept in contract to accounting profit, which is vague. This criterion considers both quantity and risk of benefits. It also considers the time value of money as already said, wealth maximization means maximizing the net of its benefits and the present value of its costs. The term 'value' here means the worth to the ordinary shareholders. A financial action which has a positive net present value creates wealth and, hence, is desirable. A financial action resulting in negative net present, value should be rejected. Among a number of desirable mutually exclusive projects, the one with the highest net present value should be adopted.

$$W = \frac{A1}{(1+K)} + \frac{A2}{(1+K)^2} + \ldots\ldots\ldots\ldots \frac{An}{(1+K)^0} - Co$$

$$= \sum_{t=1}^{n} \frac{At}{(1+K)^t} - Co$$

Where Al, A2 represent the stream of benefits expected to occur if a course of action is adopted. Co is the cost of that action and K is the appropriate discount rate reflecting both timing and risk of benefits. *W' is the net present worth or wealth which is the difference between the present worth of the stream of benefits and the initial cost of investment. The firm should adopt a course of action only when 'W' is positive.

Because of the three characteristics mentioned above, wealth maximization is superior to the profit maximization as an operational objective.

1.6 RELATIONSHIP OF FINANCE WITH OTHER AREAS

Finance or financial management is an applied field of business administration. Principles developed by financial managers or borrowed from accounting, economic or other fields are applied to the problems of managing money. Finance has its own theories and principles, but is fundamentally concerned with application. Therefore, finance has its relationship with accounting, economics, human resources management statistics, etc.

There exists an inseparable relationship the finance functions on the one hand and production, marketing and other functions on the other. Almost all kinds of business activities involve the receipt and use of money. Recruitment and promotion of employees, is the responsibility of the production department; but it requires payment of wages salaries and other benefits, and thus, involves finance. Similarly, buying a new machine or replacing an old one affects the flow of funds. Advertising and sales promotion activities outlay of cash and affect financial resources.

The primary function of accounting is to gather and present financial data. The accounting system makes available substantial data relating to business transactions for financial decision-making. If the information presented by the accounting process is not accurate, financial decisions will go wrong. Accounting records different aspects of financial decisions. With the help of accounting information financial manager can evaluate the implications of financial decisions.

Finance had its relationship with economics also. The field finance rests heavily on the work of economists and uses many economics tools. It begins with the theories and assumptions developed in macroeconomics and attempt to apply them in order to explain the working of a modem business firm. It borrows forecasting and other models from macroeconomics and tests them against current situations to predict the results of various courses of action considered by the firm. Financial analysis forecast for the individual firms, economists forecast for the industry and the overall level of economic activity.

Human resource management studies the aspects of investing money in human beings, financial executive has to see whether a special training programme for employees is practicable or not.

To solve financial problems, quantitative methods are used. Therefore, for taking reliable financial decisions the knowledge of quantitative technique is must. Management of cash and inventory, forecasting financial requirements, decisions regarding credit policy, impact of various factors on debt-equity mix, behavior of related earnings determinants of P/E (Price-earnings ratio) and so on require the use of quantitative techniques.

Finance is related with law also;financial decisions of firm should be in conformity with various legal provisions.

1.7 IMPORTANCE OF FINANCIAL MANAGEMENT

1. It is a significant part of business management.
2. The liquidity and profitability of business depends on financial management.
3. Financial management can influence the value of the firm through its decisions.
4. Financial management is an integral part of top management and thereby plays an active role in the determination of financial objectives, policy making, financial planning, financial control and coordination.
5. The knowledge of financial management helps the investors purchase or not purchase the shares of a particular company.

- **Keywords:** *Financial management, Financing decision, Investment decision, Dividend policy decision*

1.8 SELF CHECK EXCERCISE

- **Long Question Answers:**

1. What are the major types of financial management decision that business firms make? Describe each.
2. "The wealth maximization objective provides an operationally appropriate decision criterion."Comment.
3. "Financial management has changed substantially in scope and complexity in recent decades." Explain and show the relationship of finance with other areas.
4. What is finance function? Discuss its objectives.

- **Short Question Answers:**

1. Describe the importance of financial management.
2. Explain any two objectives of Financial Management.
3. Distinguish between profit maximization and wealth maximization approach.
4. Write a short note on dividend policy decision.

1.9 SUGGESTED READINGS

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1.10 SELF-CHECK QUESTIONS (ANSWER KEY):

1.3 a) Financial management**b)**Institutional finance **c)** Investment analysis d**)** Modern approach

1.6 a) Profit maximization b**)** Wealth maximization**c)** Investment decision **d)** Liquidity decision

MBA (DISTANCE EDUCATION) Part-I

Lesson No. 2

PAPER: FM 202
FINANCIAL MANAGEMENT

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FINANCIAL SYSTEM: ASSETS, MARKETS, INTERMEDIARIES AND REGULATORY FRAMEWORK

2.0 OBJECTIVES

After studying this lesson, students would be able to answer:

- The elements of Financial System
- Regulatory framework of the country

2.1 INTRODUCTION

The economic development of any country depends upon the existence of a well-organized financial system. It is the financial system which supplies the necessary financial inputs for the production of goods and services which in turn promote the well-being and standard of living of the people of a country.

2.2 FINANCIAL SYSTEM

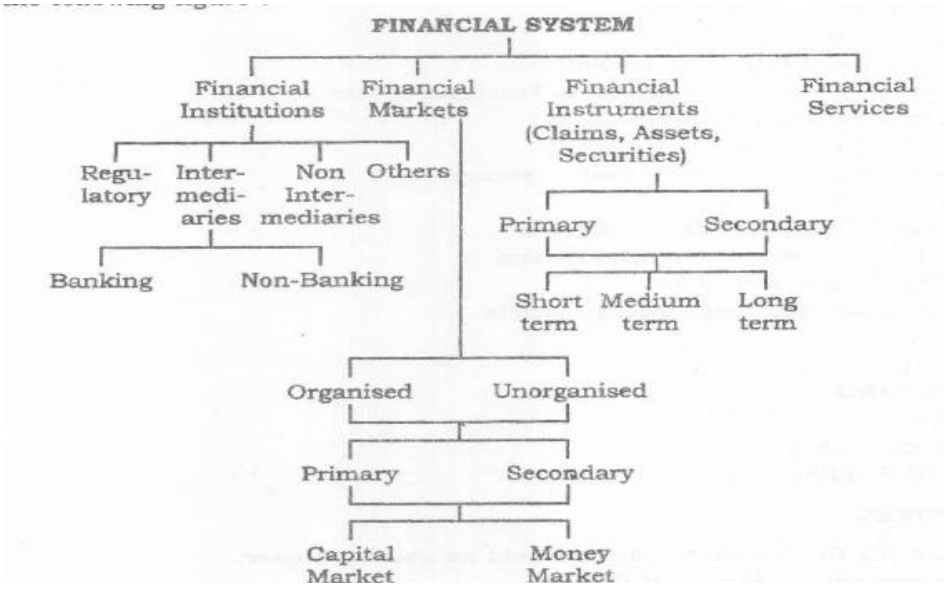
The financial system of any country consists of (a) specialized and non- specialized financial institutions (b) organized and unorganized financial markets and (c) financial instruments and services which facilitate transfer of funds. The procedures and practices adopted and financial interrelationships are also part of the system. However, the parts of the financial system cannot be considered as mutually exclusive. In fact, the institutions, agents, practices, markets, transactions, claims and liabilities in the economy are all closely

connected or intermixed.

A financial system should be carefully distinguished from payments system. The payments system is concerned with payments in cash. But the financial system is a much broader term in the sense that it covers both cash and credit transactions. It is through this system that the financial surpluses in the economy are mobilized from surplus units and transferred to deficit spenders.

2.3 STRUCTURE OF FINANCIAL SYSTEM:

The typical structure of financial system in an economy can be understood with the help of the following figure:



2.4 ROLE/FUNCTIONS OF FINANCIAL SYSTEM

A financial system performs the following functions:

1. It serves as a link between savers and investors. It helps in utilizing the mobilized savings of the scattered savers in more efficient and effective manner.
2. It assists in the selection of the projects to be financed and also reviews the performance of such projects periodically.
3. It provides a payment mechanism for the exchange of goods and services.
4. It provides a mechanism for the transfer of resources across geographic boundaries.
5. It provides a mechanism for managing and controlling the risk involved in mobilizing savings and allocating credit.
6. It promotes the process of capital formation by bringing together the supply of savings and the demand for investible funds.
7. It helps in lowering the cost of transactions and increase returns.

2.5 COMPONENTS /CONSTITUENTS OF INDIAN FINANCIAL SYSTEM

The following are the four major components that comprise the Indian Financial System:

1. Financial Institutions
2. Financial Markets
3. Financial Instruments/Assets/Securities
4. Financial Services.

The structure of each component is detailed in Chart 1 and the role and significance of each component is discussed below:

2.5.1 Financial Institutions

Financial Institutions are the intermediaries who facilitate smooth functioning of the financial system by making investors and borrowers meet. They are business organizations which act as mobilizers and depositories of savings and as purveyors of credit or finance. The activities of different financial institutions may overlap, or these may be specialized, and their classification is normally done on the basis of the degree of their specialization with relation to savers and borrowers with whom they customarily deal with. In this spirit, one classification of financial institutions is into banking and non-banking ones. The important difference between these two types of financial institutions is, that while banks can advance credit by creating claims against themselves, the non-banking institutions can lend only out of resources at their disposed. The distinction between these two types has perhaps best been highlighted by Sayers, who refers to banks as 'creators of credit", and to non-bank institutions as "purveyors of credit

Banking institutions include Central Bank, Commercial Bank, Cooperative Banks, and Regional Rural Banks.

Central bank, the apex institutions act as the monetary authority of the country and serves as the government bank as well as the banker's bank. It undertakes major financial operations of the government; by its conduct of these operations and by other means, it influences the behavior of financial institutions to ensure that they support the economic policy of the government. Central bank is controlled by the people who are more or less closely connected with the organs of the government and its does not exist to secure maximum profit. Central Bank must have a special relation with the commercial banks whereby it may influence the operations of these institutions in the implementation of the government's economic policy. The major functions of Central bank include assuring of currency notes, acting as agent and advisor to the state, Banker's and lender of last resort.

Commercial banks are concerned with accepting deposits of money from the public at large, repayable on demand or otherwise and withdraw able by cheques, draft or otherwise, and employing the deposits so pooled in the form of loans and investment to meet the financial needs of business and other classes of Society. So commercial banks act as mobilisers of public savings for their productive utilization. As depository of savings, commercial banks provide to their customers a range of financial investment to choose from Current deposits repayable on demand and savings deposits for various firms, apart from a variety of deposits tailored to the individual deposits needs. Another function which commercial banks perform is the employment of funds in different sectors of the economy. Commercial bank utilizes their funds by way of granting loans and advance investing them in

industrial securities and by underwritings industrial issues.

Co-operative banks basically set up in villages to promote thrift and savings of the farmers and to meet their credit needs for cultivation. The funds of central bank meant for the agriculture sector actually pass thought the state cooperative banks and central cooperative banks.

The Regional Rural Banks came into existence with the specific objective of providing credit and deposit facilities particularly to the small and marginal farmers, agriculture laborers and artisans and small entrepreneurs. The Regional Rural banks have the responsibility to develop agriculture, trade, commerce and industry in the rural areas. The RRBs are essentially commercial banks but their area of operation is limited to a district.

Other financial institutions like development banks, engaged in the promotion, development of industry, agriculture and other key sectors. These banks differ from commercial banks in the sense that they do not mobilize savings of the people but invest the resources in the productive manner. Additionally, these banks provide all the development services, so as to accelerate to growth of the economy.

The non-banking financial institutions are the Life Insurance Corporation (LIC), Unit Trust of India (UTI), and Industrial Development Bank of India (IDBI) etc.

Another way of classifying financial institutions is to term these as intermediary and non-intermediary institutions. Intermediary institutions intermediate between savers and investors, i.e., they lend money as well as mobilize savings. Their liabilities are towards the ultimate savers, while their assets are from the investors or borrowers. On the other hand, non-intermediary institutions lend money, but do not obtain their resources directly from the savers. All banking institutions are intermediaries. Many non-banking institutions also act as intermediaries and hence are called non-banking financial intermediaries or NBFIs.The UTI, LIC, GIC are some NBFIs in India. Non- Intermediary institutions are those that have come into existence mainly because of governmental efforts to provide assistance for specific purposes. Examples of such institutions are IDBI, NABARD, IFCI etc. These are also called Non-Banking Statutory Financial Organisations (NBSFO) because these have been set up by the government.

However, the classification of financial institutions as intermediary and non-intermediary is no longer watertight, as most financial institutions which were earlier classified as non-intermediary have started mobilizing savings, and are thus taking on the role of intermediaries between savers and borrowers.

2.5.2 Financial Markets

The next part of financial system consists of financial markets. Financial markets facilitate the buying and selling of financial claims and services. The participants on the demand and supply side of these markets are financial institutions, agents, brokers, dealers, borrowers, lenders, savers and others who are interlinked by the law, contracts and communication networks.

There are several ways of classifying the financial markets. These can be classified as organized and unorganized. The unorganized market is largely made up of indigenous bankers and money-lenders. The market is unorganized because its activities are not coordinated by the RBI. The organized market comprises the RBI and banks.

Financial markets are also classified as primary and secondary markets. The primary market deals in new financial claims of new securities and is thus, also called new issue market.

The secondary market deals in securities already issued or existing.

However, the most common way of classifying financial markets is on the basis of term of credit, i.e. money markets and capital markets.

Money Markets: Money market is that segment of financial market which refers to all transactions in near money such as short-term claim on financial intermediaries or consumers corporate sector. It may be defined as the Centre for dealing in monetary assets. It meets the short surplus funds at the disposal of financial and other institutions and individuals are bid by borrowers, again comprising institutions and individuals and also by the government. Money market may have different submarkets each one of which deals in different types of short-term credit.

So, sub markets of money markets of money markets may include

(i) Call money market: Call money market is a segment of money market which deals in extremely short period loans maximum up to a fortnight. The lending banks can call them up at the shortest possible notice. Here demand may come from bill brokers and dealers in stock exchange who require credit for short period to finance their clients for commission or their own holding to securities.

(ii) Discount market: Discount market deals in short term dated papers or bills of exchange. Purchase and discounting of commercial bills is a way by which banks provide funds for working capital required by commerce and trade industry. The financial instrument trade in the bills market is the bill of exchange. It is a written instrument containing an unconditional order, signed by the maker, directing to pay a certain amount of money only to a particular person or to the bearer of the instrument.

(iii) Treasury bill market: Treasury bill market deals in short-term borrowing by the government. Treasury bill is issued by government against which government promises to pay a specified sum after a specific period. Central bank of a country normally sells it on behalf of the government.

(iv) Commercial paper market: Commercial paper market deals in commercial paper a new concept in money market. It is a promissory note issued for a short-term fixed maturity by loading credit worthy rated corporate bodies. It is issued in a bearer form on discount to face value basis.

(v) Certificate of deposits market: Certificate of deposits market deals in certificate of deposits which are scheduled bank deposits account and are negotiable short-term instrument. CDs are normally issued at face value on which fixed rates of interest are paid and they are traded on yield equivalent basis.

Capital Market: Capital market is the market for long term finances in contrast to money market which deals in securities representing short term financing. It provides a medium through which investor hand over money today in exchange for promise of money far in the future. The exchange of money is represented by securities. These securities can be either of private sector or of government sector or its agencies. The segment of capital market where government securities are traded is known as gilt edged market. These securities include those of central and state government, semi government bodies, local bodies and those guaranteed by the government. Due to the peculiarity of government guarantee these securities are known as gilt edged securities these securities can. be for a very long tenure say 20 to 30 years. One the other hand securities of private sector represent securities issued

by corporate or industrial sector commonly known as share market. These securities may either represent ownership or debt. The debt portion unlike gilt edged securities is for medium period normally not exceeding 10 years but can be secured of unsecured.

Gilt edged securities as well as industrial securities both are concerned with raising of funds for investment purpose but their traits are different. Gilt edged market is more stable and less speculative as there is no uncertainty as yield or return whereas industrial security market is volatile and speculative. In India terms of size, gilt edged market is much bigger than the industrial security market since there is dominance of public sector in this economy.

Capital market can further be divided into Primary Capital market and Secondary market. Primary market refers to new issue market. In its new securities are issued. New securities may be issued by both the existing organization or newly set up ventures. It also covers raising of fresh capital by government or its agencies. Primary market is the real saving mobiles since its facilities transfer funds of those who have surplus sources and want to invest in the new opportunities.

Secondary market on the other hand is the market for old and already issued securities. Stock market is the popular name of the secondary market. The stock market also popular as stock exchange has a peculiar association with primary market change in stock market influences primary market. Rise in price of established new securities resulting from stock boom, history shows, has created upsurge in new issue activity. The stock market is first to react to changes in economic and business conditions but the effect is transmitted without delay, to the primary market. Response to primary market issue is also dependence upon condition prevailing in stock market.

2.5.3 Financial Instruments/Assets/Securities

Another important constituent of financial system is financial assets/instruments. They represent a claim against the future income and wealth of others. In other words, a financial instrument is a claim, against a person or an institution, for payment of a sum of money and /or periodic payment in the form of interest or dividend, at a specified future date. To suit their requirements, different types of securities are issued by the companies and financial institutions.

Financial securities may be classified under broad categories:

Primary securities: These are also termed as 'direct securities' as these are issued directly by the ultimate borrowers of funds to the ultimate savers or investors. Primary securities include equity shares, preference share and debentures.

Secondary securities: These securities are also termed as 'indirect securities' as these are not issued directly by the ultimate borrowers, rather, these are issued by financial intermediaries to ultimate savers. Insurance policies, units of the mutual funds, bank deposits etc. are the examples of secondary securities.

Financial instruments perform a significant role in transferring funds from lenders to borrowers through financial markets and financial intermediaries. Each instrument differs from each other in terms of its marketability, risk, return, liquidity and transaction costs.

2.5.4 Financial Services

Last element of financial system consists of "Financial Services". The financial service can also be called financial intermediation. Financial intermediation is process by which, funds are mobilized from a large number of savers and make them available to all those who

are in need of its ad particularly to corporate customers. Thus, financial service sector is a key area and it is very vital for industrial developments. Some of the important financial services are discussed below:

1. Merchant Banking

A merchant banker is a financial intermediary who helps to transfer capital from those who possess it to those who need it. Merchant banking includes a wide range of activities such as management of consumers securities, portfolio management, Project counseling and appraisal, underwriting of shares and debentures, loan syndication, acting as banker sends a host of services to corporate and thus promotes industrial development in the country.

2. Leasing

A lease is an agreement under which a company or a firm, acquires a right to make use of an assets like machinery, on payment of a prescribed fee called "rental charges". Party who provides the asset is called lesser and firm, who takes the asset called Lessee. Lessee cannot acquire any ownership to the assets, but he can use it and have full control over it. He is expected to pay for all maintenance charges and repairing and operating cost.

3. Mutual Funds

A mutual fund refers to fund raised by financial service company by pooling the savings of the public. It is invested in a diversified portfolio with a view to spreading and minimizing risk. The fund provides investment revenues for small investors who cannot participate in the equities of big companies. It ensures low 'risks, steady returns, high liquidity and better capital appreciation in the long run.

4. Factoring

Factoring reefers to the process of managing the sales ledger of a client by a financial service company. In other words, it is an arrangement under which a financial intermediary assumes the credit risk in the collection of book debts for its clients. The entire responsibility of collecting the book debts passes on to the factor. His service can be compared to deal agent who undertakes to collect debts. But a factor provides credit information, collects debts, monitors the sales ledger and provides finance against debts. Thus, he provides a number of services apart from financing.

5. Forfaiting

Forfaiting is a technique by which a forfeiter discounts an export bill and pays ready cash to the exporter who can concentrate on the export front without bothering about collecting of export bills. The forfeiter does so without any recourse to the exporter and the exporters is protected against the risk of non-payment of debts by the importers.

6. Venture capital

A venture capital is another method of financing in the form of equity participation. A venture capitalist finances a project based on the potentialities of a new innovative project. It is in contrast to the "security base financing". Most thrust is given to new ideals or technological innovations. Finance is being provided not only for "Start by Capital" but also for "development capital" by the financial intermediary.

7. Custodial Services

Under this service, a financial intermediary mainly provides services to clients particularly to foreign investors, for a prescribed fee. Custodial service provides agency service like safe keeping of shares and debentures, collection of interest and dividend and reporting of matters on corporate developments and corporate, securities to foreign investors.

Self- Check Questions (One-word questions):

a) What is the main objective of Regional Rural Banks?

b) Give any two examples of financial services.

c) What are the different types of financial markets?

d) Under which agreement afirm acquires a right to make use of assets like machinery, on payment of a prescribed fee.

2.6 Weaknesses of Indian Financial System

After the introduction of planning, rapid industrialization has taken place. It has in turn led to the growth of the corporate sector and the Government sector. Yet, it suffers from one weakness as following:

(i) Lack of Coordination Between Different Financial Institutions

There are numerous financial intermediaries. Most of the vital financial institutions are owned by the Government, Moreover, the Government is also the controlling authority of these institutions. In that situation the problem of coordination arises.

(ii) Monopolistic Market Structures

In India, some financial institutions are so large that they have created a monopolistic market structure in the financial system. The weakness of this large structure is that it could leads to inefficiency in their working or mismanagement or lack of effort in mobilizing savings of the public and retard the development of the financial system of the country itself.

(iii) Inactive and Erratic Capital Market

The important function of any capital market is to promote economic development through mobilisation of savings and their distribution to productive ventures. As far as industrial finance ii India its concerned, corporate customers are able to raise their financial resources through development banks. So, they need not go to the capital market. Moreover, they don't resort to capital market since it is erratic and inactive.

(iv) Dominance of Development Banks in Industrial Financing

The development banks constitute the foundation of the Indian financial system occupying an important place is the capital market. These development banks act as distributive agencies only, since they derive most of their funds from their sponsors. As such, they fail to mobilized the savings of the public. This can be a serious bottleneck in the efficient financial system in the country.

(v) Imprudent Financial Practices

The dominance of development banks has developed imprudent financial practice among corporate customers. The development banks provide most of the funds in the form of term loans. So, there is a preponderance of debt in the financial structure of corporate enterprises. To make matters worse, when corporate enterprises face any financial crisis, these financial institutions permit a greater use of debt than is warranted.

2.7 REGULATORY FRAMEWORK

The Indian financial system has been well supported by suitable legislative measures taken by the government then and there for its proper growth and smooth functioning. For the proper functioning, the government has taken the responsibility for regulating the financial system. Though there many enactments, some of them are very important. Among all RBI and SEBI are the two major regulatory bodies of India and others are NABARD, IDBI, SIDBI, UTI etc. The following are-

2.7.1 Reserve Bank of India (RBI)

RBI also known as Central bank, the apex institutions act as the monetary authority of the country and serves as the government bank as well as the banker's bank. As an apex bank, it acts as a guide, regulator, controller and promoter of the financial system. RBI was established in 1935, under the reserve bank of India act, 1934 with the objectives as stated in the preamble of the RBI Act, "to regulate the issue of bank notes and for keeping of

reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage". Till 1949, it was a private shareholders institution but became a state-owned institution after its nationalization. The bank besides acting as a regulator of financial system also performs developmental role. It is said to be the banker to the banks and controller of activities of banking, non-banking and the financial institutions in the country. The RBI Act empowers the central government to issue such directions to it as they might consider necessary in the interest of general public after consulting the governor of the bank. RBI has been constituted as a corporate body having perpetual succession and a common seal. It was established with an authorized capital of Rs. 5 crores divided in shares of Rs. 100 each. The bank was nationalized in 1949 and the shareholders were paid in securities of government of India. The shares held by private individuals were taken over by the government by paying compensation at the rate of Rs. 118 for every share of RS. 100 held by shareholders. It undertakes major financial operations of the government; by its conduct of these operations and by other means, it influences the behavior of financial institutions to ensure that they support the economic policy of the government. Central bank is controlled by the people who are more or less closely connected with the organs of the government and its does not exist to secure maximum profit. Central Bank must have a special relation with the commercial banks whereby it may influence the operations of these institutions in the implementation of the government's economic policy. The main function of RBI is to regulate the issue of bank notes and keeping of reserves with a view to securing monetary stability in India. As the central bank authority of India, RBI performs the following functions of the central bank-

- It formulates and implements monetary and credit policies.
- It functions as the banker's bank.
- It supervises the operations of credit institutions.
- It regulates the foreign exchange transactions.
- It moderates the fluctuations in the exchange value of the rupee.
- It considers as a lender of the last resort.
- It controls the money supply and credit.
- It regulates the demand for foreign exchange according to available supplies.
- It acts as advisor to government not only on banking and financial matters but also on a wide range of economic issues.
- It provides currency and operates the clearing system for the banks.

In addition to this, RBI performs several functions aimed at developing the Indian financial system:

- It seeks to integrate the unorganized financial sector with the organized 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.

2.7.2 Securities Exchange Board of India (SEBI)

To overcome the shortcomings and drawbacks in Indian capital market and to regulate the capital market; the Govt. of India issued an ordinance on January 30, 1992 for giving statutory powers to SEBI. This act was passed by the parliament as act no. 15 of 1992 which

received the assent of the parliament on 4th April, 1992. Further, on May 29, 1992 the Govt. issued an ordinance abolishing the Capital Issues Control Act, 1947. This ordinance also supersedes the various guidelines issued by the CCI from time to time. Accordingly, SEBI has been set up under the SEBI Act, 1992. The SEBI of India has been entrusted with the responsibility of dealing with various matters relating to the capital market. SEBI's principal's tasks are to:

- Regulating the business in stock exchanges and any other securities market.
- Register and regulate the capital market intermediaries.
- Register and regulate the working of mutual funds.
- Promote and regulate self-regulatory organizations.
- Prohibit insider trading in securities.
- Regulate substantial acquisition of shares and takeovers of companies.
- Perform such other functions as may be prescribed.

In addition to this, the purpose of the SEBI Act is to provide for the establishment of a board called Securities and Exchange Board of India. The purpose of the board as laid down in its preamble is as below:

— to protect the interests of investors in securities;
— to promote the development of the securities market;
— to regulate the securities market; and
— for matters connected therewith or incidental thereto.

2.7.3 Industrial Development Bank of India (IDBI)

IDBI was set up to accelerate the development of the country. In 1964, IDBI was set up as an apex institution in the area of industrial finance. RCI merged with the IDBI. IDBI was a wholly subsidiary of RBI and was expected to coordinate the activities of the institution engaged in financing, promoting or developing industry. However, it is no longer a wholly owned subsidiary of RBI. Recently, it made a public issue of shares to increase its share capital. The IDBI Act was amended in 1994 to permit public ownership up to 49 percent. In 1995, it raised more than Rs.20 billion through its first IPO of equity. IDBI provides direct financial assistance to industrial units to bridge the gap between supply and demand of medium- and long-term finance. The main functions of IDBI are as follows:

— To act as an apex institution and provide refinance for the term loans granted by the banks and financial institutions.
— To coordinate the activities of other institutions providing term finance to industry.
— To provide refinance to scheduled banks or cooperative banks.
— To provide technical and administrative assistance for promotion, management or growth of industry.
— To undertake market surveys and techno-economic studies for the development of industry.
— To grant direct loans and advances to industrial concerns.
— To render financial assistance to industrial concerns, IDBI operates various schemes of assistance.
— To provide refinance for export credit granted by banks and financial institutions.

2.7.4 Small Industries Development Bank of India (SIDBI)

The small industries development bank of India was set up in 1990 under the SIDBI

Act, 1990. the main objective of SIDBI has been to work as a principal institution for the promotion, financing and development of industries in the small-scale sector. It is expected to coordinate the functions of various financial institutions such as scheduled banks, and state cooperative banks etc. are engaged in the financing, promotion and development of small-scale industries. The main functions of SIDBI are -

- Refinancing of the term loans granted by SFCs, SIDCs. Banks and other financial institutions.
- Rediscounting of short-term trade bills arising out of sale of products of the small-scale sector.
- Direct discounting/rediscounting of bills arising out of sale of machinery/capital equipment on deferred credit manufactured by small scale sector.
- It renders equity type of assistance to new promoters, women and ex-serviceman under National Equity Fund.
- It extends financial support to NSIC and SIDCs for the purchase of material and marketing of SSI products and for financing hire-purchase and leasing activities.

2.7.5 National Bank for Agricultural and Rural Development (NABARD)

The NABARD was set up on July 12, 1982 under an act of parliament as a central or apex institution for financing agricultural and rural sectors. Its paid-up capital of Rs 100 crores is subscribed by the government and the RBI in equal amounts. It has taken over the functions of ARDC which in turn was set up in 1975 in the place of former ARC which was set up in July 1963. It endeavors to make rural credit institutions financially viable and organizationally strong so as to enable them to provide adequate and timely credit. The main objectives of NABARD are -

- It provides credit for the development of agriculture, small scale industries and other rural crafts and allied economic activities in rural areas.
- It provides short term refinance assistance for a period up to 18 months to SCBs, RRBs and so on.
- It sanctions refinance assistance for the government-sponsored programs such as IRDP, Rozgar Yojana etc.
- It gives loans up to 20 years of maturity to the state government to enable them to subscribe to the share capital of co-operative credit societies.
- It provides conversion or rescheduling facilities, in the event of natural calamities.
- Its resources comprise a line of credit from the RBI, loans from the central government, World Bank, IDA, and other multilateral and bilateral aid agencies, sales of bonds and debentures, direct borrowings, deposits, gifts, grants and so on. It has been associated with the implementation of a number of projects with financial assistance from the World Bank and International Fund for Agricultural Development (IFAD).

Self- Check Questions:

a) Which institution is known as theapex institution for financing agricultural and rural sectors?

b) What is the main function of SEBI?

c) What is the weakness of Indian Financial System?

d) Name the two major regulatory bodies of India.

2.8 SUMMARY

Financial System is a set of complex and closely intermixed financial institutions, markets, instruments, services, practices, procedures, and so on. The functions of a financial system are to establish a bridge between savers and investors and thereby to encourage saving and investment, to provide finance in anticipation of savings, to enlarge markets over space

and time. For the proper functioning, the government has taken the responsibility for regulating the financial system through. RBI and SEBI and other regulatory bodies of India like NABARD, IDBI, SIDBI, UTI etc.

- **Keyword:** *Financial system, SEBI, NABARD, SIDBI*

2.9 SELF CHECK EXCERCISE

- **Long question answer:**

Q.1 What do you understand by financial system? Discuss various components of developed financial system.

Q.2 What role do financial institution play as financial intermediary in financial market? Discuss

Q.3 Write a note on function of RBI?

- **Short question answer:**

1) Briefly explain the functions of SEBI.

2) Distinguish between primary and secondary securities.

3) Describe the various functions of Reserve bank of India.

4) What do you mean by financial services? Also give examples.

2.10 SUGGESTED READINGS

- Gordon and Natarajan:*Financial Markets and Services,*Himalaya Publishing House, Mumbai
- Bhole, L. M.:*Financial Institutions and Markets,*Tata McGraw Hill Publishing Company Limited, New Delhi
- Gupta and Aggarwal:*Financial Institutions and Markets,*Kalyani Publishers, New Delhi

2.11 SELF- CHECK QUESTIONS (ANSWER KEY):

2.5 a) providing credit and deposit facilities to small and marginal farmers **b)** Leasing and Mutual Funds c**)** Primary market and secondary market**d)**Leasing

2.7 a) NABARD b**)**Regulating the business in stock exchanges and any other securities market. **c)**Monopolistic Market Structure**d)**RBI and SEBI

MBA (DISTANCE EDUCATION) Part-I **PAPER: FM 202**

Semester-II **FINANCIAL MANAGEMENT**

Lesson No. 3 **AUTHOR: RAKESH KUMAR**

CAPITAL MARKET AND MONEY MARKET IN INDIA

3. OBJECTIVES

The main objective of the lesson:

- Understand the meaning of money and capital market
- Instruments of money market and capital market and its development in India.
- Reforms in money market and capital market.

3.1 INTRODUCTION

Financial markets may be broadly classified as negotiable loan markets and open markets. The negotiable loan market is a market in which lenders and borrowers personally negotiate the terms of the loan agreement. A business person borrowing from a bank and an individual borrowing from a small loan company are examples of negotiated loans. In contrast, the open market is an impersonal market in which standardized securities are traded in large volumes. Buyers and sellers may never meet. Stock market is an example of an open market. The open market provides the binding that ties the country's financial institutions together into an integrated whole. It is only with the open market that we will be concerned with in this and the next lesson.

This lesson is divided into three sections. Basic knowledge about money market and characteristics of a developed money market are discussed in the first section. Section II deals with the various components of money market. Money market in India and its development is a part of section III.

Money market is a market for short term (less than one year) loans. In fact, its very name suggests that it is money which is being bought and sold. It is used by business firms for purchase and shipment of inventories, by finance companies to finance consumer credit, by banks to finance temporary reserve shortage, and by government to bridge the gap between tax receipts and expenditure. The money market is not a place but an activity.

A supplier of funds to the money market can be virtually any one with a temporary

excess of funds, for example, a corporation may be accumulating funds for a quarterly income tax payment, and rather than holding the funds in demand deposits (non-interest bearing), the corporation may decide to lend them out for short term. A commercial bank may know from experience that it will have large seasonal deposit withdrawals shortly but, in the meantime, it may invest the money in earning assets.

The best way to a clear impression of the money market is to understand the mechanism of the various debt instruments traded in it. The description of the money market involves both the instruments and institutions. All the money markets, though constituted differently, have institutions which have somewhat similar character.

3.1.1 CHARACTERISTICS OF A DEVELOPED MONEY MARKET

A developed money market is one which is comparatively efficient in the sense that it is responsive to changes in demand for and supply of funds in any of its segments. The effects initiated in any part of it, quickly spreads to others without significant time lag. In order to satisfy these criteria, it should have the following characteristics:

(a) Presence of Central Bank:

Central bank has a greater capacity of judging the needs of the market as regards its financial requirements and can-devise its monetary policy to suit the objectives. It can vary the supply of cash and easily meet the seasonal variations in demand for liquidity by rediscovering the commercial paper. It- can supplement this task by varying the minimum reserves to be maintained by the banks, the bank rate and use of selective credit controls etc.

(b) A Developed Commercial Banking System:

For a developed money market not only, the banks should be well- developed and organised, but the public should also have widespread banking habit. Widespread banking habits of the public enable banks to operate on low fractional reserves.

(c) Variety and Quantity of Financial Assets:

It is essential that there should be an adequate supply of a variety of short maturity financial assets. In developed money markets there is an abundance of commercial bills, bills of exchange, treasury bills and so on.

(d) Sub-markets:

A developed money market will have developed and sensitive sub- markets. Absence of such markets or lack of their responsiveness to small changes in interest and discount rates, does not make it a developed money market.

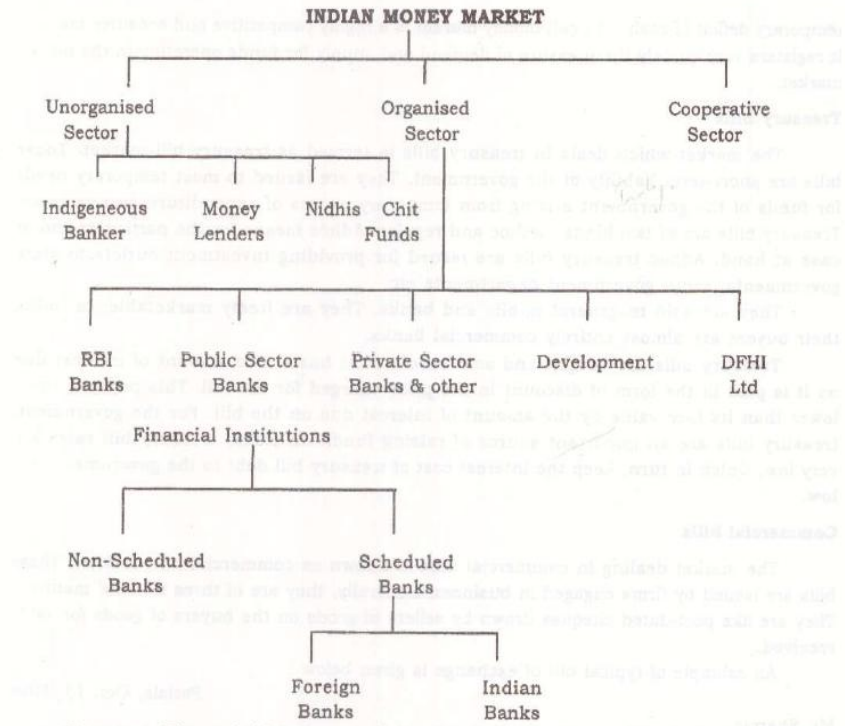
(e) Existence of Specialized Institution:

The existence of institutions specializing in particular types of assets help in making the money market competitive and efficient. Acceptance houses and discount houses are important examples.

(f) Contributory Legal and Economic Factors:

Appropriate legal provisions go a long way in the development of money market. The transaction costs of commercial bills should be quite nominal- In India, one of the reasons for non-development of bill market happens to be the high stamp duty payable on them. Similarly, the dealers in bills should have a legal protection against default of payment and remedial provisions should not be very time-consuming.

Money market would remain undeveloped if one or more of above conditions are not satisfied.



Source : "Financial Markets and Services" by Gordon and Natrajan, Himalaya Publishing House, 2006 edition, p60.

II

3.2 INSTRUMENTS OF MONEY MARKET

Money market works through market instruments. Let us now discuss various instruments of money market one by one.

Call Money

Call money loans are extremely short-term loans which are repayable on demand within a day. They are made by commercial banks and other financial institutions who can afford to spare funds in large amounts, though for short periods. The demand for such loans comes from those financial institutions which specialize in discounting, or rediscounting bills.

The call money market operates through brokers who keep in constant touch with banks and bring the borrowing and lending banks together. The main function of the market is to redistribute the pool of day-to-day surplus funds of banks among other banks in

temporary deficit of cash. The call money market is a highly competitive and sensitive market. It registers very quickly the pressure of demand and supply for funds operating in the money market.

Treasury Bills

The market which deals in treasury bills is termed as treasury bill market. These bills are short-term liability of the government. They are issued to meet temporary needs for funds of the government arising from temporary excess of expenditure over receipts. Treasury bills are of two kinds:ad hoc and regular. Ad hoc means for the particular end or case at hand. Ad hoc treasury bills are issued for providing investment outlets to state governments, semi- government departments etc.

They are sold to general public and banks. They are freely marketable. In India, their buyers are almost entirely commercial banks.

Treasury bills are bought and sold on discount basis. The amount of interest due on it is paid in the form of discount in the price charged for the bill. This price is, thus, lower than its face value by the amount of interest due on the bill. For the government, treasury bills are an important source of raising funds. In India, treasury bill rates are very low, which in turn, keep the interest cost of treasury bill debt to the government very low.

Commercial Bills

The market dealing in commercial bills is known as commercial bill -market. These bills are issued by firms engaged in business. Generally, they are of three months' maturity. They are like post-dated cheques drawn by sellers of goods on the buyers of goods for value, received.

An example of typical bill of exchange is given below:

Patiala, Oct. 15, 1996

Mr. Sharma,

Three months after date please pay to the undersigned or order of the sum of Rupees thirty thousand for value received.

Mr. Khurana'

In this example, Mr. Khurana is the drawer of the -bill and Mr. Sharma is the drawee. The former has sold the latter goods worth Rs. 30.000/- on three months credit. The seller may need cash now, so he draws a bill and sends it to the buyer for acceptance. The latter in acknowledgement of his responsibility to make payment on the due. date writes 'accepted' on the bill, or arranges to get the bill accepted on his behalf by his bank. Once the bill has been so accepted, it becomes a marketable Instrument. On receipt, the drawer can now sell it in the market for cash. The bank, again, normally comes into picture. The drawer goes to his bank and gets the bill discounted. This simply means that he sells it for cash to the bank which pays him the face value of the bill less collection charges and interest on the amount for remaining life of the bill. The rate of interest charged is known as the discount rate on bills.

While in developed economies, commercial bills are a major portion of the money market, in underdeveloped countries this is not the case, for various reason. These economies have a practice of trading through payment rather than buying on credit. Also, for a genuine bill market to develop it is essential that the bills should be drawn in a largely

accepted conventional form and the banks and other agencies of repute should be ready to stand guarantee for the credit worthiness of the Drawee of the bills.

Commercial Paper (CP)

Commercial paper consists, very simply, of the unsecured promissory notes of large corporations. The corporations are sufficiently well-known so that their credit worthiness is not in doubt. Their promise to pay canconsequently, be bought and sold in an organized market. The commercial paper generally carries a maturity of 4 to 6 months and is used by the issuers as a supplement to borrowing from commercial banks. CPs are sold either directly by the issuers to investors or through agents like merchant banks and security houses. In India, CPs are privately placed with investors through banks or financial institutions. These are used to raise short term finance to meet working capital needs.

Certificates of Deposits (CDs)

A CD is a document of title to a time deposit. A certificate of deposit is a certificate given by a commercial bank that certifies that a deposit has, in fact, been made. The certificate stipulates that the deposit cannot be withdrawn before a certain date and that, upon that date, the bank will repay the deposit plus interest. This period is generally three months. Certificates of deposit are of two kinds: non-negotiable and negotiable. A non-negotiable certificate of deposit must be redeemed by the original depositors. A negotiable certificate of deposit, however, may be resold by the depositor in the money market and may change hands several times before it matures. Whosoever owns the negotiable certificate of deposit on its maturity date, of course, claims the deposit and interest from the bank.

The above-mentioned instruments are the basic constituents of the money market. The market operates through these instruments. Development of any economy can also be judged from the development of its money market.

III

FEATURES OF A DEVELOPED MONEY MARKET

(i) Highly Organized Banking System:

The commercial banks are the nerve center of the whole money market. They are the principal suppliers of short-term funds. Their policies regarding loans and advances have impact on the entire money market. In an underdeveloped money market, the commercial banking system is not fully developed.

(ii) Presence of a Central Bank:

The central bank acts as the banker's bank. It keeps their cash reserves and provides them financial accommodation in difficulties by discounting their eligible securities. Through its open market operations, the central bank absorbs surplus cash during off seasons and provides additional liquidity in the busy seasons. In an underdeveloped money market, the central bank is in its infancy and not in a position to influence and control the money market.

(iii) Availability of Proper Credit Instruments:

A continuous availability of readily acceptable negotiable securities such as, bills of exchange, treasury bills is necessary for the existence of a developed money market. There is absence of adequate and proper credit instruments as well as dealers to deal in these instruments in as underdeveloped money market.

(iv) Existence of Sub-Markets:

The number of sub-markets determines the development of a money market. The larger the number of sub-markets, the broader and more developed will be the structure of money market.

(v) Adequate Resources:

There must be availability of sufficient funds to finance transactions is the sub- markets. These funds may come from within the country and also foreign countries.

(vi) Existence of Secondary Market:

There should be an active secondary market in these instruments.

(vii) Demand and Supply of Funds:

There should be a large demand and supply of short-term funds.

3.3 MONEY MARKET IN INDIA

Until 1935, the country had no central bank. The government had the right to issue currency. The banking structure was very fragile and bank failure was very common. The money market that existed in pre-independence period was far more undeveloped, than what it is today. Now the Indian money market is a leading money market in third world countries.

Indian money market is broadly divided into two parts, viz. the unorganized and the organized. The unorganized sector of money market comprises the indigenous bankers and money-lenders. They charge comparatively high rates of interest. Unlike the modern banking system there are little business relations among them. The organized sector is fairly integrated. Both private and public sectors constitute the organized sector. The RBI is the central bank, and it is the apex organization in the Indian, money market.

No doubt, the organized sector of the Indian money market is fairly developed and organized, yet it is not comparable to the New York or London money market.

Broadly, the principal constituents of Indian money market are: (i) The call money market, (ii) The treasury bill market, (in) the commercial bill market, (iv) Certificate of Deposit market and (v) The commercial paper market.

(i) The Call Money Market:

Scheduled commercial banks, cooperative banks and Discount and Finance House of India operate in it. As a special case, institutions like Unit Trust of India, Life Insurance of India, General Insurance of India, Industrial Development Bank of India and the NABARD are allowed to operate in the call money market. Among the banks, the State Bank of India, on account of a strong liquid position is invariably on the lender side of the market. The call money market, on account of its highly sensitive nature, is considered to be the most appropriate indicator of the liquidity position of the money market. The RBI, therefore, takes note of it in adjusting day to day monetary policy.

(ii) The Treasury Bill Market

The treasury bills are short term (91 days, 182 days, 364 days, and 14- days) liability of the central government. In these days, in India, treasury bills have become a permanent source of funds for the central government, as every year more new bills are issued than those that are retired. Further, every year a part of treasury bills held by RBI is converted into long term bonds. The treasury bill market in India is very underdeveloped. Except RBI there are no major holders of these bills. In fact, even the RBI is a passive or captive holder of these bills which implies that it is under an obligation to purchase all the treasury bills presented to it by banks and others for this purpose. This has resulted in monetization of public debt and

has become a major source of inflationary expansion of money supply.

(iii) The Commercial Bill Market:

In India, this market is highly undeveloped. Generally, cash credit system of bank lending is popular. Among other factors which have prevented growth of genuine bill market are lack of uniformity in drawing bills, high stamp duty on time bills and the practice of selling on credit without specified time limit. RBI has made efforts to develop a bill market in this country and popularize the use of bills. Its two specific bill market schemes, however, had limited success. The old bill market scheme introduced in January 1952 was not correctly designed to develop a bill market. It merely provided for further accommodation of banks in addition to facilities they had already enjoyed. In order to encourage use of bills the RBI offered loan at a concessional rate of interest and met half the cost of stamp duty incurred by banks on converting demand bills into usance bills - This scheme, however, failed to make any impact.

Not satisfied with the old scheme, the RBI introduced a new bill market scheme in November 1970. The noteworthy features of new scheme are:

(i) The bills covered under the scheme are genuine trade bills and (ii) the scheme provides for their rediscounting. This scheme really aimed at developing a bill market in the country but has not been very successful.

(iv) The Certificate of Deposit Market:

The certificates of deposits were introduced in Indian money market in 1989, with the objective of widening the range of money market instruments and to provide investors greater flexibility in deployment of their short-term surplus funds. The CDs can be issued by the scheduled commercial banks CPs are subject to SLR and CRR requirement. There is no ceiling on amount to be raised by banks. Minimum maturity of CD has been reduced to 15 days w.e.f. 2000-01. Minimum size of issue has been reduced from Rs. 5 lakhs to Rs. 1 lakh in June 2002. In 1992 other financial institutions like IDBI, IFCI etc. were permitted to issue CDs with maturity of 1-3 yrs.

(v) The Commercial Paper Market:

The commercial papers were introduced in Indian money market in January, 1990. The commercial paper is issued by companies with a tangible net worth of Rs. 4 crores. The CP was to be issued in multiples of Rs. 25 lakhs subject to a minimum issue of 1 crore. The maturity of CPs was between 3 to 6 months. However, now the minimum size stands reduced to Rs. 5 lakhs, the maturity period is modified to 15 days - 1 year; guidelines for issue of CPs have been relaxed; CP issues are now delinked from working capital. The minimum credit rating shall be P2 of CRISIL or such equivalent rating by other approved agencies. The CPs are issued at a discount to face value and the discount rate is freely determined. The purpose of CPs in Indian money market is to enable high level corporate borrowers to diversify their sources of short-term borrowings on the one hand and provide an additional instrument to banks and financial institutions in the money market, on the other.

In its organization and development, the Indian money market is not comparable to either the London money market or the New York money market. It suffers from a number of defects such as lack of integration because the organized and unorganized segments are working separately. The structure of interest rate is not rational due to the lack of adequate coordination between different banking institutions and policy of RBI. The bill market is not fully organized and there is shortage of funds in the money market. Moreover, there are inadequate banking facilities in India.

It is clear from the foregoing discussion that the money market in India does not satisfy the criteria of a developed money market.

3.4 MAJOR REFORMS IN INDIAN MONEY MARKET

A systematic review of the Indian money market was undertaken by the Vaghul working group in 1987. Since then, a number of steps have been taken to improve the efficiency of the Indian money market. Some of these steps are as follows

1. Ceiling on call money rate has been withdrawn. All money market interest rates are, by and large, determined by market forces.
2. Selected institutions are allowed to borrow from the money market on a term basis.
3. The base of call money market has been widened by selective increase in the participants as lenders.
4. CDs were introduced in 1989, CPs in 1990, and guidelines relating to them are modified from time to time.
5. A number of institutions have been set up like Discount and Finance House of India (DFHI), Securities Trading Corporation of India (STCI) to promote Orderly development of money market. They are allowed to participate both as lenders and borrowers in the call money market.

   The DFHI was set up in January, 1988 jointly by the Reserve Bank, Public Sector Banks, and the All-India Financial Institutions to deal in short term money market instruments, enlarge the number of participants in the call, short notice, and term money market by allowing financial institutions and mutual funds to participate as lenders. It moderates the volatility in the interbank call money market by providing liquidity in the market as and when required. The STCI was set up on June 7, 1994 to develop an institutional infrastructure to act as base for an active secondary market in govt, dated securities and public sector bonds. It can also hold short-term money market assets like TBs.
6. Issue of ad hoc91-day TBs to finance the budget deficit of the government was discontinued, and a scheme of Ways and Means Advances (WMA) by the RBI to the Central Govt, was introduced with effect from April 1, 1997. Auction of 91-days TBs commenced from 1993. Also, TBs of various maturities such as 14-days, 28-days have been introduced.
7. In April 1991, RBI announced the introduction of Money Market Mutual Funds (MMMFs). The main objective was to provide small investors an investing opportunity yielding market related returns, help in broad basing money market by providing more participants, and help in mobilizing household savings. The private sector was allowed to set up MMMFs in 1995. Also, UTI, IDBI, ABN Amro Bank and Bank of Madura Ltd. have been given clearance to set up MMMFs. Since march 2000, MMMFs have been brought under the purview of SEBI regulation.
8. The minimum lock-in period for Money market instruments was brought down, to 15 days.
9. The 182 day and 14-day treasury bills were discontinued w.e.f. May, 2001. Despite these reforms, the Indian money market is yet to acquire depth. Interest rates continue to be highly volatile. Moreover, the grand scheme of liberalization and globalization of money market has brought up many distortions without enhancing efficiency of institutions and allocation of resources. In our economy where the

rural sector dominates, and the unorganized money market still plays an important role, money market reforms should start from reorganizing rural financial structure.

3.5 CAPITAL MARKET AND ITS DEVELOPMENT IN INDIA

Capital market is the market for long term funds, just as the money market is the market for short term funds. It refers "to all the facilities and the institutional arrangements for borrowing and lending term funds (i.e., medium-term and long-term funds). It does not deal in capital goods, but is concerned with the raising of money capital for purpose of investment. The demand for long term money capital, comes predominantly from private sector manufacturing industries, agriculture, and from the government largely for the purpose of economic development. As the central and state governments are investing not only on economic overheads as transport, irrigation and power development, but also on basic industries and sometimes even consumer goods industries, they require a substantial sum from the capital market. The supply of funds for the capital market comes largely from individual savers, corporate savings, banks, insurance companies, specialized financial agencies and the government.

The capital market can be usefully divided into the primary market and the secondary market. The primary market deals with the selling of new securities when they are first issued by the issuing corporation. Since many of the initial buyers of these securities will eventually want to resell them, there is a secondary market for previously 'issued securities. The stock market, for example, is a secondary market in corporate securities.

THE PRIMARY MARKET

When a corporation decides that it wants to acquire new funds from the outside, it will frequently do so through the intermediation of an investment banker. Investment bankers are specialists in the marketing of new securities. They advise the corporations in the design of the security - what type of security should it be common stock, preferred stock, or bond; if a bond, what rate of interest should it bear, what should be its maturity provisions, and so on so that it will best serve the needs of the corporation and the buying public. Although there are a number of possible arrangements, the investment banking house will typically underwrite a new issue of securities. The investment house assumes substantial measure of risk in an underwriting operation, large issues of new securities usually will be syndicated among several investment banking firms.

Many corporations engage in the private placement of securities. Private placement means that the issuer of securities sells them directly to the investors, without the underwriting services of an investment banker. This method of marketing new issues has a number of advantages, foremost among these are that it is cheaper since underwriting costs are avoided.

THE SECONDARY MARKET

The secondary market in corporate securities can be sub-divided into two parts, the registered stock exchange and over-the-counter market.

(1) Stock Exchange:

Stock exchanges are voluntary associations of members who come together for the purpose of buying and selling for the general public the securities of the big corporations.

Only certain securities are traded on the exchanges the so-called listed stocks and these are bought and sold by auction. Since the members of exchanges generally have branches throughout the country, the stock exchanges are truly a national market in which virtually anyone may participate.

(2) Over-the-Counter Market:

The over-the-counter market is the market for those securities not listed on the stock exchanges. Used in the broadest sense, it includes all transactions in securities, other-than those taking place on the national stock exchanges. The over-the-counter market has very low entry barriers, and traders may range in size from very large houses doing an international business to one-person firms that trade only in local markets.

ECONOMIC FUNCTIONS OF THE STOCK MARKET

The role of secondary market is to make the primary market possible. Suppose, for example, a corporation needs to buy a machine with a life expectancy of twenty years. It may want to issue a twenty-year bond to do this. But who would buy such a bond if they had it for full twenty years. With a secondary market, the initial purchaser of the bond knows that, if necessary, it can be resold to someone else in a year or two. In this fashion, the secondary market in securities is said to give liquidity to primary issues.

GOVERNMENT SECURITIES MARKET

In most of developed and underdeveloped countries, large quantities of government securities are issued, to finance government operations and to re-finance maturing debt. This mechanism is sometimes known as debt management. The treasury can issue new government debt instruments and sell them to financial institutions and general public. (These securities are not available to general public in most of the less developed countries). These government securities can be of two types:

(i) Marketable government securities

(ii) Non-Marketable government securities

The securities that can be sold in the secondary market are termed as marketable securities and those that cannot be sold in the secondary market are known as non- marketable securities.

3.6 CAPITAL MARKET IN INDIA

Indian capital market before independence could not develop, since there were few companies. Most of the British enterprises in India looked to the London capital market for funds. Individual investors were few and limited to the upper class in urban areas. Specialized issue houses could not develop in India and managing agency system performed to some extent the function of promotion, issue and underwriting of new capital issue.

Rapid expansion of the corporate and public enterprises since 1951 has necessitated the development of capital market in India. Indian capital market is divided into the **gilt-edged market and industrial or corporate securities market.** The gilt-edged market refers to the market for the government and semi-government securities backed by Reserve Bank of India. The securities traded in this market are stable in value and subscribed by the banks and other financial institutions. The industrial securities market refers to the market for shares and debentures.

The government securities differ from industrial securities market in many important

respects:

(i) More uncertainty regarding yield, management, addition to capital etc. is involved in industrial securities.

(ii) Financial institutions are compelled by law to invest a specified part of their demand and time liabilities in government securities.

(iii) The average value of the transactions in the government securities market is very much larger than in the case of shares and debentures of the companies.

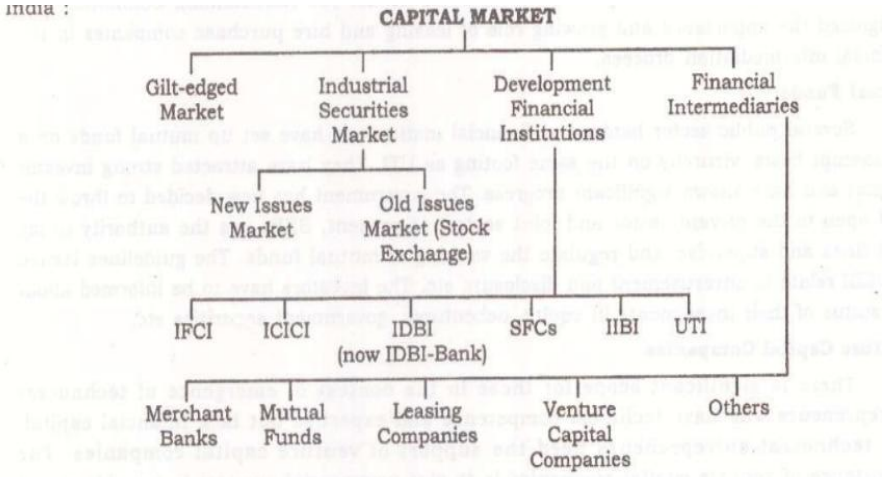
(iv) Gilt edged market is 'over-the-counter' market.

(v) RBI plays a dominant role in the gilt-edged market through its open market operations.

Capital market, in India, started growing after independence. A very important indicator of the growth of the capital market is the growth of Joint stock companies or the corporate sector. The volume of capital market transactions has increased sharply; its functioning has been diversified. New financial instruments have appeared in the market.

Specialized financial institutions set up after independence to promote the industrial growth have been doing a useful work in subscribing to the shares and debentures of new and old companies, giving loan assistance, underwriting new issues and so on.

The following table will give us an idea about the structure of capital market in India:



(*Source :* Ruddar Datt and Sundharam : Indian Economy, 2003 ed.)

Moreover, over-the-counter exchange of- India (OTCEI) has been promoted jointly by ICICI, UTI, IDBI, IFCI, GIC, LIC, SBI Capital Markets and Can bank Financial Services. It has been registered as a stock exchange with the SEBI and has commenced operations from October, 1992. Its main aim is to provide small and medium companies an access to capital market in order to raise capital in a cost-effective manner. OTCEI is ringless, electronic and national exchange which trades in selected scrips and debt instruments. The OTCEI operates at Mumbai with regional windows at other metropolitan cities and representative offices in a few major cities.

Commercial banks are important constituents of the Indian capital market, but their operations have so far been confined to the purchase and sale of government securities. Their

holding of industrial securities viz; shares and debentures are very small. In recent years, banks have been increasing their participation in term lending through subscribing to the shares and debentures of specialized financial institutions- They are also setting up financial subsidiaries known as merchant banks, mutual funds, leasing companies etc. to mobilize funds from investment in industrial securities. These are discussed below, one by one.

Merchant Banking

A few merchant banks have been set up by private financial service companies in association with foreign banking and money market institutions and some have been set up by firms and individuals engaged in brokerage and financial advisory business.

Merchant banks in India manage and underwrite new issues, they undertake syndication of credit, they advise corporate clients on funds raising and other financial aspects. Unlike the merchant banks abroad, Indian merchant banks do not undertake banking business viz. deposit banking, lending and foreign exchange services. At present, in India, the merchant banks are subject to two types of authorities, the SEBI and RBI.

Leasing and Hire Purchase Companies

Leasing has proved a popular financing method for acquiring plant and machinery specially for small and medium-sized enterprises. Their growth is due to the advantage of speed, informality and flexibility to suit individual needs. The Narasimhan Committee had recognized the importance and growing role of leasing and hire purchase companies in the financial intermediation process.

Mutual Funds

Several public sector banks and financial institutions have set up mutual funds on a tax-exempt basis, virtually on the same footing as UTI. They have attracted strong investor support and have shown significant progress. The government has now decided to throw the field open to the private sector and joint sector. At present, SEBI has the authority to lay guidelines and supervise 'and regulate the working of mutual funds. The guidelines issued by SEBI relate to advertisement and disclosure etc. The investors have to be informed about the status of their investments in equity, debentures, government securities etc.

Venture Capital Companies

There is significant scope for these in the context of emergence of technocrat entrepreneurs who have technical competence and expertise but lack financial capital. The technocrat entrepreneurs need the support of venture capital companies. The importance of venture capital companies is to give commercial support to new ideas and the introduction of new technologies. There is a high degree of risk involved in venture capital financing. Venture capital financing is one of the more recent entrants into the Indian capital market.

Apart from these, government of India has been instrumental in setting up a series of new financial intermediaries to serve financial needs of commerce and trade in the area of venture capital, credit rating and leasing etc. We refer to:

(i) Risk Capital and Technology Corporation (RCTC) which provides assistance in the form of risk capital and technology ventures.

(ii) Technology Development and Information Company of India Ltd. to sanction project finance to new technology ventures. (Now known as ICICI Venture Funds Management Co. Ltd.)

(iii) Infra structural Leasing and Financial Services of India Ltd. to focus on leasing of equipment and infra structural development.

(iv) The Credit Rating Information Service of India Limited (CRISIL) to undertake the rating of fixed, deposit programme, convertible and non- convertible bonds and debentures and credit assessment of companies.

(v) Stock Holding Corporation of India Limited to help in the transfer of shares, debentures and other securities by replacing the present system which involves voluminous paper work.

All these institutions have been set up after the mid-eighties and are still in the formative stage but they are bound to be of special importance for the Indian capital market.

Stock Exchange in India

For the existence of the capitalist system of economy and for the smooth functioning of the corporate form of organization, the stock exchange is an essential institution.

The first organized stock exchange in India was started in Bombay when the Native Stock Brokers Association - now known as Bombay Stock Exchange - was formed by the brokers in Bombay. In 1894, the Ahmedabad Stock Exchange was started to facilitate dealings in the shares of textile mills there.

The Calcutta Stock Exchange was started in 1908 to provide the market for shares of plantation and Jute mills. The number of stock exchanges rose from 7 in 1939 to 21 in 1945. Under the Securities Contract (Regulation) Act 1956, the Government of India has so far recognized 15 stock exchanges. Bombay is the premier exchange in the country and nearly 70% of all transactions in the country are done in that exchange.

Securities and Exchange Board of India (SEBI)

To overcome the shortcomings and drawbacks in Indian capital market and to regulate the capital market, the Government of India repealed Capital Issue Act 1947, abolished the office of the Controller of Capital Issues (CCI) and set up SEBI in 1988.

Initially, SEBI was set up as non-statutory body. In January, 1992 it was made a statutory body. SEBI was authorized to regulate all merchant banks on issue activity, lay guidelines and supervise and regulate the working of mutual funds and oversee working of stock exchange in India. SEBI had made efforts to introduce practices and greater transparency in the capital market in the interest of investing public and the healthy development of the capital market.

3.7 THE INTERNATIONAL CAPITAL MARKET

The central feature of such a market is that it makes possible the lending and borrowing of the funds in a currency outside the country of its origin. For example, it became possible for an Englishman, in London, to lend dollars to another Englishman in London. The capital market aspect of such a market is called the Eurobond market.

The Eurobond market is a market where bonds are denominated in a currency other than that of the country in which they are issued. For example, a French firm may engage a German investment banking syndicate to sell dollar-denominated bonds, and Italian and English investors may be the principal buyers of such bonds. It is particularly in this broader sense that Eurobond market is international in character.

One thing to be noted about the Eurobonds is that these bonds are denominated in dollars.

Self- Check Questions:

a) The first organized stock exchange in India was started in _____.

b) _____ were introduced in Indian money market in January, 1990.

c) _____ provides commercial support to new ideas and the introduction of new technologies.

d) _____ refers to the market for the government and semi-government securities backed by Reserve Bank of India.

3.8 PRIMARY MARKET REFORMS

Recently, the following primary market reforms were introduced: time liabilities in government securities.

1. Companies issuing capital in the primary market are now required to disclose all material facts and specific risk factors with their projects. SEBI has also introduced a code of advertisement for public issues for ensuring fair and truthful disclosures.
2. To reduce the cost of issue, SEBI has made underwriting of issue optional, subject to the condition that if an issue was not underwritten and was not able to collect 90% of the amount offered to the public, the entire amount collected is to be refunded to the investors.
3. Merchant banking has been statutorily brought under the regulatory framework of SEBI. The merchant bankers have now a greater degree of accountability in the offer document and issue process.
4. SEBI has advised stock exchanges to amend the listing agreement to ensure that a, listing company furnished annual statement to the stock exchanges showing the variations between financial projections and projected utilization of funds in offer documents and the actual utilization. This would enable shareholders to make comparisons between promises and Performance-
5. The government has now permitted the setting up of private mutual funds and a few have already been set up. To improve the scope of investments by mutual funds, the mutual funds are permitted to underwrite the public issues.
6. Since 1992, the GOI allowed Indian companies access to international capital markets through Euro equity shares. GDR issues are also launched for the same purpose.
7. The government of India has also liberalized investment norms of NRIs. so that NRIs and overseas corporate bodies can buy shares and debentures without the permission of RBI.
8. The requirement to issue shares at a par value of Rs. 10 and Rs. 100 has been withdrawn. But shares cannot be issued in the decimal of a rupee.
9. The Government has allowed Foreign Institutional Investors (FII), pension funds, mutual funds, investment trusts, assets or portfolio management companies etc. to invest in the Indian capital market provided they are registered with SEBI.

3.9 SECONDARY MARKET REFORMS

Recently, the following secondary market reforms were introduced in Indian Capital Market.

1. Three new stock exchanges at the national level were set up in the 1990s. These are Over the Counter Exchange of India (1992), National Stock Exchange of India (1994), and Inter-Connected Stock Exchange of India (1999).
2. The process of dematerialization of securities through the depository system and their transfer through electronic book entry is pursued vigorously. For this, the National Securities Depository Ltd. was set up in 1996, and the (central Depository Service Ltd. in 1999.
3. Issuing companies are required to make continuing disclosures under the listing agreement. All listed companies are required to furnish to stock exchanges and

also publish unaudited financial results on a quarterly basis. Disclosure of material information is to be made available to public also.

4. Stock exchange have undergone major structural reforms. Boards of stock exchange have been made broad-based. Stock exchanges, brokers and sub-brokers have been, brought under the regulatory purview of SEBI.
5. With a view to investigate frauds in the stock market using a multi-disciplinary team of experts, it has been decided to set up a serious Fraud office (SFO) in the Department of Company Affairs.

The government is arming SEBI with all necessary powers to control and regulate the securities market on the one side and effectively protect the interest of the shareholders on the other. SEBI has been empowered to file complaints in courts and to notify its regulations without prior approval of Govt. It is empowered, to impose monetary penalties on capital market intermediaries and other participants for a listed range of violations. SEBI also has the power to summon the attendance of and call for documents from all categories of market connected with the securities market. To resolve the conflicts of interest in the governance of various stock exchanges, new governance mechanisms with a separation between, ownership, management and trading rights has been evolved.

3.10 SUMMARY

Financial Markets may be broadly classified into two Markets i.e., Money Market and Capital Market. Money Market is market which issue short term securities and main instrument of this market are: Certificate of deposits, call money, treasury bills etc. whereas Capital Market is for long term funds and divided into two parts - Primary and Secondary market i.e. stock exchange.

- **Keyword:** *Capital market, Primary market, Money market, Secondary Market*

3.11 SELF- CHECK EXCERCISE

- **Long Question Answer:**

1) Explain briefly the main instruments of Money Market? What are the major reforms inthe MoneyMarket?

2) Explain briefly the concept of Capital Market? Describe the major reforms of Indian Capital Market?

3) Distinguish between primary and secondary market.

4) Explain the major characteristics of money market.

- **Short Question Answer:**

1) Write a short note on primary market reforms.

2) Write a short note on secondary market reforms.

3) What do you mean by call money market.

4) What is commercial paper?

3.12 SUGGESTED READINGS

- Khan M. S. Goel A.: Capital and Money Market, Himalaya Publishing House, 2011
- Chandni Rani, Chetna MH, Vinayak L. Hedge: Financial Markets and Services, Bharti Publications

3.13 SELF-CHECK QUESTIONS (ANSWER KEY):

a) Bombay b) Commercial Papers c) Venture Capital funds d) Gilt edged market

CONCEPT IN VALUATION: TIME VALUE OF MONEY, PRESENT VALUES, IRR, BOND RETURNS, RETURN FROM STOCK MARKET INVESTMENTS

4.0 OBJECTIVES

The main objective of the lesson:

- Make understand the student concept of valuation.
- Also make clear the concepts like time value of money, present values, Bond returns, Return from stock market investments.

4.1 INTRODUCTION

Valuation means professionally estimating, assessing, determining, setting the price, worth and value of a thing or an asset. As the objective of any investment is to find out an asset which is worth more than its cost, a proper understanding of the process of valuation is necessary for any real or financial investment decision, portfolio selection and management, and financing decision. The valuation techniques provide investors a benchmark or standard of comparison between assets and firms have varying financial characteristics; it enables investors to appraise the relative attractiveness of assets and firms.

4.2 CONCEPT OF VALUATION

Value maximization is the central theme in the financial management. Owners of corporate securities will hold management responsible if they fail to enhance value. Hence all senior managers must understand what determines value and how to measure it. Current and prospective investors must understand how to value bonds and stocks. Such knowledge is helpful to them in deciding whether they should buy or hold or sell securities at the prices prevailing in the market. While valuation was regarded as an abstruse academic subject in the past, it is of considerable importance to managers now. This includes the valuation of shares, bonds and loans. Now the question arises, how are bonds and shares valued? What is the role of earning per share (EPS) and price-earnings (P/E) ratios in the valuation of shares? EPS and P/E ratios are the most frequently used concepts by the financial community. Do they really have significance in the valuation of shares? In the area of share valuation, Prasanna Chandra has conducted a study to assess the effect of certain economic factors on share prices. His methodology included multiple regression analysis with standard ordinary least square (OLS) assumptions. To overcome the problem of heteroscedasticity either variables may be deflated or log-linear model may be used. Chandra's empirical evidence showed that log-linear model approach was better than the use of deflated variables. In examining the determinants of share prices, Chandra's five independent variables were return, growth, risk, leverage and size. Share price was measured as the arithmetic average of the high and low prices over the financial year of the company. Chandra found significant relation between share price and the independent variables including leverage. It includes various concepts like time value of money, present value, IRR, Bond returns, Return from Stock Market Investments.

4.3 TIME VALUE OF MONEY

If an individual behaves rationally, he would not value the opportunity to receive a specified amount of money now equally with the opportunity to have the same amount at some future date. Most individuals value the opportunity to receive money now higher than waiting for one or more years to receive the same amount. This phenomenon is referred to as an individual's time preference for money. Thus, an individual's preference for possession of a given amount of cash now, rather than the same amount at some future date is called time preference for money.

Three reasons may be attributed to the individual's time preference for money:

- Risk
- Preference for consumption.
- Investment opportunities.

We live under risk or uncertainty. As an individual is not certain about future cash receipts, he prefers receiving cash now. Most people have subjective preference for present consumption over future consumption of goods and services either because of the urgency of their present wants or because of the risk of not being in a position to enjoy future consumption that may be caused by illness or death, or because of inflation. As money is the means by which individuals acquire most goods and services, they may prefer to have money now. Further, most individuals prefer present cash to future cash because of the available investment opportunities to which they can put present cash to earn additional cash. For example, an individual who is offered Rs 100 now or Rs 100 one year from now would prefer Rs 100 now if he could earn on it an interest of say, Rs 5 by putting it in the savings account in a bank for one year. His total cash in one year from now will be Rs 105. Thus, if he wishes

to increase his cash resources, the opportunity to earn interest would lead him to prefer Rs 100 now, not Rs 100 after one year. In case of the business firms as well as individuals, the justification for time preference for money lies simply in the availability of investment opportunities. In the investment and other decisions of the firm what is needed is the search for methods of improving decision maker's knowledge about the future. In the firm's investment decision, for example, certain statistical tools such as probability theory or decision tree are used to handle the uncertainty associated with cash flows.

The time preference for money is generally expressed by an interest rate. This rate will be positive even in the absence of any risk. It may be therefore called the risk-free rate. For instance, if time preference rate is 5%, it implies that an investor can forgo the opportunity of receiving Rs 100 if he is offered Rs 105 after 1 year. Thus, the individual is indifferent between Rs 100 and Rs 105 a year from now as he considers these two amounts equivalent in value. In reality, an investor will be exposed to some degree of risk. Therefore, he would require a rate of return from the investment which compensates him for both time and risk. His required rate of return from the investment which compensates him for both time and risk. His required rate of return will be:

Required Rate of Return = Risk-free Rate + Risk Premium

The risk-free rate compensates for time while risk premium compensates for risk. The required rate of return may also call the opportunity cost of capital of comparable risk. It is called so because the investor could invest his money in assets or securities of equivalent risk. Like individuals, firms also have required rates of return and use them in evaluating the desirability of alternative financial decisions. The interest rates account for the time value of money, irrespective of an individual's preferences and attitudes. To illustrate, let us assume an individual with an interest rate of 10%. If he is offered Rs 115.50 one year from now in exchange for Rs 100 which he should give up today, should he accept the offer? The answer in this particular case is that he should accept the offer. When his interest rate is 10%, this implies that he is indifferent between any amount today and 110% of the amount one year from now; but if the amount offered one year from now were less than 110% of the immediate payment, he would retain the immediate payment. He would accept Rs 115.50 after a year since it is more than 110% of Rs 100 which he is required to sacrifice today.

We can ask a different question: Between what amount today and Rs 115.50 one year from now would our investor be indifferent? The answer is that amount of which Rs 115.50 is exactly 110%. Dividing Rs 115.50 by 110% or 1.10, we get:

Rs. 115.50/1.10= Rs 105

This amount is larger than what the investor has been asked to give up. He would therefore accept the offer.

4.4 PRESENT VALUE

We have so far shown how compounding technique can be used for adjusting for the time value of money. It increases an investor's analytical power to compare cash flows that are separated by more than one period, given her interest rate per period. With the compounding technique, the amount of present cash can be converted into an amount of cash of equivalent in future. The present value of a future cash inflow is the amount of current cash that is equivalent value to the decision maker, the process of determining present value of a future payment or a receipt is called discounting. The compound interest rate used for discounting cash flows is also called the discount rate.

4.4.1 Present Value of a Lump Sum

We have shown earlier that an investors with an interest rate of I per year would remain indifferent between Re 1 now and Re 1 (1+i) one year from now, or Re 1 $(1+i)^2$ after two years, or Re 1 $(l+i)^n$ after n years. We can now raise a related question: How much would the investor give up now to get an amount of Re 1 at the end of one, two or three years? Assuming a 10 percent interest rate, we know that an amount sacrificed in the starting of year will grow to Fl= Re 1 after a year at 10%, we can easily find out the amount to be deposited or sacrificed in the beginning as follows:

Fl= P (1+i)

P= FI/ (1+i)

P= Re 1/1.10= Re.0.909

This implies that if the interest rate is 10%, the present value of Re 1 to be received after 1 year is equal to Re 0.909. In other words, at a 10%, Re 1 to be received after a year is 110% of Re. 0.909 sacrificed now. Stated differently, Re.0.909 deposited now at 10% rate of interest will grow to Re. 1 after 1 year. As, it is other years present values will be calculated. The present value calculations can be worked out for any number of years and for any interest rate. The following general formula can be employed to calculate the present value of a lump sum to be received after some future periods:

$$P= F_n/(l+i)^n = F_n[l/(l+i)^n] = F_n[(l+i)^{-n}]$$

The term in parentheses is the present value factor (PVF) and it is always less than 1.0 for positive I, indicating that a future amount has a smaller present value. To find out the present value of a future amount, we have simply to find out the PVF from the table and multiply by the amount. We can rewrite Equation as:

$$PV= F_n (PVF_{n,i})$$

Where PVF_n, is the present value factor for n periods at i rate of interest.

4.4.2 Present Value of an Annuity

An investor may have an opportunity to receive a constant periodic amount (an annuity) for a certain number of years. For this purpose, we will have to find out the present value of the amount every year and will have to aggregate all the present value to get the total present value of the annuity. For example: an investor, who has a required interest rate as 10%, may have an opportunity to receive an annuity of Re. 1 for 4 years. The present value of Rel received after 1 year is, P = 1/(1.10) = Re. 0.909, after 2 years, P = 1 /$(1.10)^2$ = Re 0.826, after 3 years, P - 1/$(1.10)^3$ » Re 0.751, after 4 years, P = 1/$(1.10)^4$ = Re 0.683. Thus the total present value of annuity of Re 1 is Rs 3.169 :

$$P =1/ (1.10) + 1/ (1.10)^2 + 1/ (1.10)^3 + 1/ (1.10)^4$$

$$= 0.909 + 0.826 + 0.751 + 0.683 = Rs\ 3.169$$

If Re 1 would have been received as lump sum at the end of the fourth year, the present value would be only Re. 0.683. Notice that the present value factors of Re. 1 after 1, 2,
3, 4 and so on, and when they are aggregated, we obtained the present value of the annuity of Re. 1. The present value of an annuity of Rel for four years at 10% interest rate. It can be noticed that the present value declines over period for a given discount rate. For this you can use the present value table which shows the present value of Re. 1 payable or receivable annually for n years.

The computation of the present value of an annuity can be written in the following general from:

$$P = A/ (1+i) + A/ (1+i)^2 + A/ (1+i)^3 + \ldots\ldots\ldots\ldots\ldots A/ (1+i)^n$$

$$=A (1/ (1+i) + 1/ (1+i)^2 + 1/ (1+i)^3 + \ldots\ldots\ldots\ldots\ldots + 1/ (1+i)^n]$$

Where A is a constant payment (or receipt) each year. Equation can be solved and expressed as follows:

$$P = A [\{1-1/ (1 + i)^n\}/i]$$

$$\text{or } P = A [\{(1 + i)^{""1}\}/ i(1 + i)^n]$$

$$\text{or } P = A [1/i - 1/ i (1 + i)^n]$$

The term with in parentheses of equation is the present value factor of an annuity of Re. 1, which we will call PVAF, and it is a sum of single- payment present value factors. The above equation can also be written as follows:

$$P = A (PVAF_{n.i})$$

Where $PVAF_{n.i}$ is present value factor of an annuity of Re. 1 for n periods at i rate of interest.

4.4.3 Present Value of a Perpetuity

I

Perpetuity is an annuity that occurs indefinitely. Perpetuities are not very common in financial decision making. But can find a few examples. For instance, in the case of irredeemable preference shares (i.e. preference shares without a maturity), the company is expected to pay preference dividend perpetually by definition, in a perpetuity, time period, n, is so large (mathematically n approaches infinity) that the expression $(1+i)^n$ in equation tends to become zero, and the formula for a perpetuity simply becomes:

$$P = A/i$$

To take an example, let us assume that an investor expects a perpetual sum of Rs. 500 annually from his investment. What is the present value of this perpetuity if his interest rate is 10%? By applying above equation, we get:

$$P = Rs.\ 500/0.10 = Rs.5000$$

4.4.4 Present Value of an Uneven Periodic Sum

In the investment decisions of a firm, one would not frequently get a constant periodic sum (annuity). In most instances the firms receive a stream of uneven cash inflows. The following equation can be used to handle the present value of uneven cash flows:

$$P = A, / (1 + i) + A_2/ (1 + i)^2 + V (1 + i)^3 + \ldots\ldots\ldots\ldots\ldots\ A_n/(1+i)^n$$

Where 1, 2, 3 indicates the time period and extends from one period to n period. In operational terms, equation can be written as follows:

$$PV - A_1 (PVF_{1,i}) + A_2 (PVF_{2,i}) + A_3 (PVF_{3.i}) + \ldots\ldots\ldots\ldots\ldots + A_n (PVF_{n,i})$$

4.4.5 Present Value of a Growing Annuity

In financial decision making there are number of situations where cash flows may grow at a compound rate. For example, in the case of companies' dividends are expected to grow at a compound rate. Assume that to finance your studies in an evening college, you undertake a part-time job for 5 years. Your employer fixes an annual salary of Rs.1000 with the provision that you will get annual increment at the rate of 10%. It means that you shall get the following amounts from yearly through year5. For this purpose, we can write the formula for calculating the present value as follows:

$$P = A,/ (1+i) + A_2/ (1+i)^2 + A_3/ (1+i)^3 + \ldots\ldots\ldots\ldots\ A_n/ (1+i)^n$$

$$= Aj (1+g)^0/ (1+i) + A_2 (1+g)^1/ (1+i)_2 ++ A^3 (1+g)_2/ (1+i)^3 + \ldots A_n (1+g)^{n-1}/ (1+i)^n$$

Where g is the rate of growth of cash flows. Note that and so on. If there will be an adjustment in the discount rate for growth, we can use the same procedure for calculating the present value of cash flows growing at a constant rate and it can be written as follows:

$$P = A[1-(1+g/(1+i))^{n} /i-g]$$

Where i*= required rate of interest adjusted for growth, g= rate of growth of cash flows.

In growing the calculation of the present value of a constantly growing series of cash flows, we have assumed a finite time period. Cash flows may grow indefinitely. In mathematical term, we may say that n may extend to infinity (n-). Then the calculation of the present value of a constantly growing perpetuity becomes very simple; it is given by the following equation:

$$P= A/i-g$$

4.5 INTERNAL RATE OF RETURN METHOD (IRR)

The internal rate of return or yield for an investment is the discount rate that equates the present value of the expected cash outflows with the present value of the expected cash inflows. It is the rate which makes the net present value equal to zero. Mathematically, it is represented by r in the following equation:

$$A_0/ (1 + r) +A_1 (1 + r) + A_2/ (1 + r) +..... A_n/(1+r) = 0$$

Where A is the cash flow for the period (0, 1,2...n) whether it be a net cash outflow or inflow, n is the life of the project and r is the discount rate or internal rate of return.

The above equation is the same as used for the net present value method. The main point of difference between IRR and NPV method is that in the NPV method, the required rate of return K is assumed to be known and the New present value is calculated, while in IRR method the value of r has to be determined at which the net present value is zero.

The value of r can be found out by trial and error. The approach is to select any discount rate to compute the present value of cash inflows.

If the calculated present value of the expected cash inflow is lower than the present value of cash outflow, a lower rate should be tried. On the other hand, a higher value should be tried if the present value of cash inflows higher than present value of cash outflows. The process will be repeated unless the Net present value becomes zero.

Generally, it may so happen that the value of IRR may lie in some range, say, somewhere between 10 percent and 11 percent. The more exact value of IRR can be found by the method of linear interpolation that is,

$$R = LR + PV_1 - PV_0/PV_1–PV_r*D$$ Where L_R stands for lower discount rate applied, PV_t present value at lower discount rate, PV_r present value at higher discount rate, PV_0 initial investment and D stands for difference in higher and lower discount rate.

Selection Criterion

The proposal, should be accepted if its internal rate of return is higher than the opportunity cost of capital (r > k). The proposal shall be rejected if its internal rate of return is lower than the opportunity cost of capital (r > k). The decision may indifferent it internal rate of return is equal to required rate of return (r > k).

EVALUATION

Advantages

(1) The IRR method also recognizes the time value of money.
(2) It considers all cash flow occurring over the entire life of the project.
(3) It is consistent with the objectives of maximizing the shareholder's wealth.

Limitations

- It involves complicated calculations and so it is difficult to understand and use.
- The method implies that intermediate cash inflows generated by the project are reinvested at the internal rate of project which may not be so its reinvestment at the rate of firms cost of capital seems to be more convincing and it is followed in net present value method.
- The results obtained through IRR method may, not match NPV. Method results if the projects differ in their (i) expected lives, or (ii) cash outlays or (iii) timing of Cash flows.

Illustration:

A firm whose cost of capital is 10% is considering two mutually exclusive projects A and B the cash flows of which are as below:

Year	Project A Rs.	Project B Rs.
0	-50,000	-80,000
1	62,500	96,170

Suggest which project should be taken up using (i) Net Present Value Method, and (ii) the Internal Rate of Return Method.

Solution:

(i) Calculations of Net Present Value (NPV)

Year	**P.V. Factor**	**Project A**		**Project B**	
		Cash Flow (Rs.)	**Present Value (Rs.)**	**Cash Flow (Rs.)**	**Present Value (Rs.)**
0	1	-50,000	-50,000	-80,000	-80,000
1	909	62500	56,812	96170	874.418
of Present Value (NPV)			+6812		+7418

(ii) **Calculations of Internal Rate of Return (IRR)**

	Project A	**Project B**
V. Factor =	=80	=.83
R (Using P.V. Tables)	25%	20%

Suggestions

According to the Net Present Value Method, investment in Project B is better because of higher positive NPV; but according to the IRR method Project A is a better investment because of the high internal rate of return. Thus, there is a conflict in banking of the two mutually exclusive proposals according the two methods. Under these circumstances, we would suggest to take up Project B which gives a higher present value because in doing so the firm will be able to maximize the wealth of the shareholders.

4.6 BOND RETURNS

A bond or debenture is a contractual financial instrument which obligates its issuer to pay a given sum of money (known as par or face or maturity value) at a contracted date (maturity date) in future and a periodic interest payment at a fixed rate of interest (coupon rate). Bond is relatively easy to value because its coupon, principal, maturity is well specified or fixed. The level and changes(volatility) in the bond price (value) are determined by expected interest receipts, maturity, investor's required rate of return, maturity value and changes in the market (current or prevailing) interest rates. There can be various forms of debt. It may take the form of a loan or it may be in the form of debentures, etc. Moreover, it may be issued at par, at premium or at discount. It may be perpetual or redeemable. The technique of computation of cost in each case has been explained in the succeeding discussion:

4.6.1 Debt issued at par

The computation of cost of debt issued at par is comparatively an easy task. It is the explicit interest rate adjusted further for the tax liability of the company. The formula for its computation is

$$Kd = R(1-T)\ R/P(1-t)$$

Where, Kd = Cost of debt

R = Debenture interest rate

T = Margined tax rate

P = Rate value of debenture

It may be noted that the interest rate in multiplied by the factor (1-T). This multiplication is necessary to reflect the fact that interest on debt is a tax-deductible expense.

4.6.2 Debt issued at Premium or Discount

In case the debentures are issued at premium or discount the cost of debt should be calculated on the basis of net proceeds realized on account of issued of such debentures or bonds. Each a cost may be further adjusted keeping in view of the tax rate applicable to the company. The formula for its computation is

$$Kd - R/NP(1-T)$$

Where Kd = Cost of debt

R =Annual interest payment

NP = Net proceeds of loans or debentures

T = Tax rate

Let us take an example to illustrate this let a company issues 10% irredeemable debentures of Rs. 1, 00,000. The tax rate applicable to the company is 60%. Calculate the cost of debt if debentures are issued at

(i) Par

(ii) 10% discount and

(iii) 10% premium

Solution: The formula is

$$Kd - R/NP(1-T)$$

(i) Issued at Par

$$Kd - 10000/100{,}000(1 - .60)$$

$$= .40/1 - 0.4$$

$$= 4\%$$

(ii) Issued at discount

Kd = 10000/90,000(l-.60)

=.40/9 - .44 - 4.4%

(ill) Issued at Premium

Kd = 10000/1, 10,000(1-.60)

= .40/11 - .36 = 3.6%

4.6.3 Cost of Redeemable Debt

In the proceeding discussion we presumed that debentures or bounds are not redeemable during the life time of the company. However, if the debentures are redeemable after the expiry of fixed period, the effective cost of debt before tax can be calculated using the following formula:

Kd (before tax) = [R + l/n(MP- NP)]/MP + NP/^{2}

Where M = Maturity Price of debt

NP = Net proceeds of debentures

R = Annual interest payments

n = No. of years to maturity

for computing the after-tax cost of debt, the following formula is used. After tax

Cost of Debt = Before Tax Cost of Debt (1—t)

Where t is tax rate.

4.7 RETURN FROM STOCK MARKET INVESTMENTS

Stock market investments are related with the valuation of common stock or equity shares. The valuation of common stock or equity shares is relatively difficult as compared to the bonds or preferred stock. The cash flows of latter are certain because the rate of interest on bonds and the rate of dividend on preference shares are known. The cash flows expected by investors on common stock are uncertain. The earnings and dividends on equity shares are expected to grow. However, we can determine the value of equity shares (I) by developing certain models based on capitalization of dividend, and (ii) Capitalization of earnings.

The value of an equity share is a function of cash inflows expected by the investors and the risk associated with the cash inflows. The investor expects to receive dividend while holding the shares and the capital gain on sale of shares. The value of an equity share, in general, is the present value of its future stream of dividends. In the words of I.C. Van horn, cost of equity capital is the minimum rate of return that the company must earn equity financed portion of its investments in order to leave unchanged the market price of its stocks.

The cost of equity capital is the most difficult to measure. Some people argue that equity does not involve any cost. If there is profit, dividends are distributed to equity shareholders. Otherwise, no dividends are paid. Another major problem is that cost of equity is based upon the stream of future dividend as expected by shareholders. However, it is very difficult to estimate the amounts of expected future dividends and what should be the basis for this estimate.

Despite all these difficulties, different authorities have conveyed different explanation and approaches the following are some of the approaches according to which cost of equity capital can be worked out:

4.7.1 Dividend Price Approach (D/P Approach)

According to this approach, Cost of equity capital is the discount rate that equates the present value of all expected future dividends per share with the net proceeds or the current

market price of a share.

Symbolically

Ke = D/NP or D/MP

Where

Ke = Cost of Equity capital

D = Expected dividends per share

NP = Net proceeds per share

MP = Market price per share

The basic assumptions underlying this method are that the investors give prime importance to dividends and the risk in the firm remains unchanged. This dividends price method of computing cost of capital does not seem to be logical because

(i) It does not consider the growth in dividends.

(ii) Does not consider future earnings on retained earnings.

(iii) It does not take into account capital gains.

4.7.2 Dividend Price Plus Growth (D/P + G) Approach

According to this approach, the cost of equity capital is determined on the basis of expected dividends rate plus rate of growth in dividend. The rate of growth in dividend is determined on the basis of the amount of dividends paid by the company for last few years.

The computation of cost of capital, according to this approach can be done by using the following formula:

Ke = D/NP + g or D/MP + g

Where g = Growth is expected dividend.

It may be noted that in case of existing equity shares, the cost of equity capital can be determined by using MP (market price) of equity share in place of NP (net proceeds) of the share as given above.

The dividend price growth approach is, to a great extent, helpful in determining satisfactory the expectation of the investors. However, the quantification of expectation of growth of dividends is a difficult matter. Usually, it is presumed that growth in dividends will be equal to growth in earning per shares.

4.7.3 Earning Price Approach

This approach is based on assumptions that it is the earning per share which determined the market price of the shares. That is the shareholders capitalize a stream of future earning (as distinguished for dividends) in order to evaluate their shareholders. Hence the cost of capital should be related to that earning percentage which could keep the market price of equity shares constant. The formula for this is:

Ke - E/NP

Where, Ke = cost of capital

E = earnings per share

NP = Net proceeds of equity shares.

4.7.4 Earning Price Ratio plus Growth in Earnings Method

The E/P ratio method does not take care of increase in the ratio of earnings of the company. The earnings of the company are usually expected to grow in future. If the EPS of a company is expected to grow at a constant rate of growth, the cost of equity capital can be

found out by solving the following equation.

Ke = E/P + g Where, g - the rate of growth in EPS.

As we know, the value of an equity share is a function of cash inflows expected by the investor and the risk associated with the cash inflows. It is calculated by discounting the future stream of dividends at the required rate of return called the capitalization rate. The required rate of return depends upon the element of risk associated with the investment in shares. It will be equal to the risk-free rate of interest plus the premium for risk. Thus, the required rate of return, Ke, for a share is,

Ke = Risk free Rate of Interest + Premium for Risk

Further, if the dividends of a firm are expected to grow at a constant rate forever and the market is in equilibrium, there should be no difference between the present value and the market price of the share. In such a situation, the required rate of return can be calculated with the following equation:

Po - Dl/ Ke - g

Or, Ke = Dl/Po + g

Where, Po = Current price of the share

Ke = required rate of return

Dl= Expected dividend in year 1

G = Rate of growth

Sometimes, we may be required to calculate the rate of return which an investor can expect if he purchases an equity share at the current market price (Po) hold it for 1 year and then sell the same at the market price prevailing at the end of 1 year (PI). The expected rate of return, re can be calculated with the following formula:

Po = Dl + PI/ (1 + re)

Or, re = Dl/Po + PI - Po/Po In case, the investor wants to hold the share for a very long period, say infinity and the dividends are expected to grow at a compound annual rate, the expected rate of return re can be calculated as:

Re = Dl/Po + g

Illustration: The equity share of a company is currently selling at Rs 80. it is expected that the company will pay a dividend of Rs 4 at the end of 1 year and the share can be sold at a price of Rs 88. Calculate the return on equity shares. Should an investor buy it, if his capitalization rate is 12%?

Solution:

re = Dl/Po + PI-Po/Po =

4/80 + 88-80/80

- 0.05 + 0.10

= 0.15 or 15%

- **Self- Check Questions:**

a) _____ means professionally estimating, assessing, determining, setting the price, worth and value of a thing or an asset.

b) _____ is the rate which makes the net present value equal to zero.

c) _____approach is based on assumptions that it is the earning per share which determined the market price of the shares.

d) Stock market investments are related with the valuation of _____.

4.8 SUMMARY

As we know, a good understanding of the working of financial markets requires the knowledge of the process of valuation of securities. For this purpose, the concept of valuation includes time value of money, present values, internal rate of return, Bond returns, Return from Stock Market Investments. Most individuals value the opportunity to receive money now higher than waiting for one or more years to receive the same amount. This phenomenon is referred to as an individual's time preference for money. Thus, an individual's preference for

possession of a given amount of cash now, rather than the same amount at some future date is called time preference for money. The present value of a future cash inflow is the amount of current cash that is equivalent value to the decision maker, the process of determining present value of a future payment or a receipt is called discounting. The compound interest rate used for discounting cash flows is also called the discount rate. For this, present value of an annuity, perpetuity, uneven periodic sum, growing annuity would be calculated.IRR equates the present value of expected cash inflows and present value of expected cash outflows. Bond is relatively easy to value because its coupon, principal, maturity is well specified or fixed. For this, Cost of redeemable debt and irredeemable debt is calculated. Stock market investments are related with the valuation of common stock or equity shares. The valuation of common stock or equity shares is relatively difficult as compared to the bonds or preferred stock. We can determine the value of equity shares (i) by developing certain models based on capitalization of dividend, and (ii) Capitalization of earnings.

- **Keyword:** *Time value of money, Dividend price approach, Earning price approach, Bond returns*

4.9 SELF- CHECK EXCERCISE

- **Long Question Answer:**

(1) "Generally, individuals show a time value for money". Give reasons for such a value?
(2) "An individual's time preference for money may be expressed as a rate". Explain?
(3) What happens to the present value of an annuity when the interest rate rises?
(4) Explain in detail the method of valuing a bond or debenture?
(5) Write a short note on:
  (i) Time value of money.
  (ii) Present value
  (iii) internal rate of return
  (iv) Bond return

- **Short Question Answer:**

1. How we can get a rate of return on stock market investments or equity?
2. Explain the mechanics of calculating the present value of cash flows?
3. Write a short note on return on stock market investments.
4. Explain in brief the method of valuation of an equity share?

4.10 SUGGESTED READINGS

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4.11 SELF-CHECK QUESTIONS (ANSWER KEY):

4.7 a) Valuation b) IRR c)Earning Price d) Common stock/ equity shares

MBA PART- I
SEMESTER-II
Lesson No. 5

PAPER: FM 202
FINANCIAL MANAGEMENT
AUTHOR: DR. (MRS.) ANJU

CAPITAL BUDGETING

5.0 OBJECTIVES

After studying this lesson, students would be able to:

- Understand the concept of capital budgeting.
- Make clear the importance and methods of capital budgeting

5.1 MEANING AND CONCEPT

Efficient allocation of capital is one of the most important functions of financial management in modern times. This function involves the firm's decision to commit its long-term assets and other profitable activities. The firm's decision to invest funds in long term assets are of considerable significance since they tend to influence the firm's value and size by influencing its growth, profitability and risk. The purpose of Capital Budgeting is to provide an insight of the frame Work which can be adopted to make optimum investment decision.

A capital budgeting decision may be defined as the firm's decision to invest is current funds most efficiently in the long-term assets in anticipation of an expected flow of benefits over a series of years. The long-term assets are those which effect the firm's operation beyond the one-year period. This decision would generally include expansion, acquisition, modernization and replacement of the long-term assets. The following are the main features of capital budgeting decision:

(i) The exchange of current funds for future benefits.
(ii) The funds are invested in long term assets.
(iii) The future benefit will occur to the firm over a series of years.

IMPORTANCE OF CAPITAL BUDGETING

The importance of Capital Budgeting can be well understood from the fact that an unsound investment decision may prove to be fatal to the very existence of the concern. The need, significance or importance of capital budgeting arises mainly due to the following:

(i) Large Investment

Capital Budgeting generally require large amount of funds but the funds available with the firm are always limited. Hence, it is very imperative for the firm to plan its investment programmes very carefully.

(ii) Long-term Commitment of Funds

Capital budgeting decision requires funds for long term and on permanent basis. The

long term commitment of fund increases the financial risk involved in the investment decision. Greater the risk involved, greater is the need for careful planning of capital expenditure.

(ill) Irreversible Nature

Most investment decisions are irreversible in nature. Once the decision istaken, they cannot be taken back without a great loss.

(iv) Long-term Effect on Profitability

Capital budgeting decisions have along-term effect on profitability of concern, not only present profitability is affected but future profitability's also.

(v) National Importance

Capital budgeting decisions though are taken by individual but still they affect the employment and economic growth of country.

5.2 METHODS OF CAPITAL BUDGETING

At each point of time a business firm has a number of proposals in which it can invest funds. However, there is always a limit on the availability of funds and it may not possible to invest funds in all the proposals at a time. Hence, it is very essential to select the proposals which give the maximum benefit and it is the capital budgeting techniques which help in selecting these proposals. A number of capital budgeting techniques are in use in practice. They may be grouped in the following two categories.

(i) Non-discounted Cash Flow Methods

(a) Payback Period

(b) Accounting Rate of Return

(ii) Discounted Cash Flow Methods

(a) Net present Value

(b) Internal Rate of Return

(c) Profitability Index

5.2.1 Non-Discounted Cash Flow Method (Traditional Methods)

Pay Back Period Method:

It is simplest and most popular method of evaluating capital budgeting, decision. The payback period is the length of time required to recover the initial cash outlay on the project. If the proper generates constant annual cash inflows, the pay-back period can be computed by dividing initial cash outlay by the annual cash inflow. That is

$$\text{Payback Period} = \frac{\text{Initial Cash Outlay of the Project}}{\text{Annual Cash Flow}}$$

A project requiresoutlay of Rs. 50,000 and yield an annual cash inflow of Rs. 12,500 for 7 years. The payback period for the project is

$$\text{Payback Period} = \frac{\text{Rs. 50,000}}{\text{Rs. 12,500}} = 4 \text{ years}$$

In case of unequal cash inflows, the payback period can be found by adding up the cash inflows until the total is equal to the initial cash outlay.

Example 1: Project involve initial cash outlay 600000 and generate cash inflows Rs. 10,000, Rs. 1,50,000 and Rs. 2,00,000 and Rs. 1,50,000 in 1,50,000 in I, II, III and IV year respectively. It payback period is 4 year, because sum, of the cash inflow of 4 years is equal of sum of the initial cash outlays.

Example 2: Suppose that a project cash outlay of Rs.20, 000 and generates cash inflows Rs. 8,000 Rs. 7,000, Rs. 4,000 and Rs. 3,000 during the next four years. We will find that original cash outlay is not recovered in full three years. Only Rs. 1000 of the original outlay remains to be recovered. In the fourth-year cash in flow generated Rs. 3000. Assuming that the cash inflow occursevenly during the year, the time required to recover Rs. will be (Rs. 1000/R Rs. 3000) 12 = 4 months. Thus, the playback period is 3 years and 4 months.

Acceptance - Rejection Criteria

The payback period can be used as a criterion to accept or reject investment projects. If the payback period calculated for the project is less than the maximum payback period set by management, it would be accepted, if not it would be rejected, as a ranking method, it gives highest ranking to the project which has shortest payback period and lowest ranking to the project which has highest payback period.

Evaluation:

Advantages:

A widely used investment criterion, the payback seems to offer the following advantages

(i) It is easy to understand, complete and communicate to other.

(ii) Since it emphasizes earlier cash inflow it may be sensible criterion when firm is pressed with problem of liquidity.

(iii) It is a rough and ready method of dealing with risk because this favors generation of more cash inflows in earlier years and we know longer the period more the risk.

(iv) When the payback period is set at a large number of years, the income streams are uniform for each year; the payback criterion is a good approximation to the reciprocal of the internal rate of return.

Disadvantages

(i) It fails to consider the earning from an investment after the payback period. For example, two projects are being considered by firm. Each requires an investment of Rs. 10,00,000. The firm marginal cost of capital is 15%. The Net cash flows from investment X and Y are sown in Table-I

Table-1: Net Cash flow

Year	X Rs.	Y Rs.
1	4,00,000	3,00,000
2	3,00,000	2,50,000
3	2,00,000	2,00,000
4	1,00,000	1,50,000
5		1,00,000
6	-	50,000

Since the cost in Rs. 10, 00,000 the payback is 4 years for project X and 5 years for projectY. If the firm is employing a four-year payback period, project X would be accepted and project Y would be rejected. Thus, the payback ignores the income beyond the payback period.

(ii) It is not an appropriate method of measuring the profitability of an investment project as it does not consider all cash inflow yielded by the project.

(iii) It fails to consider time value of money. For example, consider the projects A and B each costing Rs. 9,00,000 and having the following cash inflows

Year	A	B
1	3,00,000	6,00,000
2	6,00,000	3,00,000
3		3,00,00

Each project has a two-year payback using payback period, both projects are equally desirable. However, we know that a rupee today is worth than a rupee next year. So, project b with its faster cash flow should be more desirable.

(iv) Administrative difficulties may be faced in determining the maximum acceptable payback period. There is no rational basis for setting a maximum period.

(v) The payback period is not consistent with the objectives of maximizing the market value of the firm's shares. Share value do not depend on the payback period of investment project.

2. Accounting Rate of Return Method

The Accounting Rate of Return is also called the average rate of Return. The accounting rate of return is found out by dividing the average after tax profit by the average investment Average investment can be found out dividing the total of the investment's book value after depreciation by the life of the project. Average income should be defined in term of earning after tax without an adjustment of interest viz EBIT (1-t). The accounting rate of Return, thus an average rate and can be determined by the following equation:

ARR=*Average Income*

Average Investment

$$ARR = \sum_{t=1}^{n}$$

where

EBIT = Earnings before Interest and tax

T = tax rate

IO= book value of Investment in the beginning

In= book value of Investment at the end of number of years.

Selection Criteria

As an accept or reject criteria, this method will accept all those projects whose ARR is higher than the minimum rate establishment by management and reject those projects which have ARR less than minimum rate. This method would rank a project as number one if it has highest ARR and lowest rank would be assigned to the project with lowest ARR.

Evaluation Of ARR Method

Advantages:

(i) It is simple to calculate and understand.

(ii) It is based on accounting, information which is readily available and familiar to businessman, no adjustment is required to derive cash flow of the project.

(iii) It considers benefits over entire life of the project.

Disadvantages:

(i) It is based on accounting projects not cash flow.

(ii) It does not take into accounting the time value of money as profits occurring in different periods are valued equally. This is unscientific as money regularly changes its value.

(iii) This method of ARR does not consider that the profits earned can be universe to a return.

5.2.2 DISCOUNTED CASH FLOW METHODS OF CAPITAL BUDGETING

We have considered non-discounted cash flow methods in the third chapters for measuring the value of an investment worth considered may give obviously incorrect results because they fail hither to consider the entire life of the investment or to give adequate attention to the timing of future cash proceeds. The discounted cash flow concept provides methods of account the timing of cash proceeds and outlays over the entire life of the investment.

In discounted cash flow techniques of capital budgeting, the concept of cash flow and discount rate is very important cash flow estimation.

Cash flow refers to cash revenues minus cash expenses. A distinction should be made between cash flow & profits. A change in profit does not mean corresponding change in cash flow. It is possible for a firm to experience shortage of cash when profits are increasing or vice versa. For calculating cash inflows, separate estimate of cash inflows and cash outflows should be made. The initial cash outflows will include original cost and the installation cash. Any cash proceed realised from sale of alternate project should be set off with initial cash outlay of project is consideration. Beside initial cash outlay, cash inflows also occur in respect of expenditure on material, labor and other items.

Like cash outflow, cash inflow is also estimated, A cash inflow can occur by two means:

(i) Increase in cash revenue

(ii) Cash saving through reduction in operating cost.

The net cash inflow must be estimated on an after-tax basis. However, special attention should be given to non-cash expenditure like depreciation. Depreciation is a deductible expense for income tax purpose. So, for calculating cash inflow once tax should be changed after charging depreciation and after payment tax, depreciation should be added back to profit to find flows. One can say that cash inflows are calculated after charging tax but before charging depreciating.

Discount Rate

The discount is the project opportunity cost of capital (or simply the cost of capital for discounting its cash flows) The project's cost of capital is the minimum acceptable rate or the required rate of return on funds committed to the project. The minimum acceptable rate or required rate of return is a compensation for time and risk in the use of capital by the project.

After discussing the estimation of cash flows and discount rate, now we will discuss various discounted cash flow techniques for evaluating capital budgeting decisions.

(I) Net- Present Value (NPV)

The net present value is the different between total present value of future cash inflows and present value of cash outflows. It correctly postulates that cash flow arising at different time periods differ in value and are comparable only when their equivalents present value is found out. In this methods, cash inflows & cash outflow associated with each project are worked out. Present value is of cash flows, are calculated using opportunity cost of capital as the discount. After that, Net present value is found out by subtracting present value of cash outflows from present value of cash inflows.

The equation for the net present value be written as follows:

$$NPV = \left[\frac{C_1}{(1+K)} + \frac{C_2}{(1+K)^2} + \frac{C_3}{(1+K)^3} + \text{-------} \frac{C_n}{(1+K)^n}\right] - C_o$$

Where C_1 C_2= represent Net Cash inflows m Years 1, 2

K = Opportunity cost of capital

Co = Initial cost of investment

n = Expected life of the Investment

Selection Criterion

The acceptance rule using the NPV method is to accept the investment project if its net present value is positive (NPV >0) and to reject it if the New present value is negative (NPV <0). A project may be accepted if NPV = 0. As a ranking method, first rank will be given to the project with highest positive NRV and last rank will be given to the project with lowest negative NPV.

Evaluation of NPV Method Advantages:

(1) It recognizes the time value of money.
(2) It uses all cash flowsoccurring over the entire life of the project
(3) Discounting process facilitates measuring cash flows in term of present value.
(4) This method is always consistent with the objective of maximising the shareholders wealth.

Limitations:

(1) The NPV method is easy to use of forecasted cash flows and discount are known but in practices. It is quite difficult to obtain the estimates of cash flow due to uncertainty.
(2) The ranking of investment project as per NRV rule is not independent of the discount rates.
(3) A project with higher net present value with large economic life may be less desirable than a project with a shorter economic life as an alternative under such circumstances the NPV method gives misleading results.

Illustration 1. Excellent Trading Co. Ltd. proposes to increase the production of the company. They are willing to purchase a new machine. There are three types in the market. The following are the details regarding them.

	Type P	**Type Q**	**Type R**
	Rs.	**Rs.**	**Rs.**
Cost of Machine	17,500	12,500	9000
Estimate Savings in scrap	400	750 -	250
Wages per operative	250	300	250
Cost of indirect materials		400	-
Expected saving in indirect materials	100	-	250
Additional cost of maintenance	750	550	500
Additional cost of supervision	-	800	-
Operative not required (number)	11	20	0
Estimated life of machine	10 years	6 years	5 years
Taxation at 50% of the Profit			

You are required to advise the management which type of the machine should be purchased.

Solution:

Comparative Profitability Statement

	Type P Rs.	Type Q Rs.	Type R Rs.
Cost of Machine	17,500	12,500	9,000
Life of the machine	10 years	6 years	5 years
Annual Saving in cost	2,750	6,000	2,250
Wages (Operative not required * Rate			
Scrap	400	750	250
Direct Material	100		250
Total (A)	3,250	6,750	2,750
Additional cost or expenditure Maintenance	750	550	500
Indirect materials	—	400	— '
Supervision	—	800	—
Total(B)	750	1,750	500
Cost Savings or Marginal Profit, (A-B)	2,500	5,000	2,250
Cost Saving after tax of 50%	1,250	2,500	1,125
Payable Period (Cost of machine/Net savings)	14 years	5 years	8 years
Cost Payback period	..	1 years	..
(Life of machine-Payback period)			
Payback Profitability	—	2,500	—

Internal Rate of Return Method

Internal rate of return can be defined as that rate which equals the present value of inflows with the present value of cash outflow. In other words, it is the rate at which NPV of the investment is zero. It is called internal rate because it depends solely the outlay and proceeds associated with investment and not on any rate determined side the investment. It can be determined by solving the following equation.

$$C_0 = {}_t\text{^}L_+ \text{ -^2\_ } + \text{ ----------}$$

$$+ (1 + r)2 \qquad (i + r)^n$$

$$\sim \quad \text{Ct}_t \text{ (1 + r)*}$$

n p t-

i(l + r)

The main point of difference between IRR and NPV method is that in the NPV method, the required rate of return I£ is assumed to be know and the New present value is calculated, while in IRR method the value of r has to be determined at which the net present value is zero.

The value of r can be found out by trial and error. The approach is to select any discount rate to compute the present value of cash inflows.

If the calculated present value of the expected cash inflow is lower than the present value of cash outflow, a lower rate should be tried. On the other hand, a higher value should be tried if the present value of cash inflows higher than present value of cash outflows. The process will be repeated unless the Net present value becomes zero.

Selection Criterion

The proposal, should be accepted if its internal rate of return is higher than the opportunity cost of capital (r > k). The proposal shall be rejected if its internal rate of return is lower than the opportunity cost of capital (r > k). The decision may indifferent it internal rate of return is equal to required rate of return (r > k).

Evaluation

Advantages

(1) The IRR method also recognizes the time value of money.

(2) It considers all cash flowoccurring over the entire life of the project.

(3) It is consistent with the objectives of maximising the shareholder's wealth.

Limitations

(1) It involves complicated calculations and so it is difficult to understand and use.

(2) The method implies that intermediate cash inflows generated by the project are reinvested at the internal rate of project which may not be so its reinvestment at the rate of firms cost of capital seems to be more convincing and it is followed in net present value method.

(3) The results obtained through IRR method may, not match NPV. Method results if the projects differ in their (i) expected lives, or (ii) cash outlays or (iii) timing of cash flows.

Illustration 2: A firm whose cost of capital is 10% is considering two mutually exclusive projects A and B the cash flows of which are as below:

Year	Project A Rs.	Project B Rs.
0	-50,000	-80,000
1	62,500	96,170

Suggest which project should be taken up using (i) Net Present Value Method, and (ii) the Internal Rate of Return Method.

Solution:

(i) Calculations of Net Present Value (NPV)

Year	**P.V. Factor**	**Project A**		**Project B**	
		Cash Flow *(Rs.)*	**Present Value** *(Rs.)*	**Cash Flow** *(Rs.)*	**Present Value** *(Rs.)*
0	1	-50,000	-50,000	-80,000	-80,000
1	909	62500	56,812	96170	874.418
of Present Value (NPV)			+6812		+7418

(ii) Calculations of Internal Rate of Return (IRR)

		Project A	Project B
V. Factor	Initial Outlay / Annual Cash Flow	50,000 / 62,500 =.80	80,000 / 96,170 =.83
R (Using P.V. Tables)		**25%**	**20**%

Suggestions: According to the Net Present Value Method, investment in Project B is better because of higher positive NPV; but according to the IRR method Project A is a better investment because of the high internal rate of return. Thus, there is a conflict in banking of the two mutually exclusive proposals according the two methods. Under these circumstances, we would suggest to take up Project B which gives a higher present value because in doing so the firm will be able to maximise the wealth of the shareholders.

Profitability Index

It is the ratio of the present value of cash inflows at the required rate of return to the initial cash outflows of the investment. It is also known as cost benefit ratio.

$$P = \frac{\text{Present Value of Cash Flow}}{\text{Initial Cash Outflows}}$$

$$\frac{PV(C_1)}{C_0}$$

$$PI = \sum_{t=1}^{n} \frac{C_t}{(1+K)^t} C_0$$

Selection Criterion

The project will have to selected of PI is greater than I an of it is less than I it shall be rejected the decision shall be indifferent. If PI is equal to I.

Evaluation of PI Method

(1) PI is a conceptually sound method of appraising investment project. It give due consideration to time value of money.
(2) Though it needs more time for calculations when compared with traditional methods, but as against internal rate of return method is requires less time.
(3) It helps in ranking the projects, giving highest rank to the project with highest profitability index and lowest rank to the project with lowest profitability index.
(4) As this method is capable of calculating incremental benefit-cost ratio, it can be used to choose between mutual exclusive projects.

Investment Projects of different firms are exposed to different degree of risk. Risk exists because of the inability of the decision-maker to make perfect forecasts. Forecasts cannot be made with perfection or certainty since the future events on which they depend are uncertain. As investment is to risky if we can specify a unique sequence of cash flows for it. But the whole trouble is that cash flows cannot be forecast accurately, and alternative sequences of cash flows can occur depending upon future events. Thus risk arises in investment evaluation because we cannot make my correct prediction about the cash flow sequence. A large number of events influences forecast The major events can be General economic conditions, industry factor, So, risk associated with an investment from the investment. The greater the variability of the expected returns, the riskier the project

Techniques to handle Risk: A number of techniques to handle risk are used by managers in practice. The following are the popular techniques of handling risk in capital budgeting

1. Risk adjusted discount rate.
2. Certainty equivalent.

1. Risk Adjusted discount Rate For a long time the economic theorists have assumed that to allow for risk the businessman required a premium over and above an alternative which was risk-free. Accordingly, the more uncertain the returns in the future, the greater the risk premium be incorporated into the capital, budgeting analysis through the discount rate. That is, if the time preference for money is to be recognised by discounting estimated future cash flows, at some risk-free rate, to their present rate may be added to risk-free discount rate. Such a composite discount rate will allow for both time preference and risk preference and will be a sum of the risk-free and the risk-premium rate reflecting the investor's attitude towards risk.

The risk adjusted discounted rate method can be finally expressed as follow

$$NPV = \sum_{t=0}^{n} \frac{NCF_t}{(1+K)^t}$$

When K is Unadjusted discount rate.

$$K = Kf + Kr$$

Evaluation The following are the advantages of risk adjusted discount rate method:

(i) It is simple and can be easily understood.
(ii) It has a great deal of intuitive appeal for risk-averse businessman.
(iii) It incorporates an attitude (risk-aversion) towards uncertainty. This approach, however suffers from the following limitations:
(i) There is no easy way of deriving a risk-adjusted discount rate.
(ii) It does not make any risk adjustment in the numerator for the cash flows that are forecast over the future years.
(iii) It is based on the assumption that the investors are risk-averse.

2. Certainty Equivalent: Yet another common procedure for dealing with risk in capital budgeting is reduce the forecasts of cash flows to some conservative levels. For example, if an investor, according to his "best estimate ", expects a cash flow of Rs. 60,000 next year, he will apply an intuitive correction factor and may work with Rs. 40,000 to be on safe side. In formal way, the certainty equivalent approach may be defined as

$$\sum_{t=0}^{n} \frac{L_t NCF_t}{(1+Kf)^t}$$

Where NCFt = the forecast of net cash flow without risk adjustment.
at = the risk-adjusted factor or the certainly - equivalent coefficient.
Kt = risk-free rate assumed to be constant for all periods.

The certainty-equivalent coefficient, at assumes a value between 0 and 1, and varies inversely with rise. A lower at will be used if greater risk is perceived and a higher at will be used if lower risk is anticipated. The coefficients are subjectively or objectively established by the decision-maker. These coefficients reflect decision maker's confidence in obtaining a particular cash flow in period.

Evaluation: The certainty equivalent approach explicitly recognizes risk, but the procedure for reducing the forecasts of cash flows is implicit and likely to be inconsistent

from one investment to another. Further, this method suffers from many dangers in a large enterprise. First, the forecaster, expecting the reduction that will be made in his forecasts, may inflate them in anticipation. This will no longer give forecasts according to “best estimate’ Secon, if forecasts have to pass through several layers of management, the effect may be to greatly exaggerate the original forecast or to make it ultra conservative. Third, by focusing explicit attention only on the gloomy outcomes, chances are increased for passing by some good investments.

STATISTICAL TECHNIQUESTO HANDLE RISK

Stastical techniques are analytical tools for handling risky investment. These techniques drawing from the fields of mathematic, logic, economic and psychology enable the decision maker to make decisions under uncertainty.

Probability Theory: Probability may be described as a measure of someone's opinion about the likelihood that an event will occur, if an event is certain not to occur, we say that it has a probability of 1 of occuring. If an event is certain not to occur, we say that its probability of occuring is 0. Thus probability of all events to occur lies between 0 and 1 a probability distribution may consist of number of estimates. One commonly used from employes only the "high, low and best gues" estimates, or " the optimistic, most likely and pessimistic" estimates. For example, the annual cash flows expected from a project could be Rs. 200,000 or Rs. 1,70,000 or Rs, 80,000. Then the estimatges; can be Best guess, high guess and low guess respectively. Probabilities can also assign to these guesses. So the Probability may be 20,60, and .20 respectively.

Standard deviation an Absolute measure of Risk: A better insight into the risk analysis will be obtained if we found out the dispersion of cash flows, i.e. the difference between the possible cash flows can occur and their expected value. The dispersion of cash flow indicates the degree of risk. A common used measure of risk is' the standard deviation or variance. Simply stated, variance measure the deviation is the square root of variance. The formula to calculate variance and standard deviation rate as follows:

Variance of NCF =

$(NCF1-ENCF)^2$ prob + $(NCF2-ENCF)^2$+----------$(NCFn-ENCF)^2$ probn

NCF = Net cash flows.

ENCF - Expected net cash flows.

$$\sigma NCF = \sum_{j=1}^{n} (NCFj - ENCF)2\ Pj$$

Square root of variance is standard deviation

$$\sigma NCF = \sqrt{\sigma^2}NCF$$

Coefficient of variotio : A Relative measure of Risks

A relative measure of risk is the coefficient Of variation. It is defined as the standard deviation of the probability distribution dividend by its expected value.

$$\text{Coefficient of Variation} = \frac{\text{Standard Deviation}}{\text{Expected Value}}$$

The coefficient of variation is a useful measure of risk when we compare the projects

which have.

(i) same standard deviation rout different expected values, or

(ii) different standard deviations but same expected values, or

(iii) different standard deviations and different expected values.

Probability distribution approaches: Probability theory can be used in analysing risk in capital budgeting, given various assumptions regarding the independence and dependence of cash flows over time. Once this analysis is completed by developing relevant information about the expected value and dispersion of the probability distribution of possible returns, the decision maker will make accept-reject decision. This he would do by obtaining a trade-off between risk and return. He would select those projects which yield the highest expected return, but at the same time minimise risk of the firm.

Independence of cash flow over time: The independence of cash flows over time means that the probability distributions for future periods are not dependent on each other. The expected net present value in this situation will be:

$$ENPV = \sum_{t=0}^{n} \frac{ENCF}{(1+Kf)^t}$$

Where ENCFt is the expected value of net cash flow in the period t and Kt, is the risk free rate. It is important that discount rate should be risk-free when we use probability information for the cash flow distribuition. When we use probability information for calculating the expect net present value for a project, we are making explicit adjustment for the risk. The probability for occurance of a given set of cash flows will be high or low depending on whether risk is low or high.

Dependence of cash flows over time: Most of the times it is assumed in the case of most investment projects that cash flows are dependent over time. The favourable or unfavourable out come in the earlier periods is generally accompained by the favourableoutcome in the later periods in the life of an investment proposal. When cash flows are dependant over time; the standard deviation will be larger what it would be under the assumption of independence of cash flows. The greater the degree of correlation between cash flows, the larger will be standard deviation. However, the larger will be the standard deviation. However the expected value of net present value remains unchanged irrespective of the dependence of cash flows.

Decision Trees for sequential decisions: Present investment decisions have implications for future investment decision and may affect future events and decision involves a sequence of division overtime. According a pierre Mase that since present choice modify future alternatives, industrial activity cannot be reduce to a single decision and must be viewed as a sequence of divisions exceeding from the present time into the future. An analytical technique to handle the sequential decisions is to employ decision trees.

Steps in decision tree approach: A present decision depends upon future events, and the alternative of whole sequence of whole sequence of decision in future are affected by the present decision as well as future events. A decision tree is a graphical display of the relationship between a present decision and future events, future decisions and their consequences. The sequences of events is mapped out over time in a tree, some important steps should be considered.

(i) Define Investment The investment proposal should be defined. The proposal might be sponsored by marketing, production or any other department. The proposal may be to enter a new market or to produce a new product.

(ii) Identify decision alternative: The decision alternative should be clearly identified for example, if a company is thinking of building a plant to produce a new product it may construct a large plant medium sized plant, or a small plant initially and expand it later on or construct no plant.

(iii) Draw a decision tree: The decision tree should be graphed indicating the decision points, change events and other date. The relevant date such as the project cash flows, probility distributions, the expected present value etc. should be located on the decision tree branches.

(iv) Analysedata: The result should be analyse and the best alternative should be selected.

Self- Check Questions:

a) Capital budgeting is a part of:

1) Investment decision 2) Working capital management

3) Marketing management 4) capital structure

b) A sound capital budgeting technique is based on:

1) Accounting profit 2) Cashflows 3) Interest rate on borrowings 4) Last dividend paid

c) Risk of a capital budgeting can be incorporated:

1) adjusting the cash flows 2) adjusting the discount rate

3) adjusting the life 4) All of the above

d) Which of the following is not used in capital budgeting?

1) Time value of money 2) Sensitivity analysis 3) Net assets method 4) Cash flows

5.4 UTILITY THEORY AND CAPITAL BUDGETING

On the basis of the figures of the expected values and standard deviation, it is difficult to say whether a decision maker should choose a project with the high excepted value and a high excepted value and a high standard deviation or a project with comparatively a low respected value and a low standard deviation. The decision maker's choice would really depend upon his risk preference. Individuals and firms differ in their attitudes towards risk. As regards the attitude of individual investor towards risk, they can be classified into three categories: -

(i) Risk averse investors attach lowers utility to increasing wealth. For them the value of the potential increases in wealth is less than the possible loss from the decreases in wealth. In other words, for a give wealth prefer less, risk to more risk.

(ii) Risk neutral investors attach same utility to increasing or decreasing wealth. They are indifferent to less to more risk for a given wealth.

(iii) Risk-seeking investors attach more utility to the potential of additional wealth, to the loss from the possible loss from the decrees in wealth. For earnings a given wealth, they are prepared to assume higher risk.

It is well established by many empirical studies that individuals generally risk averters and demonstrate and decreasing marginal utility for money function. Theory functions the direct use of the utility theory in capital budgeting function in practice. Even if it is possible to derive utility function, it does not remain constant over time. Problems are also encountered when decision is taken by groups of persons because individual differs in the risk preferences.

Capital Rationing

Capital rationing is a situation where a firm has more investment proposals than it can finance. It may be defined as, *a situation where a constraint is placed on the total size of capital investment during a particular period." In such an event the firm has to select combination of investment proposals that provide the highest net present value subject to the budget constraint for the period. Selecting of projects for this purpose will require the taking of the following steps:

(i) Ranking of projects according to profitability index or internal rate of return.

(ii) Selecting projects in descending order of profitability until the budget figures are exhausted keeping in view the objectives of maximising the value of the firm. Capital rationing means distribution of capital in favour of more acceptable proposals. A firm determines a certain cut-of-point for selecting accepted proposals. The basic reas on for capital rationing is that funds to be invested over a long period of time must be distributed most judiciously. The capital rationing problem is one where not all projects with positive present values can be taken up because of limits on the funds available for investment. It is also a situation in which some projects, with negative present values, may be accepted if they generate funds at crucial times.

- **Keyword:** *Capital budgeting, utility theory, IRR, NPV, Profitability index*

5.5 SELF- CHECK EXCERCISE

- **Long Question Answer:**

1. Give meaning and definition of Capital Budgeting.
2. Explain various methods of Capital Budgeting.
3. Write Notes:

(i) Net Present Value (ii) Profitability Index

(ii) Discount Rate

- **Short Question Answer:**

5. Write a short note on capital rationing.
6. Write any two limitations of payback period method.
7. Briefly explain the importance of capital budgeting.

5.6 SUGGESTED READINGS:

- Archer, S.H., et al. 1972. :BusinessFinance.Theory and Management. New York:Macmillan.
- Anthony, R.N., et al. 1975. :Principles of Management Accounting. Illinois: RichardIrwin.
- Batty, J. 1966. :Management Accountancy. London: MacDonald and Evans.

5.7 SELF- CHECK QUESTIONS (ANSWER KEY):

5.3 a) 1 b) 2 c) 4) d) 3

WORKING CAPITAL MANAGEMENT

STRUCTURE

6.0 OBJECTIVES

After studying this lesson, students would be able to:

- Understand the meaning and concept of working capital, factors determining the working capital requirements.
- Financing of working Capital
- Management of the three most important components of working capital, cash, receivables and inventory

6.1 INTRODUCTION

Every business needs funds for two purposes: for its establishment and to carry out its day to day operations. Long term funds are required to create production facilities through purchase of fixed assets such as plant and machinery, land, building, furniture etc. Investments in these assets represent that part of firm's capital which is blocked on a permanent or fixed basis and is called fixed capital. Funds are also needed for short-term purposes for the purchase of raw materials, payment of wages and other day to day expenses, etc. These funds are known as working capital. A firm needs fixed capital as well as working

capital for the operations. The managements of working capital are as important as that of the fixed assets. In both cases the firm analyses their effect on its return and risk.

6.2 CONCEPTS OF WORKING CAPITAL

There are two concepts of working capital:

(1) Gross working capital

(2) Net working capital

Gross working capital is represented by a firm's investment in current assets. Current assets are the assets which get converted into cash within a short period of time not exceeding a year during the normal course of business. For examples, cash, stock in trade, sundry debtors, bills receivable and marketable securities etc. The gross' working capital concept focuses attention on two aspects of current assets management, that is, optimum investment in current assets and financing of current assets.

Net working capital refers to the difference between current assets and current liabilities.

Net Working Capital = Current Assets - Current Liabilities.

Current liabilities are such claims of outsider which are payable within a short period of time in no case exceeding a year and include sundry creditors, bills payable, bank overdraft and outstanding expenses etc. Current assets should be sufficiently in excess of current liabilities to maintain a margin for maturing obligations within the operating cycle of a business. This is necessary to maintain adequate liquidity for making timely payments to short-term creditors. For every firm, net working capital, therefore represents the amount which is not covered by short-term sources of funds and is arranged from permanent sources. In fact, net working capital represents the portion of working capital which is permanent in nature and need to be financed from permanent sources.

- **Self- Check questions (One word):**

a) Write any two reasons for need for working capital.

b) How many concepts are there of working capital?

c) Write the formula of Net working capital.

6.3 Need for working Capital

Working capital is needed by business concerns to run their day-to-day operating activities. One can hardly find a business concern which does not require any amount of working capital.

(a) Acquisition of resources such as raw material, labour, power etc.

(b) Conversion of raw material into work-in-progress and work-in-progress into finished goods.

(c) Sale of the product either for cash or on credit.

(d) Collection of cash from sundry debtors.

Thus, working capital is required for purchasing raw materials, making payments of operating, administrative and selling expenses, maintaining stock of raw materials, work-in- progress and finished goods, allowing credit to customers and meeting contingencies.

A good management should, therefore, maintain an adequate amount of working capital on continuous basis. Only then, a proper functioning of the business operations can be ensured. Various financial and statistical techniques should be used to predict the quantum of working capital needed at different time periods.

6.4 DETERMINANTS OF WORKING CAPITAL

A large number of factors influence the working capital needs of the firms. These factors affect different enterprises differently. Also, the importance of factors changes for a firm overtime. The following Eire

1. Nature of Business

Working capital requirements of a firm are basically related to the nature of the business. For instance, public utilities have a very limited need for working capital and have to invest largely in fixed assets. Their working capital requirements are, minimal because they have cash sales only and supply services and not products. On the other extreme, trading and financial firms have a very less investment in fixed assets and a large investment in working capital. This is so because they have to maintain a sufficient amount to cash, inventories and book debts. Working capital requirements of the most manufacturing concerns fall between these two extremes, that is, public utilities and trading firms. However, these would vary from industry to industry depending on their asset structure.

2. Size of Business

The size of business also has an important influence on its working capital requirement. Size may be measured in terms of the scale of operation. Obviously, larger the size of the firm, greatest would be the need for working capital. On the other hand, smaller firms would require lesser amount of working capital than the larger ones.

3. Length of Manufacturing Cycle

Funds will have to be necessarily tied-up during the process of manufacture. Thus, larger the time span of the manufacturing cycle, larger will be the working capital requirements of the firm and vice-versa. Non-manufacturing firms, services and financial enterprises do not have manufacturing cycle.

4. Business Cycle

Most firms experience cyclical fluctuations in demand for their products and services. These fluctuations affect the working capital requirements, particularly the temporary working capital requirements. During upswing in the business activity, sales will increase, correspondingly, the firm's investment in inventories and book debts will also increase. On the other hand, during downswing, sales will fall and consequently, level of inventories and book debts will also fall. The need for working capital would thus, decline during reversionary conditions.

5. Product Policy

In the case of seasonal demand for certain products, the production may either be confined only to periods when goods are purchased or production may be carried on steadily throughout the year. In the former case, there will be serious production problems. During the slack season the firm will have to maintain its laborforce and physical facilities without adequate production and sale. During peak period, the firm will have to operate at full cap to meet the demand which will be very inconvenient and expensive. On the other hand, a steady production policy will result in accumulating of inventories during the off-season periods requiring an increasing amount of working capital and the firm will be exposed to greater inventory cost and risks. Thus, if costs and risks of maintaining a constant production schedule are high, the firm may adopt the policy of varying its production schedules in accordance with changing demand.

6. Credit Policy of the firm

The credit policy of the firm has a bearing on the magnitude of working capital by determining the level of book debts. Larger credit sales will result in higher book debts and more working capital. Credit terms extended by enterprises are affected by the prevailing

trade practices as well as changing economic conditions. Under the situation of acute competition, there would be pressure to grant generous credit terms.

7. Credit Policy of the Supplier

Credit terms granted by its creditors also influence the working capital requirements. If liberal credit terms are available from the suppliers of goods, the need for working capital will be less. On the other hand, the working capital requirements will be higher if the suppliers follow tight credit policy.

8. Growth and Expansion

As a firm grows in size, it is logical to expect that a larger amount of working capital will be required. It is, however, difficult to determine precisely the relationship between the volume of sales and working capital needs. Other things remaining same, growth companies require more working capital than those that are static. However, the need for more working capital does not follow the growth in business activities but proceeds it. Advance planning of working capital is, thus, a continuing necessity for a growing concern.

9. Profit Margin and Profit Appropriation

A high net profit margin would generate more internal funds thereby contributing to the working capital pool. The net profit is a source of working capital to the extent if has been earned in cash. But, in practice, the net cash inflows from operations cannot be considered as cash available for use at the end of the cash cycle,

The availability of internal funds for working capital requirements is determined not merely by the profit margin but also on the manner of appropriating profits. The availability of such funds for working capital would depend upon the profit appropriations for taxation, dividend, depreciation and reserves. Higher the amount less will be the contribution towards working capital funds.

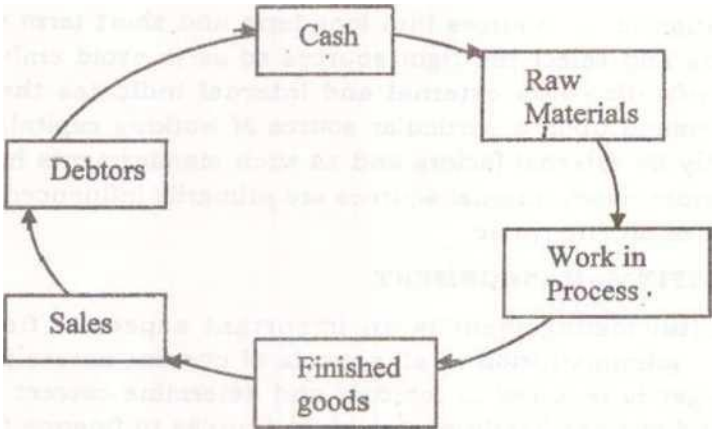
10. Price Level Changes

Changes in the price level also influence the requirements of working capital. Rising prices would necessitate the need of more funds for maintaining the existing level of activity. Thus, more working capital would be required. However, the firms which can revise their products price with rising price level will not face any serious problems regarding working capital.

6.5 WORKING CAPITAL CYCLE

Working Capital refers to that part of firm's capital which is required for financing short term or current assets such as cash, marketable securities, debtors and inventories. Funds, thus invested in current assets keep revolving fast and are being constantly converted into cash and this cash flows out again in exchange for other current assets. Hence, it is also known as revolving or circulating capital. The circular flow concept of working capital is based upon this operating or working capital cycle of the firm.

The cycle starts with the purchase of raw material and other resources and ends with the realization of cash from the sale of finished goods. It involves purchase of raw material and stores and conversion into finished goods through work in progress with the progressive increment of labour and service costs, conversion of finished stock into sales, debtors and receivables and ultimately realization of cash and this cycle continues again from cash to purchase of raw material and so on.

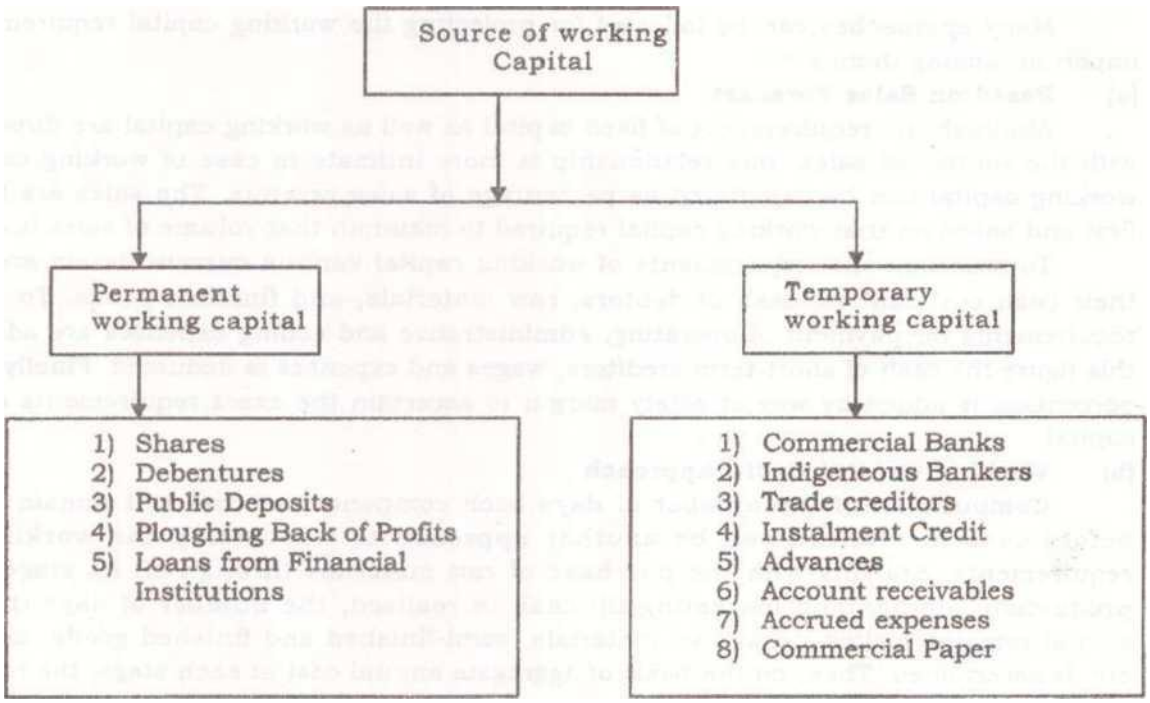


6.5 Working Capital Cycle

SOURCES OF WORKING CAPITAL FINANCE

A firm has diverse sources to meet its financial requirements. In selecting a particular source, a financial manager has to consider the merits and demerits of each source in the context of the constraints of the firm. Matching of sources of finance with the needs of working capital enables the firm to reduce the cost of funds. Permanent working capital should generally, be financed by long-term sources and temporary working capital should be financed by short-term sources. Thus, proper mix of long-term and short-term sources is essential. The division of the sources of working capital into long-term and short-term, and external and internal is of great practical significance.

Sources of working Capital



The classification of the sources into long-term and short term would enable the firm to identify the needs and select the right sources so as to avoid embarrassment in future. Similarly, the classification into external and internal indicates the extent to which the management can demand upon a particular source of working capital. The external sources are influenced mostly by external factors and as such managements have little or no control over them. On the other hand, internal sources are primarily influenced by the policy pursued by the management of an enterprise.

6.7 WORKING CAPITAL MANAGEMENT

Working capital management is an important aspect of financial management. Broadly, it refers to administration of all aspects of current assets and current liabilities. The financial manager is required to forecast and determine correct level and composition of current assets and current liabilities, tap right sources to finance the current assets and ensure liquidation of current liabilities as per predetermined schedule. Investment in current assets presents a significant part of total investment of a firm. As such, working capital management provides enough scope for economy in total investment and the cost of managing required working capital.

There is a direct relationship between sales activity and the working capital requirements. As the sales grow, the firm will require more investment in inventories, debtors, cash balance etc. Thus, in case of fast and continuous growth of sales, the finance manager has to continuously monitor the requirements of working capital and meet it effectively.

Major aspects of working capital management are forecasting of working capital needs, determination of optimum level or current assets and establishment of balance between profitability and liquidity in the utilization of working capital funds.

1. **Forecasting Working Capital Requirements**

Many approaches can be followed for projecting the working capital requirements. The important among them are:

(a) Based on Sales Forecast

Although the requirements of fixed capital as well as working capital are directly linked with the volume of sales, this relationship is more intimate in case of working capital. The working capital can be calculated as percentage of sales revenue. The sales are forecasted first and based on that working capital required to maintain that volume of sales is estimated.

To ascertain the requirements of working capital various current assets are taken at their cash cost that is, cash of debtors, raw materials, and finished goods. To this, cash requirements for payment of operating, administrative and selling expenses are added. From this figure the cash of short-term creditors, wages and expenses is deducted. Finally, a certain percentage is added by way of safety margin to ascertain the exact requirements of working capital.

(b) Working Capital Cycle Approach

Computation of the number of days each component of cost will remain locked up before cash in realised can be another approach to forecasting the working capital requirements. Starting with the purchase of raw materials through all its stages, that is, production, storage and marketing till cash in realised, the number of days the working capital remains locked up as raw materials, semi-finished and finished goods, debtors, bill etc. is ascertained. Then, on the basis of aggregate annual cost at each stage, the requirement of working capital is forecasted.

(c) Key Ratios as Indicators

Certain key ratios based on past information relating to the requirement of inventory and receivables to sales and all other operating expenses to cash be another approach for estimating capital requirements, e.g., as per another approach for estimating the working capital requirements, e.g., as per previous year's experience, the annual requirement of raw materials, semi-finished and finished goods in a firm is equal to one month's sales and the operating cash needed is equal to total cost for one month. Now for estimating the requirement of working capital, projections of sales will be made on month to month basis and these projections will be then used for determining the requirement of inventory (few materials, semi-finished and finished goods), debtors, bills receivables and cash with the help of key ratios. These ratios can be sales to raw material stock, sales to semi finished goods stock, sales to finished goods stock, sales to debtors, sales to bills receivables, sales to cash balance etc.

The choice of appropriate method for estimating the working capital is very important. While making such a choice operating conditions is business should be taken into consideration.

(d) Optimum level of current assets

Determination of optimum level of current assets is essential to minimise the cost of capital and maximise the return on capital employed and thereby the shareholders wealth.

One measure of the level of current assets can be obtained by relating the current assets to the fixed assets. The proportion to be maintained between current assets (CA) and fixed assets (FA) is a matter of policy. Assuming a constant level of fixed assets, higher CA1F A ratio indicates a conservative current assets policy and a lower CA/FA ratio indicates aggressive current assets, policy. Other things assuming as constant, a conservative policy implies greater liquidity and lower risk, while an aggressive policy indicates higher risk and poor liquidity.

As different policies have different risk - return implications, a firm has to decide which particular policy will meet its requirements better. Under conditions of certainty, it may be possible to maintain current assets at the minimum level. But as there is always an element of uncertainty in business" the working capital estimates are adjusted according to the policy adopted by the management. In fact this trade between risk and return is crucial to the determination of working capital requirement and optimising shareholders wealth. However, there cannot be one single policy. The finance manager has to keep a constant watch over these policy variables and make subtle adjustments therein.

(e) Equity between profitability and liquidity

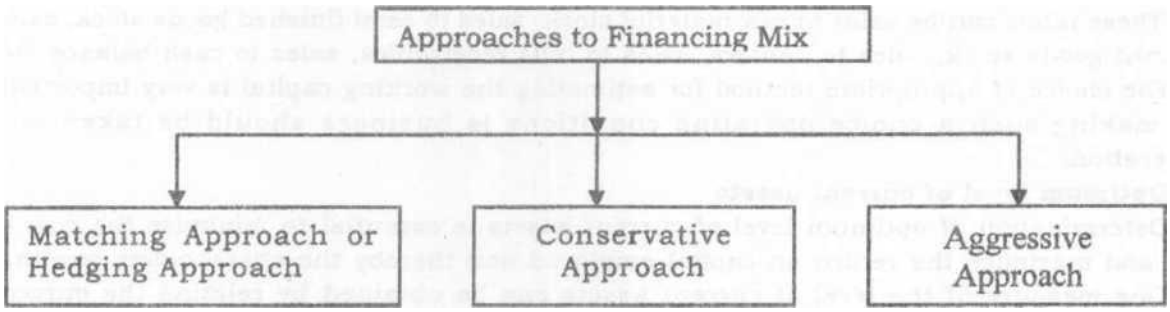
One important objective of working capital management is to maintain profitability and solvency of proper levels. For solvency a firm should maintain liquidity which means larger current assets holding. Larger current assets holding facilitates timely payment to creditors. Smooth flow of production and sales activity, and no risk of cash outs. But there is larger cost associated with larger current assets holding. To the extent the current assets remain idle; the firm's profitability also suffers. To maintain higher profitability a firm has to sacrifice solvency and maintain current assets at lower level which may expose it to greater risk of cash shortage and stock outs.

6.8 DETERMINING THE WORKING CAPITAL FINANCING FIX

After determining the requirements of working capital, the next important task before the financial manager is to select appropriate sources to finance working capital. Broadly speaking, there are two groups of source from which funds can be raised for

financing current assets, viz. Long-term sources and short-term or temporary sources, Long-terms sources of finance include equity shares, preference shares, debentures, retained earnings, depreciation and loans from financial institutions, Short-term sources include short-term bank loans, trade creditors, commercial paper, factoring and public deposits etc. Thus, a financial manager is confronted with the question: What proportion of current assets should be financed by short-term sources and what proportion by long-term sources?

There are three basic approaches to determine an appropriate financing mix of various sources. These are explained below:



1. Matching Approach or Hedging Approach

According to this approach a firm should adopt a financial plan which involves the matching of the expected life of assets with the expected life of the source of funds raised to finance assets. Using long-term sources for short-term assets is expensive as funds will not be utilized for the full period. Similarly, financing long-term assets with short-term sources will have to be made on a continuing basis. Thus, matching approach suggests .that long-term funds should be used to finance the permanent portion of current assets requirements in a manner similar to the financing of fixed assets. The temporary and seasonal financing requirements, on the other hand, should be financed with short-term funds. However, it should be understood that exact matching is not possible due to the uncertainty about the expected lives of assets. The firm's fixed assets and permanent current assets are financed with long-term funds and as the level of these assets increases, the long-term financing level also increases. The temporary current assets are financed with short-term funds and as their level increases, the level of short-term financing also increases.

2. Conservative Approach

It may not be possible to follow matching plan in actual practice. A firm may, therefore follow a conservative approach in financing its current assets. Under a conservative plan, the firm would finance its permanent current assets and a part of temporary current assets with long-term sources of finance. Thus, during the periods when the firm has no temporary current assets, it preserves liquidity by investing surplus funds into marketable securities. Since conservative plan relies heavily on long-term financing. It is, therefore, less risky.

3. Aggressive Approach

In contrast to conservative approach, however, a firm may be aggressive in financing its assets. A firm is said to follow an aggressive policy, when it uses more short-term funds than warranted by the matching plan, that is, the firm finances a part of its permanent current assets with short-term financing. This makes the firm more risky.

Illustration 1. A Performa cost sheet of a company provides the following particulars **:**Elements of cost Material 40% of sales
Wages 20% of sales
Overheads 20% of sales

The following other information is available:

(a) A level of activity of 1,00,000 units is proposed to be maintained in the next year.
(b) Selling price per unit is Rs. 24.
(c) Raw materials are expected to remain in stores for an average period of two months.
(d) Materials remain in process on average half a month.
(e) Finishing goods are expected to be in store for an average period of one month.
(f) Credit allowed to debtors is one month.
(g) Credit allowed by suppliers is for half a month.

Assuming that sales and production follow a consistent pattern, prepare a statement of working capital for the company.

Solution :

Statement of Working Capital Current

		Rs.
Raw Material		1,60,000
Work-in-Progress Materials = 40,000		
Wages	= 20,000	
Overheads	= 20,000	80,000
Finished Goods		1,60,000
Sundry Debtors		1,60,000
Gross Working Capital		**5,60,000**
Less : Current Liabilities		
Sundry Creditors		40,000
Net Working Capital required		**5,20,000**

6.9 CASH MANAGEMENT

Management of cash is utmost important because of it is the most important current asset. It is required to meet business obligations and it is unproductive when not in use. Cash management is concerned with the managing of:

(a) Cash flows into and out of the firm
(b) Cash flows within the firm
(c) Cash balances held by firm at the point of time by financing deficit or investing surplus cash.

Cash management needs strategies to deal with various facets of cash .Following are some of its Facets :

(a) Cash Planning : Cash planning is a technique to plan and control the use of cash. It protects the financial condition of the firm by developing a projected cash statement from a forecast of expected cash inflows and outflows for a given period. The forecasts may be based on the present operations or the anticipated future operations. Cash plans are very crucial in developing the overall operating plans of the firm.

(b) Cash Forecasting and Budgeting

Cash budget is the most important device to plan for and control receipts and payments of cash. A cash budget is a summary statement of the firm's expected cash inflows and outflows over a projected time period.

Cash forecasts are needed to prepare cash budgets. Cash forecasting may be done on short or long-term basis. Generally, forecasts covering periods of the one year or less are considered short-term; those extending beyond one year considered long-term.

6.10 MANAGING CASH COLLECTIONS AND DISBURSEMENTS

Once the cash budget has been prepared and appropriate net cash flow established, the financial manager should ensure that there does not exist a significant deviation between projected cash flows and actual cash flow. To achieve this, cash management efficiency will have to be improved through a proper control of cash collection and disbursement or Cash management will be successful only if cash collections are accelerated and cash disbursements, as far as possible, are delayed. Following methods of cash management will help.

6.10.1 Methods of Accelerating Cash Inflows

1. Prompt Payment by Customers
2. Quick Conversion of Payment into Cash
3. Decentralized Collections
4. Lock Box System

6.10.2 Methods of Slowing Cash Outflows

A company can keep cash by effectively controlling disbursements. Following methods can be used to delay disbursements for slow down-the payments.

1. Paying on last date.
2. Payment through cheque.
3. Adjusting payroll funds.
4. Centralization of payment.
5. Inter-bank transfer.
6. Making use of float.

6.10.3 Optimum Level Determination of Cash Balance:

Finance manager is to maintain cash for setting the dues in time firm need cash for day to day transactions. An appropriate amount of cash: balance than its liquidity position will be weak. If cash balance is maintained than an opportunity to earn is lost. Thus, a firm should maintain an optimum cash balance, neither a small nor a large cash balance. For this purpose the transaction costs and risk of too small a balance should be matched with the opportunity costs of too large a balance.

There are basically two approaches to determine an optimal cash balance, namely, (i) Minimizing Cost Models, and (ii) Preparing Cash Budget. Cash budget is the most important tool in cash management.

6.11 INVESTMENT OF SURPLUS FUNDS

The temporary cash surplus can be invested carefully in investment channels after considering the following factors:

- **Security:** The funds invested should be in completely risk free securities.
- **Liquidity:** Easy conversion of investments into cash as and when necessity arises and" existence of ready market for securities.
- **Yield:** The investment should give reasonable rate of return.
- **Maturity:** Maturity period of the investments should match the funds requirement of the firm.

6.12 MANAGEMENT OF RECEIVABLES

Receivables Management is the process of making decisions relating to investment in trade debtors. Certain investment in receivables is necessary to increase the sales and the profits of a firm. But at the same time investment in this asset involves cost considerations also.

The objective of receivables management is to take a sound decision as regards investment in debtors. In the words of Bolton, S.E., the objective of receivables management is "to promote sales and profits until that point is reached where the return on investment in further funding of receivables is less than the cost of funds raised to finance that additional credit."

6.13 COSTS OF MAINTAINING RECEIVABLES

The allowing of credit to customers means giving of funds for the custom use. The concern incurs the following costs on maintaining receivables:

1. Cost of Financing Receivables

When goods are, services are provided on credit than concern's capital is allowed to be used by the customers. The receivables are financed from the funds supplied by shareholders for long term financing and through retained earnings. The concern incurs some cost for collecting funds which finance receivables.

2. Cost of Collection

A proper collection of receivables is essential for receivables management. The customers who do not pay the money during a stipulated credit period are sent reminders for early payments. Some persons may have to be sent for collecting these amounts. In some cases, legal recourse may have to be taken for collecting receivables. All these costs are known as collection costs which a concern is generally required to incur.

3. Bad Debts

Some customers may fail to pay the amounts due towards them. The amounts which the customers fail to pay are known as bad debts. Though a concern may be able to reduce bad debts through efficient collection machinery but one cannot altogether rule out this cost.

6.14 DIMENSIONS OF RECEIVABLES MANAGEMENT

Receivables Management involves the careful consideration of the following aspects

(a) Forming of credit policy

(b) Executing the credit policy

(c) Forming and executing collection policy

(a) Forming of credit policy

In formulating credit policies of a firm, a finance manager must decide about the following aspects :

1. **The quality of the trade accounts to be accepted,** i.e., credit standards- The

volume of sales will be influenced by the credit policy of a concern. By liberalizing credit policy the volume of sales can be increased resulting into increased profits.

2. **The length of the credit period:** A firm in its hope for stimulating sales and so also its profits may offer more liberal credit facilities by lengthening the credit period. Lengthening credit period involves cost. The cost that is usually associated with lengthening credit period is a cost involved in typing up investment in receivables for a longer period of timer that would otherwise have been invested elsewhere to earn income. Besides the firm may experience increase in both its collection costs and bad debt losses. This would be an optimal credit period for the firm. The following illustration will make the point more clear:

Illustration:

Phillip Textile Company which currently sells goods on a net 30-day term is considering the possibility of lengthening its credit terms to 60 days. The current year sale is anticipated to be the order of 2,00,000 units at a selling price of Rs. 10 each, with an average total unit cost at this volume of Rs. 9.50. Lengthening credit period is expected to boost sales by 25 per cent to 2,50,000 units. The company anticipates to produce additional units of sale at Rs. 9.00 per units because it is hoped that overhead costs would be spread over higher volume of production resulting in cost reduction by 0.50 paisa per unit. The management anticipates that as a result of increase in credit period from one month to two months, collection costs would increase from Rs. 6,000 to 8,000 annually and bad debt losses would increase from 2 per cent to 2 per of sales. The finance manager of the company feeds that any additional investment in receivables should earn at least 14 per cent before selling and administrative costs.

Should the Company lengthen its credit period?

Solution:

The policy decisions regarding lengthening of credit period from 50 days to 60 days calls for, in the first instance, calculation of average cost per unit for manufacturing 2,50,000 units and average investment in receivables.

At the estimated sales of 2,50,000 units total manufacturing cost and average cost sire: Current sales (units) * Average Total Cost

= 2,00,000 * 9.50 = Rs. 19,00,000

Increased Sales * Variable Cost

= 50,000 * 9.00 = Rs. 4,50,000

Total cost for manufacturing 2,50,000 - units,

= Rs. 23,50,000

Average cost per unit = Rs. 9.40

The average investment in receivables may be computed with the help of the following equation :

Average investment in receivables

When the above equation is substituted by figures given in Phillip Textile Company, the average investment in receivables is:

The average investment in receivables under the proposed credit policy is Rs. 3,91,667.

We are now in a position to compare the expected profits under each credit policy:

	Net 30 days	Net 60 days
	Rs.	Rs.
Sales (units)	2,00,000	2,50,000
Sales (Rupees)	20, 00,000	25,00,000
Less: Collection Cost	19,00,000	23,50,000
Bad Debt Losses	1,00,000	1,50,000
Cost of Goods Sold	6,000	8,000
Gross Profit Net	40,000	62,500
Profit	54,000	89,500

(Exclusive of selling & administrative expenses)

Thus the additional investment necessary to generate Rs. 35,500 additional profits would be Rs. 2,33,335. The expected return on this investment is, therefore, 15.2 per cent. Since the rate of return is higher than the minimum expected return of 14 per cent, the company can afford to offer liberal credit terms by lengthening credit period from 30 days to 60 days.

3. Cash Discount

Cash discount is a powerful device to speed up collections of receivables. This would result in reduction of investment in receivables. But offering cash discount involves cost. Finance manager should match the earnings resulting from investment of funds released by reducing the level of receivables with the cost of the discount to decide whether or not cash discount should be offered.

4. Discount Period

Period of discount also influences average collection of receivables. Thus, by lengthening the discount period many customers who were taking advantage of cash discount may be temped to avail of this benefit. This would, therefore, shorten the collection period. However, there may be some customers who are availing of the discount facility and making payment within the discount period, will now postpone the payment unit the expiate of the lengthened discount period. Consequently, the" firm's average collection period would increase. Which of these forces will actually exercise influence on collection period of receivables would depend essentially upon the admixture of the paying habits of the firm's customers. In any case decision to extend discount period involves matching of the effect on collection period with the increased cost associated with more customers taking the discount.

(b) Executing the credit policy

After formulating the credit policy its proper execution is very important.

1. **Collecting Credit Information** : The first step in implementing credit policy will be to gather credit information about the customers. This information should be adequate enough so that proper analysis about the financial position of the customers is possible.
2. **Credit analysis** will determine the degree of risk associated with the account, the capacity of the customer to borrow and his ability and willingness to pay.
3. **Credit decision** : After analyzing the creditworthiness of the customer, the finance manager has to take a decision whether the credit is to be extended and if yes then upto what level.
4. **Financing Investment in Receivables and factoring** : Account receivables block a part of working capital. Efforts should be made that funds are not tied up in receivables for longer periods. The finance manager should make an efforts to get

receivables financed so that working capital needs are met in time.

(c) Forming and executing collection policy

The collection of amounts due to customers is very important. The concern should devise procedures to be followed when accounts become due after the expiry of credit period. The collection policy be termed as strict and lenient

6.15 OBSTACLES IN RECEIVABLES MANAGEMENT

Problem of management of receivables arises only when merchandise is sold on credit. Where a company makes all sales for cash, the question of receivable management does not arise. Although concessions like price discount are granted to induce customers to make immediate cash payments, practice of extending credit to the customers is very popular. If other concerns engaged in the same line of business activity are selling goods on liberal credit terms, the firm will have to pursue liberal lending policy to maintain volume of sales. Since trade credit device is used to stimulate sales, there is a greater possibility of business profits to expand. But it should be remembered that flow of funds from cash back to cash does not cycle as rapidly in credit sales as if credit were not offered. The funds tied up in inventory are covered in to receivables rather than in cash and it will take some time for collection of the receivables. Had these funds not been tied in receivables, the firm would have invested the same elsewhere and earned income thereon. Thus, cost of carrying receivables is the lost opportunity earnings. The other two major groups of costs which a firm has to incur in carrying receivables are expenses associated with investigating creditworthiness and collecting the funds owed and the risk cost resulting from delinquencies and bad debts.

If a firm decides to sell on cash, it will save cost of carrying receivables. However, the firm in that situation may lose some of its previous customers who will turn to other concerns extending credit facilities. Consequently, volume of sale of the firm and so also its earnings may show decline. The firm should not expect to survive long by pursuing the policy of cash sales while similar other firms have followed liberal credit policy. It would not be unwise to increase profit possibilities by assuming some credit risks and incurring certain costs. Finance manager should find ways and means of reducing the volume of receivables without impairing the firm's sales potential associated with receivables

16.16 INVENTORY MANAGEMENT

It is necessary for every management to give proper attention to inventory management. A proper planning of purchasing, handling, storing and accounting should form a part of inventory management. An efficient system of inventory management will determine

(a) What to purchase
(b) How much to purchase
(c) From where to purchase
(d) When to store etc.

6.17 OBJECTIVES OF INVENTORY MANAGEMENT:

The objectives of Inventory management can be discussed as follow:

(a) Availability of Material

Inventory management basically concerned with ensuring that at least a minimum level of stock is maintained in the stores so that Production Process does not stop due to non-availability of Raw material. In other words, the Inventory management has to ensure that there is no idling of machines and man due to non-availability of Raw Material.

(b) Optimum level of Investment

The second most important objective of the Inventory management is to ensure that there Is no unnecessary blockage of investment, in Inventory. Normally, in Pursuit of making the inventory available, as and when desired, Excess investment is done in Inventories. Inventory management aims at maintaining optimum level of Investment in Inventories.

(c) Better Services to Customer

The Inventory management aim at providing better Services to consumers by ensuring the availability of Product as and when demanded by the consumer. This can be done by maintaining the level of stock as per the market conditions.

d) Minimum Material Handling

Inventory management is also concerned with organization of store activities in such away so that handling of material can be minimized. It will help in reducing the wastage of material and loss due to theft, pins etc can be prevented.

(e) **Minimizing Risk**

The Inventory management also tries to minimize the risk due to obsolescence. It ensures that if the Product becomes outdated then only a few units should become waste. This aim of Inventory management is more important for those concerns which are engaged in Production of fashionable product.

(f) **Minimizing the Wastage**

Inventory control is essential to minimize the wastage at all levels i.e. during its storage in go down or at work in. the factory. Normal wastage, in other words uncontrollable wastage should only be permitted. Any abnormal but controllable wastage should strictly be controlled. Wastage of Material by leakage, theft, embezzlement and spoilage due to rust, dust or dirt should be avoided.

(g) **Promoting Manufacturing Efficiency**

The manufacturing efficiency of the enterprise increase if right type of raw material is made available to the Production department at right time. It reduces wastage and cost of Production and improves the morale of workers.

(h) Minimising Costs

Minimising inventory costs such as Purchasing, handling, ordering and carrying costs etc. is one of the main objective of Inventory management. Financial management should help controlling the inventory costs in a way that reduces the cost per unit of inventory, cost of Production can also be minimised by controlling the inventory costs.

6.18 TOOLS AND TECHNIQUES OF INVENTORY MANAGEMENT

As already discussed, inventory management is concerned with maximizing servicing benefits with minimum of plant operation cost, and that too at minimum inventory investment For the purpose, various inventory control techniques are followed. Some of them are as follow:

1. Fixation of stock levels
   - Maximum level of stock
   - Minimum level of stock
   - Reorder level of stock
   - Danger Level
2. Economic order quantity
3. Two Bin System
4. ABC Analysis system of control
5. Perpetual Inventory system

6. Control through reports
7. Ratio Analysis
8. Budgetary control system
9. Input-output analysis
10. VED Analysis

Now there technique of inventory control have been discussed are by one in the following pages:

Fixation of Stock Levels

To have an effective control an inventory, it become necessarily to decide about the various levels of stock. The Producer has to taJce into consideration his requirement while deciding about the maximum and minimum level of Inventories. Moreover, it is important to note that the level fixed by the Producer regarding inventories can be changed with the changing requirement.

Following are the main levels of inventory which are fixed to have an effective control system.

(a) Maximum level or stock

This refers to the upper limit of the inventory and represents the largest quantity of stock which in the interest of the concern should generally be kept in stores. The fixation of maximum level of stock will help in controlling the investment in stocks. And further will help in reducing the cost in terms of less wastage of material, less handling cost etc. Formula to calculate the Maximum level of stock:

= Reorder Level + Reorder quantity - [minimum consumption * Minimum Reorder period]

The factors which are taken into consideration while fixing the Maximum Level of stock are - investment, Lead time, consumption Rate, storage capacity, Nature of commodity, market conditions etc. The main purpose of fixation of this level is to avoid over stocking

(b) Minimum Level or stock

The minimum Level of stock is the Level below which the quantity of stock should not fall. This Level of stock is established to guard against the chance of production being closed down due to shortage of material. The factors which are taken into consideration while fixing the Minimum Level of stock are - Rate of consumption, Procurement time, Availability of substitutes, Nature of item etc.

Formula to calculate minimum Level =

Reorder Level - (Normal consumption * Normal Reorder Period)

The maintenance of minimum Level of stock will help in maintaining the continuity of Production.

(c) Re-ordering Level

This refers to the Level of stock at which orders are placed with suppliers of materials to procure supplies. This is the point which normally lies between the maximum and minimum Level stock. The fixation of this level will take into account lead time, rate of consumption, economic order quantity etc.

Formula for calculating Reorder Level of stock

= Maximum consumption * Maximum Reorder Period for delivery

OR

Reorder Level - Minimum Level + consumption during the time required to get the Fresh delivery.

The fixation of Reordering Level of stock' will help in Procuring the fresh supplies as per requirement and will further help in avoiding the overstocking as well' as under stocking,

(d) Danger Level

Danger Level is that Level of inventory where the store keeper stops the Normal issue of inventory and inventory is issued only under special instruction. At this junction special efforts are made to procure fresh supplies so that production may not be stopped due to shortage of material.

Danger Level can be calculated as follow: = Average consumption x Maximum Reorder period for emergency purchases.

Economic Order Quantity

At the time of purchasing the inventory, it is a very important decision to decide about the quantity to be purchased at one time. A firm cannot place either too large or too small order. If large quantity is 'ordered, then it will increase carrying cost. And if small quantity is ordered, then it will increase ordering cost. Moreover, small quantity ordered can also result into shortage of material and can thus hamper the production Process.

On the basis of a trade of between ordering cost and carrying cost, and at the same time ensuring availability of material, an appropriate or optimum Level of the order to be placed is determined, which is known as Economic order quantity. Economic order quantity (E O Q) is the standard quantity of material which is normally placed an order when stock reaches the reorder period. Although while deciding about the Economic order quantity, ordering cost and carrying cost plays an important role, but at the same time Factors like cost of inventory and shortage cost are also given due importance. In nut shell, Economic order quantity refers to that quantity of stock to be ordered at which total cost inventory comprising acquisition ordering cost and carrying cost is minimal.

Determination of Economic Order Quantity

The economic order quantity can be determined as per the following formula:

$$EOQ = \sqrt{2CO/1}$$

Here C refers to consumption the material concerned in units during the year.

O refers to cost of placing one order including the cost of receiving the goods i.e. costs of getting an item into firm's inventory. It further includes cost of staff posted in the purchasing department, inspection department, payment department, cost of stationary, postage telephone charger etc.

In the above formula, refers to the carrying cost of charges of material and includes cost of spoilage, obsolescence, deterioration etc, Amount of interest payable on the money locked up in material etc.

To sum up, Economic order quantity is determined keeping in view the ordering cost and carrying cost.

The' Economic order quantity can also be decided upon graphically. As ordering' cost and carrying cost behaves in the opposite direction, graphically E O Q can be determined at the point of intersection of ordering cost and carrying cost.

The increase in quantity ordered at one time, ordering cost will below and carrying cost will be high and vice versa, if low quantity is ordered at one time so as to cut down the overall cost, E O Q is fixed at the point of intersection of ordering cost and carrying cost.

There are certain assumption which have to considered while deciding about the Economic order quantity. These are:

(a) Annual consumption of Inventory item is known with certainty.
(b) Rate of consumption of Inventory item is steady over times.
(c) Market conditions-are such which allows us to place as many orders as the concern needs.

Two Bln System

Two Bin system is a controlling Technique which is generally used for low cost category items of inventory under this system, inventory items are grouped in two groups and each group of items is stored in separate bins. In the first bin, a sufficient supply is kept to meet the current requirement over a designated period of time. In the second bin, a. safety stock is maintained to meet the requirement of inventory at times when the stock in the first bin is exhausted and reordering occurs. This Two bin system of Inventory control reduces the clerical work to a great extent.

Further it reduces the need of continuous monitoring the Level of stock. But at the same time it should be noted that this technique cannot be applied to all items of inventory and is mostly suitable for non critical and low cost item category only.

ABC Analysis System of Control

This Technique of control is a selective control technique of material. Under this echnique, items are identified and categorised so as to exercise control an inventory items as per their value and importance. Under this system, all items in the inventory are grouped into three categories - A,B and C, In A category, High cost item are categorized. Normally the items are categorized in C categories.And normally the items of C category are very large in numbers. The Third category is category 'B' which in a way is a residuary category and in it medium price item are categorized.

As A Category of items include high value item, it require a regular and strict control, Investment and supply of such item is controlled as to control over investment or under investment in such items. Items relating to category 'B' although cannot be ignored but less strict vigil in comparison to A' category items is kept. Normally statistical controlling systems are used for keeping a check on the items of 'B' category. Category 'C consist of low cost items and least control is exercised on them.

So ABC Analysis system of control helps to focus the control process on such items where it is most needed.

Perpetual Inventory System

Perpetual inventory system is basically a system of records. Bin Card, Material control card and store Ledger constitutes perpetual inventory system. This system of controlling inventory item is supported by continuous stock taking Process of Physical verification. According to Wheldon, it is a “method or recording store balances after every receipt and issue, to facilitate regular checking and to obviate closing down for stock fixing."

Under the perpetual inventory system, stock receipts and issues are continuously recorded in Bin card and store Ledger, so that the quantity and value of stock can be assessed at any time. Further, an effort is made to ensure that actual quantity in the bin matches with quantity as shown by the records. This is done with the help of continuous stock taking. So perpetual Inventory control system requires:

(i) Preparation of Bin card and store Ledger.
(i) Comparison of Bin card and store Ledger Accounts
(ii) Continuous stock taking for Physical verification

Control through Reports

Following analysis and control records and reports helps to improve the performance of inventory management **(i) Dally transactions report :**

This report Indicate every transaction for each day.

(11) Weekly shortage report :

This is based on long range production schedule. This, reports a potential shortage of any item with less than the lead time quantity in hand. This reports helps the management to take immediate steps before it becomes critical.

(iii) Critical shortage report :

This report indicates the position of items which has reached at critical level.

(iv) Monthly inventory level :

This report is prepared with the idea to check inventories and is based on material classification rather than individual parts. This report is used to compare the materials cost between budgeted and actual inventories for respective months.

Above mentioned reports are only few, other reports can be generated according to the requirement of information depending upon the type of organization. The data obtained from these reports are analyzed for facilitating decision making.

Moreover, this method is very suitable for larger firms having huge quantities of different materials. If Annual physical verification is done in such plants, complete shut down of the store may produce large losses to the owner. Hence, perpetual inventory control system provides a readymade data about the quantity of stock available in stores and thus helps the management in carrying out the functions more smoothly.

Under the perpetual inventory system, inventory accounts are maintained up to-date in a store Ledger. It is, however, necessary to make physical counts of the materials at regular intervals to compare with the store Ledger records. It is possible that physical counting of materials may not agree with the store Ledger. The difference may be due to the following reasons

(i) Unavoidable causes

(ii) Avoidable causes

There are certain causes which cannot be avoided like Evaporation, Absorption, moisture, Temperature changes affecting the volume of stock, shrinkage, Deterioration of quality in stores, loss due to breaking bulk or cutting up etc. But there are certain causes of loss of inventory, which can be avoided or controlled like pilferage, careless handling etc. Perpetual inventory system is helpful in controlling avoidable causes by providing regular data."

Ratio Analysis

Ratio Analysis is an important technique of Inventory control. Different ratios are computed regarding inventory such as inventory turnover ratio, average inventory, inventory to total assets and inventory consumption rate etc. These ratios provide a broad framework for the control of inventory.

Different inventory ratios will a highlight important facts regarding nature of the stock e.g. whether it is a slow moving item, fast moving item or dormant stock etc., Then accordingly better divisions can be taken to ensure the regular availability of material and that too at a minimum total cost The Ratio analysis also indicate the situation and trends of inventory.

Budgetary Control System

In Budgetary control system, budget acts as a controlling device for controlling the actual operations. Under this system inventory budgets are prepared and then compared with actual consumption figures. Through Budgets, inventory consumption and levels are coordinated with the expected usage. It serves the purpose' of controlling cash and debtor’s position. The Inventory Budget is a plan for investing funds in stock at regular intervals via Raw Material, work in Progress and finished stock. And these planned figures relating to inventory latter on becomes the base for controlling inventory later on.

Input-output Ratio Analysis

It is one of the very important method of exercising control on inventories. Input output Analysis basically establishes a relationship between quantity of material charged to the Production process and the quantity of material in the final output. It helps in determiping the efficiency of manufacturing department as through this analysis comparison between actual consumption of material with standard consumption of material can be made and favorable or unfavorable usage of material can be indicated. And After that Controlling measures can be undertaken.

VED Analysis

The VED Analysis is used generally for spare parts. The requirements and urgency of spare parts is different from that of materials .The demand for spares depends upon the performance of Plant and Machinery. Spare parts are classified as Vital (V), Essential (E) and Desirable (D).The classification of spares under three categories is an important decision.

6.19 SUMMARY

The basic goal of working capital management is to manage the current assets and current liabilities of a firm in such a way that a satisfactory level of working capital is maintained. It includes management of cash, receivable and inventories. Cash management will be successful only if cash collections are accelerated and cash disbursements, as far as possible, are delayed and the objective of receivable management is to take a sound decision as regards investment in debtors. Inventory management requires an effective control system for inventories.

- **Keyword:** *Management receivables, Ratio analysis, inventory management, working capital cycle*

6.20 SELF-CHECK QUESTIONS

Long Question Answer:

1. Write a detailed note on management of working capital. Discuss the various techniques which are used for inventory control.
2. What do you understand by Management of Cash?
3. What do you understand by Management of Receivables?

- **Short Question Answer:**

5 Write a short note on inventory management.

6 How to determine economic order quantity?

7 Briefly explain the various sources of working capital.

8 Define the term 'Ratio Analysis'.

6.21 SUGGESTED READINGS

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6.22 SELF-CHECK QUESTIONS (ANSWER KEY)

6.2 a) purchase of raw materials, payment of wages b) two c)Net Working Capital = Current Assets - Current Liabilities

LEVERAGE: FINANCIAL AND OPERATING LEVERAGE

STRUCTURE

7.0 OBJECTIVES

After studying this lesson, students would be able to:

1. Know the meaning and types of leverages in business
2. Financial Leverage and its impact on EPS
3. Operating and Combined Leverage
4. Degree of leverages

7.1 INTRODUCTION

Leverage is a magnifying force or power, which is employed to achieve more output. In financial management leverage refers to the investment in fixed assets and capital structure of a firm in such a way so that fixed cost is present.

The presence of fixed costs magnifies the earnings available to the shareholders when the scale of operations is increased. This happens due to the fact at sales increase at a higher rate as compared to the rate of increase in costs. Total cost of firm are divided into two categories:

(1) Variable costs, and

(2) Fixed costs

Variable costs vary proportionate with the sales volume whereas fixed costs remain constant. Consequently cost increases at a rate lower than the rate of increase in sales. Thus, larger the amount of fixed costs higher is the leverage. Leverage is of three types :

(1) Financial leverage and

(2) Operating leverage

(3) Combined leverage

7.2 FINANCIAL LEVERAGE

Financial leverage arises on account of assumption of fixed financial costs by a firm. It is created by debt financing or preference share capital financing on which a firm has to pay fixed interest or fixed preference dividend. In other words, financial leverage arises on account of raising of capital from those sources on which fixed returns has to be paid (debt or preference share capital) along with owner's equity in the capital structure. Financial leverage is also known as trading on equity.

The extent to which a firm uses financial leverage, has three important implications :

(1) By raising funds through debt, the owners can maintain control over the firm with a limited investment.
(2) If the firm earns more on investment financed with borrowed funds than it pays in the from of interest, the return on owner's capital is magnified and
(3) Higher financial leverage makes the firm riskier, because if the owners have provided only a small proportion of total financing, the risks of the enterprise are borne mainly by its creditors. Financing leverage has the potential to raise the rate of return to equity shareholders on account of two reasons.
(4) Interest on debt is tax deductible and employment of debt reduces tax liability.
(5) If the firm's return on investment exceeds the rate of interest on debt as it generally does, then the firm can use debt and have something left over as a 'bonus', for its equity shareholders.

The effect of financial leverage on the earning per share (earning available to equity shareholders) is explained in illustration. 1.

Illustration-1

Bharwal Brothers Ltd., is considering to set up a new project requiring Rs. 10,00,000. It is considering three financing plans A, B and C to raise the required funds. Financing plan A consists of 10,000 equity shares of Rs. 100 each. Financing plan B consists of Rs. 5,00,000 dividend into 5,000 shares of Rs. 100 each and 5,000, 14 percent preference shares at Rs. 100 each. Financing plan C consists of 5,000 equity share of-400 each and 16% debentures of Rs. 5,00,000. The expected earnings (before taxes and interest) is 20% on the total assets of Rs. 10,00,000. Tax rate is 50%. Find out the EPS of each financing plan and comment upon the effect of financial leverage.

Solution :

EFFECT OF FINANCIAL LEVERAGE

•	**Financing Plans**		
	A (Rs.)	*B (Rs.)*	C*(Rs.)*
Total Capitalisation	10,00,000	10,00,000	10,00,000
Equity Capital	10,00,000	5,00,000	5,00,000
Number of Equity Shares	10,00	5,000	5,000
14% Preference Capital	—	5,00,000	—
16% Debentures	—	—	5,00,000
EBIT	2,00,000	2,00,000	2,00,000
Less interest	—	–	80,000
Profit before tax	2,00,000	2,00,000	2,00,000
Less tax at 50%	1,00,000	1,00,000	60,000
Profit after tax	1,00,000	1,00,000	60,000
Less Preference Dividend	—	70,000	—
Profit Available to Equity Shareholders	1,00,000	30,000	60,000
Earning Per Share	10	6	12

The above calculations show that earning per share is Rs. 10 when only equity capital is employed. It is Rs. 6 when a combination of equity capital and preference capital is used and Rs. 12 when debt is used along with equity capital. In the case of plan C the rate of interest on debentures 16% is lower than the rate of return on investment 20% (since interest

is payable out of before tax profits) and hence, the financial leverage has a favourable effect on EPS. On the other hand, in case of plan B after tax rate of return 10% (i.e. 20% less income- tax rate @ 50%) is lower than the rate of preference dividend 14% (preference dividend is payable out of post tax profit). From the above discussion it can be said that financial leverage either increases the EPS or reduces it, depending upon the relationship between the rate of interest/preference dividend and the rate of return on investment.

Responsiveness of EPS to changes in Operating Profit (EBIT)

The use of financial leverage increases the responsiveness of earnings of equity shareholders to net operating profit (EBIT). If a firm is financed entirely with equity share capital, a given percentage changes in EBIT results in same percentage change in EPS. However, with the use of debt or preference share capital, the percentage change in EPS in comparatively more than the percentage change in EBIT. The responsiveness of EPS to changes in EBIT has been explained in illustration 2.

ILLUSTRATION-2

Take the data from illustration-1. Assume that the EBIT of the firm may be 10% higher i. e. Rs. 2,20,000 (situation X) or 10% lower i.e. Rs. 1,80,000 (situation Y). Compute the EPS of alternative financing plans in situation X and Y and comment upon the effect of financial leverage.

Solution:

	Situation X			**Situation Y**		
	A (Rs.)	*B (Rs.)*	C*(Rs.)*	*A (Rs.)*	*B (Rs.)*	**C** *(Rs.)*
EBIT	2.20,000	2,20,000	2,20,000	1,80,000	1,80,000	1,80,000
Less Interest	—	—	80,000	—	—	—
Profit before tax	2,20,000	2,20,000	1,40,000	1,80,000	1,80,000	1,80,000
Less tax at 50%	1,10,000	1,10,000	70,000	90,000	90,000	50,000
Profit after tax	1,10,000	1,10,000	70,000	90,000	90,000	50,000
Less Pref. Dividend	—	70,000	—	—	70,000	—
Profit for Equity	1,10,000	40,000	70,000	90,000	20,000	50,000
Shareholders EPS	11	8	14	9	4	10
%age changes in EPS	10%	33.3%	16.66%	-10%	-33.3%	-16.6%

The above calculations show that if a company is financed with equity capital, a given percentage change in EBIT will result in same percentage change in EPS (for example in case of plan A) 10% increase in EBIT leads to 10% increase in EPS and vice-versa. The use of debt or preference capital increases the responsiveness of EPS to changes in EBIT. For example in financing plan B (equity and preference capital) a 10% increase in EBIT increases the EPS by 16.66% and decreases the EPS by 33.3% and a 10% decrease in EBIT decreases the EPS by 33.3%. In plan C (equity capital and debenture) 10% increase in EBIT increases the EPS by 16.66% and 10% decrease in EBIT decreases the EPS by 16.66%. Thus, it can be said that financial leverage works both ways, positively or negatively. It is advantageous, if there is an increase in EBIT. It is disadvantageous it there is a decrease in EBIT.

Degree of Financial Leverage

The degree of financial leverage (DFL) can be defined as the percentage change in earning per share (EPS) that results from a given percentage change in earnings before interest and taxes (EBIT) or operating profits. It is calculated as follows:

$$DFL = \frac{\%\ Change\ in\ EPS}{\%\ Change\ in\ EBIT} = \frac{\Delta EPS / EPS}{\Delta EBIT / EBIT}$$

DFL is an index number which measures the effect of a change in EBIT on earning per share (or earning available to equity shareholders, DFL can also be computed by using the equation started below :

$$DFL = \frac{Q(S-V)-F}{Q(S-V)-F-I} = \frac{EBIT}{EBIT-I}$$

Here I is the amount of interest payable on debt. In case the firm also has preference capital in its capital structure the degree of financial leverage will be computed as follows :

$$DFL = \frac{EBIT}{EBIT-I-\frac{Pd}{(1-t)}}$$

Where;

Pd = preference dividend

t = tax rate

The calculation of financial leverage has been explained in Illustration-3.

Illustration-3

	A Ltd. Rs.	*B Ltd. Rs.*	**C** *Ltd. Rs.*
Equity Share Capital	10,00,000	5,00,000	5,00,000
10% Preference Capital	—	5,00,000	—
8% Debentures	–	–	5,00,000
Total Capital	10,00,000	10,00,000	10,00,000

The present level of EBIT of each of the three companies in Rs. 2,40,000. Calculate EPS and the degree of financial leverage for all these companies assuming that current tax rate is 50%.

Solution :

Computation of Degree of Financial Leverage

	A Ltd. *Rs.*	**B Ltd.** *Rs.*	**C Ltd.** *Rs.*
EBIT	2,40,000	2,40,000	2,40,000
Less Interest	–	–	40,000
EBIT-I	2,40,000	2,40,000	2,00,000
Less tax at 50%	1,20,000	1,20,000	1,00,000
Profit after tax	1,20,000	1,20,000	1,00,000
Less Preference Dividend	–	50,000	–
Earning for Equity Shareholders	1,20,000	70,000	1,00,000
No. of Equity Shares	10,000	5,000	1,00,000
No. of Equity Shares	10,000	5,000	5,000
EPS	12	14	20

$$\text{Degree of financial leverage for A Ltd.} = \frac{EBIT}{EBIT - I}$$

$$= \frac{\text{Rs. } 2,40,000}{\text{Rs}2,40,000 - 0}$$

$$= 1$$

$$\text{Degree of financial leverage of B Ltd.} = \frac{EBIT}{EBIT - \frac{PD}{1-t}}$$

$$= \frac{\text{Rs. } 2,40,000}{\text{Rs. } 2,40,000 - \frac{\text{Rs. } 50,000}{1 - 0.50}}$$

$$= 1.71$$

$$\text{Degree of financial leverage for C Ltd.} = \frac{EBIT}{EBIT - I}$$

$$= \frac{\text{Rs. } 2,40,000}{\text{Rs. } 2,40,000 - 40,000}$$

$$= 1.2$$

7.3 SIGNIFICANCE OF FINANCIAL LEVERAGE

Financial leverage is of great importance for a financial manager. Application degree of financial leverage enables a financial manager to:

1. understand how EPS would change given a change in EBIT
2. measure financial risk
3. select an appreciate capital structure and
4. plan profits of the business

1. Understanding EPS Changes

DFL explains the change in EPS in response to changes in EBIT. The Percentage change in EPS can be found out by multiplying the DFL with the percentage change in EBIT. This is explained below:

$$DFL = \frac{\% \text{ change in EPS}}{\% \text{ change in EBIT}}$$

2. Measurement of Financial Risk

DFL helps us in measuring financial risk. Financial risk refers to variability in EPS caused by presence of fixed financial costs due to employment of debt and preference capital. Higher DFL brings in greater change in EPS corresponding to a given change in EBIT and vice-versa. Therefore, it can be said that higher DFL implies more financial risk and lower DFL implies lesser financial risk.

3. Selection of an Appropriate Capital Structure for the Firm

DFL helps in the designing of an appropriate capital structure of a firm. Capital structure decision is concerned with the determination of a suitable mix of various sources of capital to raise necessary funds for the firm. A firm which expects greater volume of EBIT in future can have a higher degree of financial leverage and hence and can have higher

proportion of fixed cost bearing capital (debt and preference capital) in its capital structure. On the other hand a firm with a lower level of expected EBIT in future should have lower degree of financial leverage and depend more on equity capital rather than debt or preference capital. Selection of an appropriate capital structure also depends upon the degree of variability in EBIT. A firm whose EBIT is not certain, should have more capital through the issue of equity shares. On the other hand, a firm whose EBIT is stable can assume higher financial leverage and can depend more on fixed cost capital for raising the necessary funds.

4. Profit Planning

Financial leverage analysis can help in profit planning of a firm. DFL can considerably increase the EPS of a firm if the EBIT of the firm is expected to increase in future. On the other hand if the EBIT of the firm is expected to decrease in future, the EPS would decline at a much faster rate as compared to the rate of decrease in operation profits. Therefore, having regard to the relationship between EBIT and EPS changes, the firm can plan about the behaviour of EPS.

Limitations of Financial Leverage/Trading on Equity

While analysing the effects of financial leverage, we have observed that it is not always advantageous. It can increase or decrease the earnings of equity shareholders depending upon the behaviour of EBIT of the firm. Financial leverage has following limitations:

1. Increases Risk

We know that financial leverage also implies more financial risk. The EPS of a firm with a greater degree of financial leverage would be more volatile than the EPS of a firm with lower degree of financial leverage. Thus, financial leverage increases the level of risk of the firm.

2. Double Edged Weapon

Financial leverage is rightfully observed as a doubled edged weapon. It magnifies the rate of increase in EPS if the EBIT of the firm rises. On the other hand, it magnifies the rate of decline in EPS if the EBIT of the firm decreases. Thus, whether the financial leverage will be advantageous or disadvantageous cannot be known with certainty.

3. Restrictions from Financial Institutions

Excessive use of financial leverage by a firm may attract restrictions from financial institutions, which have lent money to the firm. Financial institutions often impose restrictions on the management of the firm while extending additional loans. This impairs the flexibility in the management of the affairs of the firm.

7.4 OPERATING LEVERAGE

Presence of fixed operating cost that must be met regard less of sales volume is known as operating leverage. Generally, firms with high fixed costs have lower per unit variable cost and their breakeven point is relatively higher. Once a firm crosses the breakeven point, each additional unit sold brings in comparatively more profit since the fixed operating costs having been met, the difference between the selling price and the variable cost is the additional profit to the firm. Thus, in the case of a firm having a higher proportion of fixed operating costs in the total costs, the operating profits increase/decrease at a higher rate as compared to the rate of increase/decrease in the sales value.

Self- Check Questions:

a) The relationship between the operating income and earnings per share is known as:

1) Financial leverage 2) Operating leverage 3) Combined Leverage 4) Working Capital

b) The relationship between the sales, revenue and operating income is known as

1) Financial leverage 2) Operating leverage 3) Combined Leverage 4) Working Capital

c) Which leverage can be determined with the help of break-even analysis?

1) Operating leverage 2) Financial leverage 3) Combined Leverage 4) Working Capital

Degree of Operating Leverage

Degree of operating leverage (DOL) measures the sensitivity of operating income (EBIT) to changes in sales volume. It can be defined as the percentage change in operating profits (Earnings before interest and taxes) over the percentage change in sales that causes the change in profit. Degree of operating (DOL) is computed with the help of following equation:

$$DOL = \frac{\frac{\Delta EBIT}{EBIT}}{\frac{\Delta Q}{Q}}$$

Where;

DOL = *Degree of operating leverage* AEBIT = *Change in net operating profit*

EBIT = *Net operating profit or earnings before interest and taxes.*

AQ = *change in the number of units sold* Q = *Number of units sold.*

Degree of operating leverage can also be computed with the help of following equation: Where;

Q » *Number of units sold* S = *Selling price per unit*

V « *Variable cost per unit* F = *Fixed operating cost* Calculation of degree of operating leverage has been explained in illustration-4.

ILLUSTRATION-4

Three firms X, Y and Z manufacture the same product but employ different technologies of production. Their current selling prices and cost data is as follows : _____

Sales (Unit)	10,000	10,000	10,000
Selling Price (Rs.)	10	10	10
Variable Cost (Rs.)	6	5	4
Fixed Cost (Rs.)	30,000	40,000	50,000

In the next year sales of all these firms are expected to increase by 50%. Compute the degree of operating leverage for the three firms.

	Firm X		*Firm Y*		*Firm Z*	
	Current Year	*Next Year*	*Current Year*	*Next Year*	*Current Year*	*Next Year*
Sales (Unit)	10,000	15,000	10,000	15,000	10,000	15,000
Selling Price (Rs.)	10	10	10	10	10	10
Variable Cost (Rs.)	6	6	5	5	4	4
Contribution/Unit	4	4	5	5	6	6
Total Contribution	40,000	60,000	50,000	75,000	60,000	90,000
Fixed Cost	30,000	30,000	40,000	40,000	50,000	50,000
Operating Profit	10,000	30,000	10,000	35,000	10,000	40,000
DOL	$\frac{40,000}{10,000} = 4$		$\frac{50,000}{10,000} = 5$		$\frac{60,000}{10,000} = 6$	

7.5 COMBINED LEVERAGE/COMPOSITE LEVERAGE

While analysing DOL and DFL we have observed that: (i) the greater the degree of operating leverage, the more sensitive EBIT will be to changes in sales, and (ii) the greater the degree of financial leverage, the more sensitive EPS will be to be changes in EBIT. Therefore, if a firm uses a considerable amount of both operating and financial leverages, then even the small changes in sales will lead to wide fluctuations in EPS. The combined effect of operating and financial leverage is known as combined leverage or composite leverage.

The degree of combined leverage (DCL) is defined as the Percentage change in earning per share (EPS) that result from a given change in sales, and is calculated as follows:

$$DCL = \frac{\% \text{ change in EPS}}{\% \text{ change in Sales}}$$

DCL can also be computed as follows:

$$DCL = Q(S - V) / Q(S - V) - F - I$$

Where;

Q = the number of units sold
S = selling price per unit
V = variable cost per unit
F = fixed operating costs
I = fixed interest charges

7.6 SIGNIFICANCE OF COMBINED LEVERAGE

Degree of combined leverage explains the combined effect of operating leverage and financial leverage of a firm on its earnings per share (EPS). The practical applications of DCL are as follows:

1. Understanding Changes in EPS

DCL helps us in explaining the changes in EPS as a result of changes in sales. The change in EPS from a given percentage change in sales is simply the product of the DCL and the percentage change in sales.

2. Assessment of Total Risk

DCL helps us in knowing the overall risk assumed by the firm. It reflects a combined effect of operating risk and financial risk on the EPS or the return on equity. With the help of the analysis of combined leverage, a firm can keep its overall risk within manageable limits. Operating and financial leverages can be employed in various combinations to achieve this objective. Higher operating risk can be offset with lower financial risk and vice-versa. If a firm has assumed high operating leverage due to the nature of its operation, it should assume lower financial leverage to keep the overall risk within manageable limits. On the other hand, if a firm has assumed lower operating leverage it can afford to employ a higher degree of financial leverage.

- **Keyword:** *leverage, Financial leverage, Operating leverage, Combined leverage*

7.7 SELF- CHECK EXCERCISE

- **Long Question Answer**

1. Write a detailed note on financial leverage.
2. Define operating Leverage. How the degree of operating leverage calculated?
3. What is combined leverage? Give its significance.

- **Short Question Answer**

1. Explain any two limitations of financial leverage.
2. Define the term 'Degree of operating leverage'.
3. How to calculate operating leverage. Explain with example.

7.8 SUGGESTED BOOKS

- Yadav, C. S. (2014): Determinants of the capital structure and financial leverage: evidence of selected Indian companies, Asia Pacific Journal of Research, 1(12), 121-130
- Robert Carver: Leverage Trading, Harriman House Publishing, 2019

7.9 SELF-CHECK QUESTIONS (ANSWER KEY)

7.4 (a) 1 (b) 2 (c) 1

COST OF CAPITAL

8.0 OBJECTIVES

After studying this lesson, students would be able to:

1. Understand the meaning, concept and significance of cost of capital
2. Computation of cost of specific sources of finance
3. Computation of weighted average cost of capital

8.1 INTRODUCTION

The term 'cost of capital' refers to the minimum rate of return that a company must earn on its investment in order to leave unchanged the market price of its stock/shares. It is directly related with overall firm's objective of wealth maximisation. This will be possible only if the firm earns a return on its projects financed by the equity shareholder's funds at a rate which is at least equal to rate of return expected by them. If a firm falls to earn return at expected rate, the market value of the shares would fall and thus result in reduction in overall wealth of shareholders.

In essence a firm's cost of capital is the rate of return which is required on its investments to increase the value of the firm is market place. There are four major characteristics of cost of capital.

(i) It's not a cost as such. It is really a rate of return that is required on the project where investments are being made.

(ii) Cost of capital is minimum rate of return, just to maintain value of firm.

(iii) Cost of capital has three components:

Return at zero risk level;

Premium for business risk;

Premium for financial risk.

In order to understand these three components of cost of capital we must have clarification regarding the various types of risks.

Business risk is regarding the possibility that the firm will not be able to operate successfully in the market. Financial risk refers to the risk on account of pattern of capital structure i.e., debt equity mix. In this context we can say that firms with higher debt content in its capital structure have more financial risk as compared to the firm having lower debt content. The reason is that in former case the firm requires higher operating profits to meet periodic interest requirements and repayments of principal at the time of maturity as

compared to latter. Thus, financial risk relates to the risk that firm will not earn sufficient profits to make payment of interest on loans or payments of dividends.

Now come over to the aforesaid three components of cost of capital. These can be better illustrated with the help of following figure.

The figure shows that cost of capital financial risk > cost of capital at business risk > cost of capital financial risk > cost of capital at business risk > cost of capital with no risk.

The above three components of cost of capital may be put in the form of the following equation.

K= ro + b + f

Where:

K = Cost of Capital

ro= Return at zero risk levels;

b = Premium for business risk;

f = Premium for financial risk.

8.2 IMPORTANCE OF COST OF CAPITAL

The determination of cost of capital is a very important step in the financial decision making. The concept of cost of capital is very important in financial management. Cost of capital plays very important role in capital budgeting decisions, capital structure planning and also in measuring financial performance.

(1) As an acceptance Criterion in Capital Budgeting

In the words of James Porterfied, the concept of cost of capital had assumed growing importance largely because of the need to devise a rational mechanism for making the investment decision of the firm; optimal investment decisions can be made by considering the cost of capital. Out of several investment proposals, the desirable and profitable ones can be identified with help of cost of capital. If expected return form an investment project is greater than equal to cost of funds required for the project, the project may be accepted otherwise rejected.

(2) As a determinant of Capital mix in Capital Structure Decisions :

Cost of capital plays a very significant role in determining the capital mix in capital structure decision. A proper balance between debt and equity capital as components of total capitalisation of a firm is a significant matter of corporate financial policy. An important reason for using debt is that its use increases the rate of return on equity capital, other things remaining the same. However, the use of debt increases the financial risk, because a slight fall in the earning capacity of the company may bring the firm near to cash insolvency. This greater degree of the financial risk reduces the value of the firm for the investors and lesser they are attracted to invest more or to continue the present investment in the firm. So, it become difficult for the firm, in that case to raise funds and they have to offer higher rate of

interest which increases cost of capital. It is, therefore, absolutely necessary that cost of each source of funds is carefully considered and compared with risk involved with it.

(3) As a basis for Evaluating the Financial Performance

We know that ultimately, it is top management which is responsible for the overall profitability of the firm. By the large it is the top management which select the investment proposals on the basis of the analysis of relevant data. To evaluate the financial performance of the top management, actual profitability of the project is compared with the projected overall cost of capital and actual cost of capital of funds raised to finance the project. If the actual profitability is more than the projects and actual cash of capital, the performance may be said to be satisfactory.

8.3 MEASUREMENT OF COST OF CAPITAL

Cost of capital is determined first for individual sources of funds. Then overall cash of capital is computed combining the individual or specific sources of funds. This overall cost of capital is also known as composite cost of capital or weighted average cost of capital.

Assumptions

Before discussing the computation of average cost of capital, let us note the assumptions which must be satisfied in order to use average cost of capital for appraising new investments:

(1) Cost can be either Explicit or Implicit

An understanding of explicit and implicit cost of capital is necessary for computation of over all cost of capital. The explicit cost of any sources of finance may be defined as the discount rate that equates the present value of funds received by the firm with the present value of expected cash outflows. These outflows may be interest payments, repayments of principal or dividend. In other words, it is the internal rate of return the firm pays for financing.

For example, if a company raises a sum of Rs. 1 lakh by way of debentures carrying interest at 9% and payable sifter 20 years, the cash inflows will be a sum of Rs. 1 lakh. However annual cash outflow will be Rs. 9000 for 20 years. The explicit cost of capital will, therefore be that rate of internal return which equates Rs. 1 lakh the initial cash inflows with Rs. 9000 payable every year for 20 years and Rs. 1 lakh at end of 20 years.

Now come over to the implicit cost of capital. There are some sources of funds which do not involve any future cash outflows e.g. retained earnings. Obviously (explicity), retained earning have no cost. But impliedly, retained earning do have cost. If the firm does not retain the earnings and distribute to the shareholders in the form of dividend, the shareholders would have invested this dividend in same profitable venture and would get return on investment of retained earning so received. But they don't get this opportunity when earnings are retained by the firm. So they lose the opportunity to earn on amount of earning retained. If this is assumed then there is opportunity cost of retained earnings for shareholders. The firms retained earnings should compensate the shareholders for the loss. Therefore there is opportunity cost of retained earning which is not expressed but is implied. This opportunity cost is implicit cost of capital.

2. The risk characterising new investment proposals being considered is the same as the risk characterising the existing investments of the firm. In other words, the adoption of new investment proposals will not change risk complexion of the firm.

3. The capital structure of the firm will not be affected by new investments. This

simplifies the computation of cost of capital. This assumption implies that any quantity of funds to be raised for new projects will have the same mix for sources as the firm had before raising additional funds.

4. Cost of previously obtains capital arc not relevant for computing the cost of capital to be raised from a specific source. It means that only marginal cost of capital to be raised different sources is computed.

5. Cost of each source of capital is computed on after tax basis.

These assumptions may also be termed as problems in determining the cost of capital.

8.4 COMPUTATION OF COST OF CAPITAL

For calculating the overall cost of capital, we compute first of all the cost of individual sources of capital. A typical firm uses following sources of capital.

1. Debt/Debentures
2. Preference share capital
3. Equity share capital
4. Retained Earnings

Cost of each source of capital can be determined as follows :

1. Cost of Debt

There can be various forms of debt. It may take the form of a loan or it may be in the form of debentures, etc. Moreover, it may be issued at par, at premium or at discount. It may be perpetual or redeemable. The technique of computation of cost in each case has been explained in the succeeding discussion:

(a) Debt issued at par

The computation of cost of debt issued at par is comparatively an easy task. It is the explicit interest rate adjusted further for the tax liability of the company. The formula for its computation is

$$Kd = R(1-T)\ R/P\ (1-t)$$

WhereKd= cost of debt

R = Debenture interest rate T = Marginal tax rate

P = Rate value of debenture

It may be noted that the interest rate in multiplied by the factor (1-T). This multiplication is necessary to reflect the fact that interest on debt is a tax deductible expense.

(b) Debt issued at Premium or Discount

In case the debentures are issued at premium or discount the cost of debt should be calculated on the basis of net proceeds realised on account of issued of such debentures or bonds. Each a cost may be further adjusted keeping in view of the tax rate applicable to the company. The formula for its computation is

$$Kd = R/NP\ (1- T)$$

Where Kd = Cost of debt

R = Annual interest payment <

NP = Net proceeds of loans or debentures

T = Tax rate

Self- Check Questions:

a) The rate of return on its existing assets that a firmmust earn to maintain the current value of the firm's stock is called the:

1) Return on equity 2) Internal rate of return

3) Weighted average cost of capital 4) Weighted average cost of equity

b) A firm's overall cost of capital:

1) varies inversely with its cost of debt 2) is unaffected by changes in the tax rate

3) is the same as the firm's return on equity 4) the required return on the total assets of the firm

c) _____ on capitalis called 'Cost of capital'.

1) Lower expected return 2) Normally expected return

3) Higher expected return 4) none of the above

Let us take an example to illustrate this let a company issues 10% irredeemable debentures of Rs. 1,00,000. The tax rate applicable to the company is 60%. Calculate the cost of debt if debentures are issued at
(i)Par (ii) 10% discount and (iii) 10% premium

Solution : The formula is

$$K_d = \frac{R}{NP}(1-T)$$

(i) Issued at Par

$$K_d = \frac{10,000}{1,00,000}(1-.60)$$

$$= \frac{.40}{10} = .04 = 4\%$$

(ii) Issued at discount

$$K_d = \frac{10,000}{90,000} \times (1-.60)$$

$$= \frac{.40}{9} = .044 = 4.4\%$$

(iii) Issued at Premium

$$K_d = \frac{10,000}{1,10,000} \times (1-.60)$$

$$= \frac{.40}{11} = 0.36 = 3.6\%$$

(c) Cost of Redeemable Debt

In the proceeding discussion we presumed that debentures or bounds are not redeemable during the life time of the company. However, if the debentures are redeemable after the expiry of fixed period, the effective cost of debt before tax can be calculated using the following formula:

$$K_d \text{ (before tax)} = \frac{R + \frac{1}{n}(MP - NP)}{\frac{MP + NP}{2}}$$

Where

M = Maturity Price of debt

NP = Net proceeds of debentures

R = Annual interest payments

n = No. of years to maturity

For computing the after-tax cost of debt, the following formula is used. After tax cost of debt = Before tax cost of debt (1-t) Where t is tax rate.

2. Cost of Preference Share Capital

Cost of preference can be defined as the minimum rate of return which a firm must earn

on preference share capital financial position of its investment, so as to justify such investment. Preference share is a hybrid security. It possess certain characteristics of a debentures and certain characteristics of an equity share. There is a specific dividend on preference shares just like expressed interest on debentures. But some provisions relating to preference shares such as additional dividend if profits exceed a limit, non-redeemable capital, payment of preference dividend out of the profits after tax make the preference share similar to equity shares. Preference shares, which are non-cumulative do not pose the threat of legal action including that of bankruptcy against the firm by the investors. If the firm does not earn sufficient profits to pay preference dividend. It can omit the payments of divided. This flexibility is not available in case of interest on debentures. However, companies intend to pay the stipulated preference dividends and preference share holders expect to receive preference dividend regularly.

(a) Cost of Capital for Non-Redeemable Preference Shares

Non-redeemable preference shares capital is perpetual and they don't have maturity date. The firm is not required ro repay the capital raised through non-redeemable preference shares till if is a going concern.

The cost of preference capital is found out by solving following equation.

$$Kp = D/MP \text{ or } D/NP$$

(b) Cost of Redeemable Preference Shares

In case of redeemable preference shares, the cost of capital is the discount rate that equals the net proceeds of the rate of preference shares with the present value of future dividends and principal repayments.

The cost of preference capital may be obtained quickly by using the following approximation.

$$K_p = \frac{D + (P-NP)/N}{(P + NP)/2}$$

where K_p = cost of preference capital

D = Preference dividend per share payable annually

P = Redemption price

NP = net amount realised per preference share

n = maturity period.

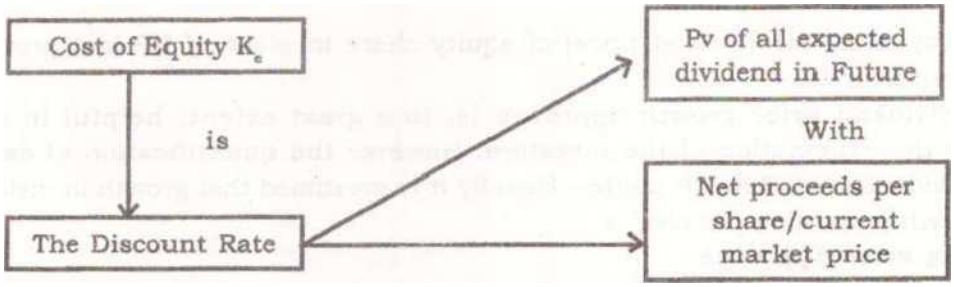
It should be noted that the cost of preference capital is not adjusted for taxes since dividends on preference shares is taken as an appropriation of profits and not a charge against promts. Thus the cost of preference capital is substantially greater than the cost of debt.

Cost of Equity Share Capital

In the words of I.C. Van horn, cost of equity capital is the minimum rate of return that the company must earn equity financed portion of its investments in order to leave unchanged the market price of its stock.

For operational purposes the above mentioned definition can be exhibited in the following way :

K.



The cost of equity capital is the most difficult to measure. Some people argue that equity does not involve any cost. If there is profit, dividends are distributed to equity shareholders. Otherwise no dividends is paid. Another major problems is that cost of equity is based upon the stream of future dividend as expected by shareholders. However it is very difficult to estimate the amounts of expected future dividends and what should be the basis for this estimate.

Despite all these difficulties, different authorities have conveyed different explanation and approaches the following are some of the approaches according to which cost of equity capital can be worked out :

(i) Dividend Price Approach (D/P Approach)

According to this approach, Cost of equity capital is the discount rate that equates the present value of all expected future dividends per share with the net proceeds or the current market price of a share.

Symbolically

$$Ke \quad \frac{D\ D}{NP \text{ or } MP}$$

Where Ke = Cost of Equity capital

D =Expected dividends per share

NP = Net proceeds per share

MP = Market price per share

The basic assumptions underlying this method are that the investors give prime importance to dividends and the risk in the firm remains unchanged. This dividends price method of computing cost of capital does not seem to be logical because

(i) It does not consider the growth in dividends.

(ii) Does not consider future earnings on retained earnings.

(iii) It does not take into account capital gains.

(ii) Dividend Price Plus Growth (D/P + G) Approach

According to this approach, the cost of equity capital is determined on the basis of expected dividends rate plus rate of growth in dividend. The rate of growth in dividend is determined on the basis of the amount of dividends paid by the company for last few years.

The computation of cost of capital, according to this approach can be done by using the following formula:

$$K_e = D/\ NP + g \text{ Or } D/\ MP + g$$

Where g = Growth is expected dividend.

It may be noted that in case of existing equity shares, the cost of equity capital can be

determined by using MP (market price) of equity share in place of NP (net proceeds) of the share as given above.

The dividend price growth approach is, to a great extent, helpful in determining satisfactory the expectation of the investors. However the quantification of expectation of growth of dividends is a difficult matter. Usually it is presumed that growth in dividends will be equal to growth in earning per shares.

(iii) Earning Price Approach

This approach is based on assumptions that it is the earning per share which determined the market price of the shares. That is the shareholders capitalise a stream of future earning (as distinguished for dividends) in order to evaluate their shareholders. Hence the cost of capital should be related to that earning percentage which could keep the market price of equity shares constant. This approach therefore takes into account both dividends as well as retained earnings.

The formula for calculating the cost of capital according to this approach is as follows:

$$K_e = \frac{E}{NP}$$

Where K_e = Cost of Equity Capital E » Earning per share NP = Net proceeds of an equity share

However in case of existing equity share, it will be more appropriate to use market price (MP) instead of net proceeds (NP) for determining the cost of capital.

4. Cost of Retained Earnings

The usual practice of the companies is that they do not distribute all the profits earned by them by way of dividend among their shareholders. They retain some profits for future expansion of the business. Many people feel that such retained earnings are absolutely cost free. But this is not an appropriate approach. Because if it had been distributed among the shareholders by way of dividend, it would have given some earning to them. The company has deprived the shareholders of this earning by retaining a part of profit with it. Thus the cost of retained earnings is the earnings foregone by the shareholders. In other words, the opportunity cost of retained earnings may be taken as cost of retained earnings. It is equal to the income that the shareholders could have otherwise earned by placing these investments in alternative investments.

The situation could be put in some other way. Let the earnings are not retained by the company and passed on the shareholders. And the shareholders invest them in new equity shares of the same company. In other words, if earnings were paid as dividends and simultaneously an offer for right shares was made, the shareholders would have subscribed to the right shares on the expectation of certain return. This expected return can be taken as cost of retained earnings of the company.

However is actual, it doesn't happen. The shareholders have to pay income tax on the dividends received, they have to incur brokerage cost for making investments, etc. Thus the funds available to the shareholders would be less than what would have been with the company, had they retained it. So while calculating the cost of retained earnings, some adjustments are required.

Symbolically

$$Kr = Ke (1-T) (1-B)$$

Where Kr = Cost of retained earnings Ke = Cost of equity shares T ® shareholder's marginal tax rate B = Brokerage cost.

The computation of cost of retained earnings after making adjustments for tax liability is a difficult process because it is almost impossible to find out personal income tax rate of different shareholders of the company. Because the income tax rate will differ from shareholders to shareholders.

Due to this major limitation of this approach, some authorities recommended the use of another approach termed by them as "External yield criterion". According to this approach, the opportunity cost of retained earnings is the rate of return that can be earned by investing the funds in another enterprise by the firm. Thus according to this approach, cost of retained earnings is simply the return on direct foreign investment of funds by the firm and not what the shareholders are able to obtain on their investments. The approach represents an economically justifiable opportunity cost that can be applied consistently.

Weighted Average Cost of Capital

Weighted average cost of capital is also called as composite cost of capital average cost of capital, weighted marginal cost of capital or overall cost of capital.

Weighted average cost of capital comprises the cost of various components of financing cost of individual components (sources) of capital structure are weighted according to their relative proportions in the total capital. The relative proportion of each source of funds is ascertained by using either.

(i) The book value of the source

(ii) Market value of the source.

The weighted average cost of capital denoted by Ko, by using the market value is higher than the Ko derived by using the book value. The reason is that with market value weight, equity capital gets greater emphasis.

Symbolically

$$Ko = K_d W_d + K_p W_p + K_e W_e + K_r W_r$$

Where Ko = Weighted average cost of capital
Kd = Cost of debt capital
Wd = Proportion of debt capital
Kp = Cost of preference share capital
Wp = Proportion of preference share capital
Ke = Cost of equity capital
We = Proportion of equity share capital
Kr = Cost of retained earnings
Wr = Proportion of retained earnings

It may be noted here that the market value weights are sometimes preferred to the book value weights because the market value represents the true value of investors. However market value weights suffer from the following limitations.

(i) It is very difficult to determine the market values because of frequent fluctuations.

(ii) With use of market value weights, equity capital get greater importance.

- **Keyword:** *Cost ofCapital,weighted average cost of capital,Cost of debt, cost of retained earnings*

8.5 SELF- CHECK EXCERCISE

- **Long Question Answer**

1. Define Cost of Capital? Explain its significance in financial decision making.
2. What are the various concepts of Cost of Capital? Why should they be distinguished from financial management?
3. Write notes:
   (i) Weighted Average Cost of Capital
   (ii) Marginal Cost of Capital

- **Short Question Answer**

4. Explain the importance of cost of capital.
5. Explain the concept of cost of equity share capital.
6. Describe the various sources of capital used by a firm.

8.5 SUGGESTED BOOKS

- Peter Lewin,Nicolás Cachanosky: Capitaland Finance, Routledge, 2022
- Handoo, A. & Sharma, K. (2014). : A Study on determinant of Capital Structure in India, IIMB Management Review, 26, 170-182.

8.6 SELF-CHECK QUESTIONS (ANSWER KEY)

8.4 (a) 3 (b) 4 (c) 2

MBA (DISTANCE EDUCATION) Part-I
Sexnester-11
Lesson No. 9

PAPER: FM 202
FINANCIAL MANAGEMENT
AUTHOR: DR. (MRS.)ANJU

CAPITAL STRUCTURE

9.1 IMPORTANCE OF CAPITAL STRUCTURE

Capital structure planning is one of the strategic functions of financial management. Considerable attention is needed for designing the capital structure of a firm. Capital structure decision directly affects the cost of capital, financial risk and value of a firm. A right capital structure decision can reduce the cost of capital and increase the value of the firm. On the other hand, a wrong capital structure decision can adversely affect the value of the firm. Since the different sources of capital differ in risk return characteristics from each other,

the cost of capital and the financial risk of the firm will depend upon the way the capital of the firm is raised. Thus, a financial manager can contribute to the fulfilment of value maximisation objective of a firm through the design or an appropriate capital structure. The following reasons make capital structures decisions as one of the most important decisions.

1. Financial risk assumed by a firm depends upon its capital structure.
2. Capital structure affects the cost of capital of the firm.
3. Capital structure affects the value of the firm by either affecting its cost of capital or financial risk or both.
4. Financial flexibility of a firm depends upon its capital structure.
5. Capital structure of a firm depicts the attitude of the management of a man towards risk and return.

Optimal Capital Structure

Capital structure decision as a strategic financial management decision seeks to maximise the value of the firm or the shareholders' wealth. The capital structure which maximises the value of the firm/wealth of the shareholders is known as optimal capital structure. In other words, **an optimal capital** structure can be defined as that combination of debt and equity that attains the basic objective of financial management in the most relevant manner—the maximisation of the value of the firm. Optimal capital structure is also defined as that combination of debt and equity which minimises the cost of capital. Hence the optimal capital structure is primarily concerned with two important objectives at one time-the minimisation of cost of capital and maximisation of the value of the firm.

The above discussion leads to the following characteristics of optimal capital structure.

1. The overall cost of capital ko (weighted average cost of capital) of the firm is lowest when its capital structure is optimum.
2. The total market value of the firm as well as market value of its equity shares is maximum when its capital structure is optimum. It may be stated here that the values of debt and preference shares are not affected much by capital structure decision. Their values depend upon interest rates and yields on preference share.

Thus, the optimal capital structure is one which maximises the value of equity shares of a company.

Figure 1 presents the relationship between debt equity ratio (financial leverage, cost of capital and the market value of the firm.)

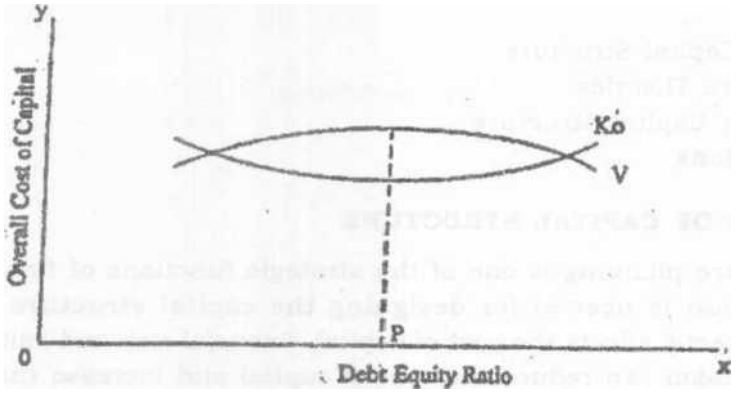


Fig. 1 shows that the cost of capital of the firm declines in the initial stages as the debt equity ratio is increased. However, beyond a certain level of debt equity ratio (p in the present case) the cost of capital starts increasing. On the other hand, in the initial stages when the debt equity ratio is increased up to P, the market value of the firm also shows an increasing trend. However, beyond debt equity ratio P, the market value of the firm starts falling down. Thus, capital structure with debt equity ratio of OP is the optimal as it maximises the value of the firm and minimise its cost of capital. Any debt equity ratio different from OP will reduce the market value of the firm and increase its cost of capital.

Features of an Appropriate/Balanced Capital Structure

One can speak of optimal capital structure but in actual practice designing of capital structure is a formidable task. There are significant differences among industries and among companies in the same industry in terms of qualitative and quantitative factors to be considered in designing of capital structure. Moreover, personal judgment of the person designing the capital structure plays a crucial role. Therefore, from the operational point of view every company must design its capital structure given the facts of a particular situation. Some general features of an appropriate capital structure are as follows:

(i) Profitability

Capital structure should help the firm in achieving its profitability targets. Maximum use of lower cost debt should be made to magnify profitability.

(ii) Safety and Solvency

Capital structure should ensure and solvency of the firm in the long run. Excessive use of debt threatens the solvency of the firm. Debt should be used to the extent it does not pose significant risk. After this, the use of debt in the capital structure should be avoided.

(iii) Attraction to Investors

Various securities to be issued to raise capital for the firm should offer certain attractions to the investors either relating to return, risk control or liquidity.

(iv) Flexibility

Capital structure should be flexible. It should be such as can be changes having regard to changing situations. Use of debt has more flexibility than equity as debt can be redeemed and reissued in case of need but equity capital once issued cannot redeemed.

(v) Debt Bearing

Capital Structure of a firm should be designed having regard to its debt bearing capacity. A company with stable and growing cash flow from operations has more debt bearing capacity as compared to a company whose cash flows from operations are highly volatile.

(vi) Control

Capital structure should help the present management of the company to retain its control. For this purpose debt should be preferred to equity capital to raise further capital for the company.

(vii) Avoidance of Unnecessary Restrictions

The capital structure of a firm should be such as imposes minimum possible restrictions on the firm. Terms loans from financial institutions should be avoided as these institutions impose a number of restrictions on the operation of the borrowing company.

(viii) Economy in the Floatation Costs

Securities should be issued in such a manner as to entail minimum possible cost of issue. Generally cost of issue is lower in case of debentures as compared to the issue of equity shares.

(ix) Balanced Use of Leverage

A firm must make balanced use of leverage. Necessary funds should be raised by an appropriate mix of borrowed funds and equity capital. Normally it is appropriate to issue debentures when the rates of interest are low. The firm should prefer issuing equity capital when the rates of interest are higher.

9.2 CAPITAL STRUCTURE THEORIES

Capital structure theories seek to explain the relationship between the market value of a firm and its capital structure decision. In other words, these theories seek to provide an answer to the question—whether the capital structure decision of a firm can affect its market value? Whether capital structure decision is relevant or irrelevant? The capital structure decision is considered relevant if this decision can affect the cost of capital and the market value of a firm. There are conflicting opinions regarding whether or not capital structure decision affects the value of the firm or not. One viewpoint strongly supports the close relationship between capital structure decision and the market value of a firm. Another equally strong opinions rules out any relationship between the capital structure decision and the value of a firm. These viewpoints are found in various capital structure theories propounded by various authors like Durand, Ezra, Solomon and Modigliani and Miller. The main capital structure theories are :-

1. Net income (NI) approach
2. Net operating income (NOI) approach
3. Traditional approach
4. Modigliani and Miller (MM) approach.

Out of these theories, net income approach and traditional approach strongly support the relationship between capital structure of a firm and its cost of capital and market value. Whereas net operating income approach and Modigliani and Miller rule out any relationship between the capital structure and value of a firm.

Assumptions of the Capital Structure Theories

Capital structure theories are based upon following assumptions:

I. Equity Share capital and perpetual riskless debt are the only two sources of funds used by a firm.

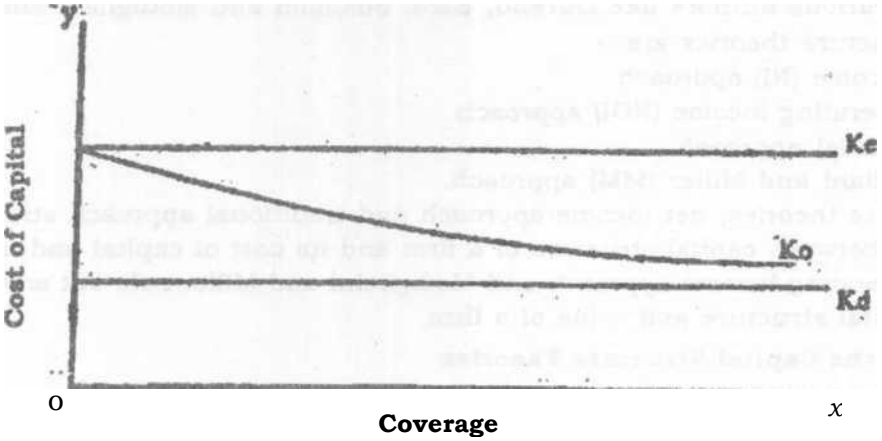
II. Debt and equity capital can be replaced by each other without any transaction costs.
III. The payment ratio of the firm is 100 percent i.e. the firm has a policy of paying 100 percent of the earnings in the form of dividends.
IV. The investment decisions of the firm are constant. Its assets are given and do not change.
V. The operation earning (EBIT) of the firm are assumed to remain unchanged.
VI. The business risk of the firm is given and is independent of its capital structure decision.
VII. All investors are assumed to have same subjective probability distribution of future expected operation earnings of the firm.
VIII. There are no corporate taxes. This assumption is removed later.

Net Income Approach

Durand has given two approaches to capital structure: (i) Net Income Approach and (ii) Net Operating Income Approach. According to Net Income Approach, capital structure decision of a firm is very important and relevant decision. A firm can reduce its cost of capital and maximise its value through the use of debt in its capital structure. As the firm uses more debt and replaces equity, its cost of capital falls and market value increases.

The Net Income Approach is based upon two more assumptions: First cost of debt is lower than cost of equity; and second, the use of additional debt does not change the risk perception of investors and hence cost of debt and cost of equity remain unchanged.

1. Cost of equity capital when the firm does not employ any debt.
2. As the financial leverage is increased (equity is replaced by debt), costlier equity capital is by cheaper debt capital consequently the overall cost of capital is reduced. On the other hand decrease in financial leverage increases the overall cost of capital.
3. The increase in financial leverage raises the market value of the firm and the market value of its equity shares.
4. The optimal capital structure of the firm is one at which the overall cost of capital is lowest and market value of the firm is highest. According to Net Income Approach the optimal capital structure is one in which the proportion of equity capital is insignificant. Net Income approach has been explained graphically in fig.



The figure shows that ke and kd remain unchanged as the financial leverage (debt equity ratio) is increased the overall cost of capital (ko) decreases and approaches the cost of debt (kd). Ko however can not touch kd as there cannot be all debt firm. The optimal capital structure of the firm is one at which ko approaches kdi.e. at which the proportion of equity capital is insignificant. At this level of financial leverage the market value of the firm and value per share is highest and the overall cost ko is the lowest.

Net Operating Income (NOI) Approach

Durand has given another approach to capital structure which is known as Net Operating Income (NOI) Approach. This approach is diametrically different from Net Income Approach. According to this approach capital structure decision of the firm is irrelevant and any change in the financial leverage (increase or decrease) does neither affect the cost of capital nor the market value.

NOI approach makes the following assumptions to prove the irrelevance of capital structure decision.

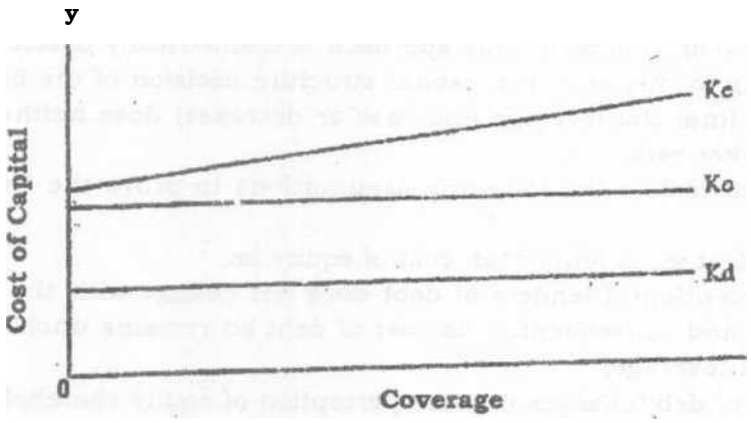
1. Cost of debt kd is lower than cost of equity ke,
2. Risk perception of lenders of debt does not change with the change in financial leverage and consequently the cost of debt kd remains unchanged at all levels of financial leverage,
3. The use of debt changes the risk perception of equity shareholders and the cost of equity capital increase as the proportion of debt is increase in the capitalisation and
4. There are no corporate taxes.

The main propositions of NOI approach are stated below.

1. The overall cost of capital of an all equity firm ko will be equal to its cost of equity capital.
2. The cost of debt kd consists of two parts : (a) explicit cost represented by the rate of interest and (b) the implicit cost of debt which is equal to increase in the cost of equity due to the use of debt. The NOI approach advocates that explicit cost of debt remains unchanged for all degrees of financial leverage whereas implicit cost of debt is reflected in the increase in the cost of equity due to use of financial leverage.
3. The cost of equity ke increases with the increase in the financial leverage. This is due to the increased risk assumed by the shareholders on account of the use of more debt by the firm. To compensate for the risk, shareholders demand a higher rate of return on their investment. Consequently, the cost of equity rises as a result of increased capital leverage. The cost of equity at a particular level of financial leverage would be :ke = ko + (ko-kd) B/S
4. The advantage of using cheaper debt financials on account of increase in financial leverage is completely neutralised by the increase in the cost of equity. Consequently, the overall cost of capital ko remains constant for all degrees of financial leverage.
5. The value of the firm V remains same for all degrees of financial leverage. The firm is valued as a whole by the market. The split of the value of the firm between value of debt B and value of equity S is not significant. The value of the firm V is computed with the help of following equation :

EBIT
KO

6. The value of equity S is obtained by deducting the value of debt B from value of the firm V. Thus S = V-B.
7. There is nothing like capital structure. Value of the firm remains unaffected by the variations in financial leverage. Net Operating Income (NOI) approach is explained graphically in fig. 2.



The figure shows that cost of debt kd and overall cost of capital ko sire same for all degrees of financial leverage. Cost of equity ke is equal to ko when leverage is zero. With the increase in the leverage the cost of equity rises in such a manner so as to neutralize the advantage of using cheaper debt capital. As a consequence the overall cost of capital ko and the value of firm V remain unaffected by the increase in the financial leverage.

Traditional Approach

The traditional approach also known as intermediate approach to capital structure establishes a compromise between Net Income Approach and Net Operating Income Approach. Traditional approach partakes of some features of both these approaches.

The crux of the traditional approach is that the overall cost of capital of a firm can be reduced and its market value can be increased through the judicious use of debt. This approach advocates that the value of the firm increases and its overall cost of capital decreases within a reasonable limit of debt. But if the proportion of debt in the capital structure is increased beyond a certain point the overall cost of capital starts increasing and its market value begins to decline. Thus the optimal capital structure of a firm is reached at that degree of financial leverage when overall cost of capital of the firm is minimum and its market value maximum. According to the traditional approach, the manner in which the overall cost of capital ko and the value of the firm respond to changes in the degree of financial leverage can be divided into three stages.

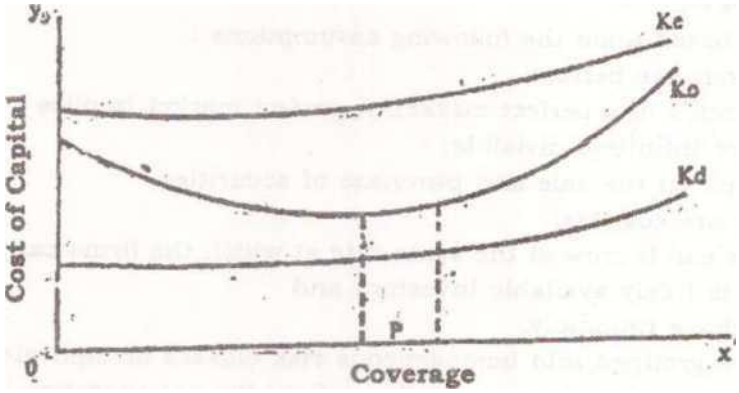
In the first stage, the use of increased debt in the capital structure leads to increase in the value of the firm and decrease in the overall cost of capital. In this stage cost of equity ke, remains constant or rises very slowly. The cost of debt also remains constant or rises negligibly since the market views the use of debt as a reasonable policy. In this stage, with the increase in leverage, a relatively cheaper source of funds debt replaces a relatively costlier

source of funds equity. Consequently the overall cost of capital its decreases and the value of the firm rises.

In the second stage, increase in the financial leverage does not affect the value of the firm and its cost of capital. In this stage, the increase in the cost of equity ke, completely neutralises the advantage of using cheaper debt capital. Within that range or at a particular level of leverage the value of firm will be highest and the cost of equity will be lowest. This range or point represents optimal capital structure.

In the third stage, the further increase is debt in the capital structure will increase the overall cost of capital and reduce the value of the firm. This happens due to (i) increase in the financial risk ke will rise sharply, (ii) the creditors will also raise the rate of interest as they may require compensation for higher risk.

The three stages in the behaviour of overall cost of capital suggest that it is a function of financial leverage. It decreases in the initial stages with the increase in the leverage and after reaching a minimum point it starts increasing. The behaviour of kd, the ke and ko has been depicted in fig. 3.

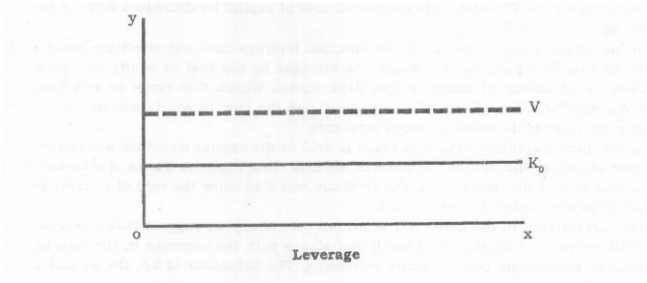


The cost of equity rises very slowly in the initial stages in response to rise in the financial leverage but starts rising sharply in the later stages. Cost of debt kd remains constant up to a certain point and thereafter it is a horizontal range RR. The optimal capital structure of the firm is represented by range RR, since over this range the overall cost of capital ko is minimum and the value of firm is maximum.

Modigliani-Miller (MM) Approach

The Modigliani Miller (MM) approach is akin to net income approach. Accordingly, MM approach also rules out any relationship between capital structure decision and the value of the firm and its overall cost of capital. However, MM approach is an improvement over net operating income approach as it provides the behavioral justification for the irrelevance of capital structure decision.

According to Modigliani and Miller, in the absence of taxes, a firm's total value and its overall cost of capital will be same at all degrees of financial leverage as shown in fig. 4.



Leverage

Assumptions of MM Approach

MM approach is based upon the following assumptions:

1. Capital markets are perfect

Securities are traded in a perfect market. A perfect market implies:

(a) securities are infinitely divisible;
(b) no restrictions on the sale and purchase of securities
(c) transactions are costless;
(d) the investors can borrow at the same rate at which the firms can;
(e) information is freely available investors and
(f) investors behave rationally.

2. Firms can be grouped into homogeneous risk classes or equivalent risk classes.
3. All the investors have same expectations about the net operating income of the firm with which to evaluate its value.
4. All the net earnings of the firm are distributed to shareholders in the form of dividends.
5. There is no corporate income tax. This assumptions is later with drawn by MM.

Basic Propositions of MM Hypothesis

1. The firm's overall cost of capital ko and its total market value V are same for all degree of financial leverage.
2. The firm's cost of equity is equal to the capitalisation rate of a pure equity stream plus a premium for financial risk. The premium for financial risk is equal to the difference between the pure equity capitalisation rate and cost of debt multiplied by the ratio of debt to equity.

   Symbolically :

   kel = keul + (keul-kd) B/S

   Where;

   kel=*cost of equity of a levered firm.*

   Keul = *Cost of equity of an unlevered firm*

   kd = *Cost of debt*

   B = *market value of debt*

   S = *market value of equity*

3. The rate of discount to be used for capital budgeting decisions is completely independent of the way in which funds are raised.

The Arbitrage Process

Modigliani and Miller provide behavioural justification for the irrelevance of capital structure decision and are not content with merely stating the proposition. This justification is the arbitrage process. Arbitrage process involves purchasing securities whose prices are lower (undervalued securities) and selling those securities whose prices are higher (overvalued securities) in the related markets which are not out of equilibrium. The increase in the demand of undervalued securities raises their prices and the increased supply of the overvalued securities brings down their prices. This process continues till the equilibrium is restored markets. Arbitrage process ensures that the securities which are similar cannot sell at different prices for long.

The arbitrage process can be explained with an example of two hypothetical firms x and y. These two firms are similar in all respects expect that x has debt in its capital structure whereas y is an ail equity company. Further assume that the value of firm x is higher than the value of firms B. According to MM approach the value of these two firms cannot remain different for long due to the arbitrage process. The investors of firm x will sell their shares in firm x and purchase the share in firm y whose shares are undervalued. This will help them in earning the same return with lower outlay and same perceived risk of lower risk. This action of the investors of firm A will result into: (1) increasing the prices of the shares of firm y whose shares are undervalued and (2) reducing prices of the shares of firm x whose shares are overvalued. The sale and purchase of the securities of firms x and y will continue till the market values of two firms become indentical. Thus arbitrage process ensures that two firms which are similar in all respects except financial leverage cannot have different values. Consequently capital structure decision of a firm does not affect its market value.

The arbitrage process has been explained in illustration 1.

Illustration-1

Two firms L and U are similar in all respects except that firm L has 10%, Rs. 2,00,000 debentures. The net operating incomes (EBIT) of both firms are equal i.e. Rs. 50,000. The cost of equity of L in 20% and that of U is 16%. Show how the arbitrage process will work.

Solution :

Given the facts in illustration 4 the total market values of firm L and U will be computed as follows

Total value of firm L and U

	Firm L (Rs)	*Firm U (Rs)*
EBIT	50,000	50,000
Less Interest (1)	20,000	
Net Income (EBIT-I)	30,000	50,000
Cost of Equity ke	0.20	0.16
Market Value of Equity, S= EBIT-E/Ke	Rs. 1,50,000	Rs. 3,12,500
Market Value of Debt B	Rs. 2,00,000	

Total Market Value V = S+B	Rs. 3,50,000	
Overall cost of capital ko (EBIT/V)	14.29%	16.0%

Debt Equity Ratio B/S

Above calculations show that the value of levered firm is higher than the value of unlevered firm. According to MM this situation will not continue for long as the arbitrage process will set in and bring parity between the values of L and U.

Arbitrage Process

The investors will find that the value of the shares of firm U is low than that of L. This will prompt them to sell the shares of L and but the shares of U. Suppose there is an investor X who holds 10% shares in levered firm L. The market value of his holding is Rs. 15,000. His share in the net earning is Rs. 3000 (i.e. 10% of Rs. 30,000 which belongs to shareholders). Since the market value of the shares of U is lower than that of L he will sell his 10% holding in L and buy 10% shares of U. Since firm U has no debt, the financial risk to x in firm U will be less. To reach the same level of risk he will borrow additional funds to the extent of his proportionate share in the levered firm's debt on his personal account. Mr. X in our example will borrow Rs. 20,000 at 10% rate of interest. His proportionate holding in U will be Rs. 31250

i. e. 10% of Rs. 312500. He will receive Rs. 5000 i.e. 10% of Rs. 50,000 on his holding. Out of this income he will pay Rs. 2000 as interest on personal borrowing. But his investment outlay in U is less (Rs. 11250) as compared to that in L (Rs. 15000). His risk is identical in both the situations. The effect of arbitrage process is shown below.

Effect of Arbitrage

(1) Investment Outlay .. Rs. 15,000

1. Mr. X's, position in firm L with 10% equity holding.
   - (1) Investment Outlay Rs. 15,000
   - (2) Dividend Income Rs. 3,000
2. Mr. X's position in firm U with 10% equity holding
   - (1) Total funds available Rs. 35,000
     (own funds Rs. 15,000, borrowed funds Rs. 20,000)
   - (2) Net Income
     Total income (10% of Rs. 50,000) = 5000
     Less interest on Rs. 20,000 @ 10% = 2000 Rs. 3000
   - (3) Investment outlay
     (own funds Rs. 11,250, borrowed funds Rs. 20,000) Rs. 31,250
3. Mr. X's position in firm U if he invests total funds available :
   (1) Investment outlay = Rs. 35,000

   $$\text{Total Income} = \frac{\text{Rs. 35,000}}{\text{Rs. 3,12,500}} \times 5000 = \text{Rs. 5600}$$

   (3) Net Income (Rs. 5600 - Rs. 2000) = Rs. 3,600

The above calculations show that Mr. X will be better off if he sells his holdings in L and buys the shares of U as he can earn same return with lower investment or higher return with same investment. This will prompt him to sell the shares of L and buy the shares of U. This action of Mr. X will be followed by other investors. They will sell the shares of L and buy

the shares of U. Consequently the demand for the shares of U and the supply of the shares of L will go up. This will raise the price of the share of U and bring down the price of the shares of L. The sale of shares of L and purchases of the shares of U will continue till the market values of the shares of the two firms become identical.

MM Hypothesis Under Corporate Taxes

Corporate taxes reduce the cost of debt substantially as interest on debt is tax deductible. Consequently, overall cost of capital of a levered firm will be higher than that of unlevered firm. This fact has been recognized by Modigliani and Miller. They state that the value of the levered firm would exceed the value of an unlevered firm by an amount equal to the debt employed by the levered firm multiplied by the tax rate applicable to the firm. Value of the levered firm can be calculated with the help of following equation:

VI = Vul + Bt Where;

VI = *Value of the levered firm;*

Vul = *Value of the unlevered firm*

B = *Amount of debt;*

t = *tax rate*

The value of the levered firm according to the above equation, equals the value of an unlevered firm in the same risk class plus the present value of tax savings resulting the use of debt.

Illustration-2

Two firms L and U are similar in all respects except that L has 10% Rs. 5,00,000 debentures and firm U is an all equity firm, The net operating income of both firms is identical

i. e. Rs. 1,50,000. The corporate tax rate is 50% and pure equity capitalisation rate is 15%. Find out the values of the two firms according to MM approach.

Solution :

Value of Unlevered firm U

EBITRs. 1,50,000	
Less Interest	Nil
Earnings before tax	Rs. 1,50,000
Less tax @ 50%	Rs. 75,000
Profit after tax	Rs. 75,000
Ke	15%

Value of the firm = Rs. 7500/15 *100 = Rs. 5,00,000

Value of the levered firm L

According to MM Approach

VI = Vul + Bt

Therefore, the value of firm L

= Rs. 5,00,000 + Rs. 5,00,000 * 50%

= Rs. 7,50,000

9 Self- Check Questions (One word):

a) Name the person who suggested NI and NOI approach.

b) Define the term 'Capital Structure'.

c) Describe optimal capital structure.

d) Name any two features of balanced capital structure.

9.3 DETERMINANTS OF CAPITAL STRUCTURE

Capital structure decision is highly individualistic. Every firm must design its capital structure having regard to the relevant factors affecting such capital structure. A large

number of factors have a bearing on the design of the capital structure of a firm. These factors differ in intensity from one industry to another industiy and even from one firm to another firm within the same industry. While designing the capital structure of a firm, its financial manager should take care of the relevant factors affecting the capital structure of the firm. Some of the important factors affecting the capital structure decision are discussed below.

1. Nature of Business

The nature of business of a firm has a significant influence on its capital structure. Those businesses which do not have stable income and face more risk should prefer equity capital. Those companies which are engaged in public utility services or producing commodities of basic consumption may raise capital through the issue of debentures or preference shares.

2. Growth and Stability of Sales

The nature and pattern of sales of a firm has a significant affect on its capital structure. Those firm whose sales are stable or rising steadily, can raise their capital through the issue of debt. On the other hand, those firms whose sales are fluctuating should prefer issuing equity capital for raising funds.

3. Cost of Capital

The cost of different sources of capital has a special affect on the capital structure of a firm. Different sources of capital should be combined in such a manner so that the overall cost of capital of the firm is minimum and the financial risk is within manageable limits. The cost of equity is the highest as the company has to pay a high rate of dividend to satisfy the expectations of equity shareholders. The cost of preference capital lies between the cost of debt and cost of equity capital. From the cost point of view debt is preferable to equity capital.

4. Risk

Capital structure of firm should pose minimum possible risk. From risk point of view debt is the most risky source of capital due to the fact that (i) a firm has to pay fixed amount of interest irrespective of its net operating income and (ii) in case of default the creditors can ask for the winding up of the business. Equity capital on the other hand is the least risky sources of capital. There is no fixed commitment to pay equity dividend. Equity capital has not be returned to the equity shareholders during the life time of the company. Preference capital involves moderate degree of risk. It is more risky than equity capital but lesser risky than debt. From risk point of view the issue of equity capital is preferable to the issue of debt or preference capital.

5. Ability to Serve Debt

The ability to serve debt upon the pattern and magnitude of cash flows of a firm. If a firm can generate sufficient cash to discharge the fixed interest obligations and loan repayments. It can have more debt in its capital structure. On the other hand, a firm with measure cash flows operation should not raise, debt capital.

6. Operational Characteristics

Operational characteristics of a firm influence its capital structure in a significant manner. Different firms may employ different technologies to manufacture their products. Those firms, which employ capital intensive technologies of production, have large investment in fixed assets and thus these firms have more operating risk. Therefore, these firms should assume lesser financial risk to keep the overall risk within manageable limits. They should prefer equity capital to debt. On the other hand, firms with labor intensive

technologies of production and trading firms do not have to invest much in fixed assets. These firms are subject to lesser operating risk and therefore they can afford to use more of debt capital.

7. Age and Size of Firm

The age and size of firm considerably effect the design of its capital structure. New and small firms have to depend upon outside equity and debt capital. As a firm grows in size, retained earnings start replacing outside debt and equity. Large and reputed companies have access to the capital market and therefore they can raise their capital through the issue of different kinds of securities. On the other hand, small firms do not have an access to the capital market and therefore they have to depend more on owned capital.

8. Period of Finance

The period for which funds are needed also affects the capital structure. If the funds are needed permanently or for a long period of time then the issue of equity capital, irredeemable debentures or preference shares should be considered. On the other hand, if the funds are needed for medium term or for medium term or for relatively shorter period, then the issue of redeemable debentures or redeemable preference shares should be preferred.

9. Corporate Tax Rate

Interest on debt is tax deductible whereas dividend on preference capital or equity capital has to be paid out of post-tax profits. Consequently, cost of debt is significantly lower than the cost of equity or cost of preference capital. Therefore, it can be said that higher tax rate, greater is the advantage of using debt capital as compared to equity capital or preference capital.

10. Floatation Costs

Floatation costs of raising funds from various sources of capital should be given due consideration while designing the capital structure of a firm. Floatation costs consist of expenses of printing promotional material and publicity and brokerage and commission payable to intermediaries like brokers and bankers. Generally, floatation costs of debentures are lower than that of equity capital. From the floatation costs point of view debt is preferable to equity shares.

11. Capital Market Conditions

In case of favourable market conditions the company can issue various types of securities to raise capital for its expansion and other purpose. On the other hand, if the conditions in the capital market are depressed, the firm cannot think of raising capital through the issue of equity capital and other securities. In such a situation it has to approach financial institutions for term loans to fulfil its requirement of funds.

12. Attitude of Management

Some management are aggressive. They are prepared to assume higher risk to reduce the cost of capital and increase the market values of their firms. Such managements depend heavily on debt as a source of capital. On the other hand some management are conservative. They do not want to assume more risk. Such managements prefer equity capital as a source of funds for the firm. The conservatism or the aggressiveness of the management depends upon the age, experience, ambition and confidence of the persons constituting the management team. Therefore these factors also affect the capital structure of a firm.

13. Legal and Other Conditions

Lastly while designing its capital structure the firm should take care of the relevant provisions of various laws framed by the Government from time to time. It should also take care of the norms set by financial institutions, Securities and Exchange Board of India and stock exchange.

- **Keyword:** *Capital Structure, Optimal Capital Structure, Net Income approach, MM approach*

9.4 SELF- CHECK EXERCISE

- **Long Question Answer**

1. Define Capital Structure. What are the various determinants of Capital Structure?
2. What is Optimal Capital Structure? Give its features.
3. Write notes:
   (i) Importance of Capital Structure
   (ii) Balance of Capital Structure

- **Short Question Answer**

1. Define MM approach.
2. Describe any two differences between net incomeapproach and net operating income approach.

9.5 SUGGESTED BOOKS

- Ghosh, Dilip K. :"Optimum Capital Structure Redefined". Financial Review 27, no. 3
- H. Kent Baker, Gerald S. Martin:Capital Structure and Corporate Financing Decisions:Theory, Evidence, and Practice, Wiley, 2011
- Yamini Agarwal:Capital Structure Decisions: Evaluating Risk and Uncertainty, Wiley,2013

9.6 SELF-CHECK QUESTIONS (ANSWER KEY)

9.3 (a) David Durand (b) Relationship between debentures, preference shares and equity share capital (c) appropriate mix of debt and equity (d) Flexibility and profitability

DIVIDEND THEORIES

STRUCTURE

10.0 OBJECTIVES

After studying this lesson, students would be able to:

- Understand the impact of dividend decision on valuation of firm
- M.M. Walter and Gordon's Approach

10.1 INTRODUCTION

Dividend policy refers to the policy concerning quantum to profits to be distributed as dividend. Action taken by the management in this regard affects growth, rate of the firm. An erroneous dividend policy may lead the firm in financial predicament and capital structure of the firm may turn out unbalanced. Extreme care and prudence on the part of policy framers is therefore inevitable.

10.2 DIVIDEND DECISION AND VALUATION OF FIRMS

If strict dividend policy is formulated to retain larger share of earnings, platitude of resources will be available to the firm for its growth purposes. This will give rise to business earnings. In view of the improved earnings position and financial health of the enterprise, value of shares will increase and a capital gain will result. Thus, shareholders earn capital gains in lieu of dividend income, the former in the long run while the latter in the short run. The reverse holds true if liberal dividend policy is followed to payout higher dividends to shareholders. Consequently, the stockholder's dividend earnings will increase but the possibility of earning capital gains is reduced. Investors desirous of immediate income will value shares with high dividend greatly. The stock market may, therefore, respond to this development and value of shares may rise.

It is thus evident that in retention of earnings lie capital gains. Distribution of income, on the other hand increases dividend earnings. Owing to varying notions and attitudes of shareholders due to differences in respect of age, tax bracket, security of income, habits, preferences and responsibilities while some are primarily concerned with the short- run returns, others think in terms of long-range returns and still others seek a portfolio which balances their expectation over time. The above analysis leads us to conclude that dividend decision materially affects the stockholder's wealth and so also the valuation of the firm. However, financial scholars have not been unanimous on this issue. A number of theories studying relationship between dividend and value of the firm have been advanced. Broadly speaking, these theories can be grouped into two categories, viz., (a) Theories relating to relevance of dividend decision to valuation of firm, and (b) Theories concerning irrelevance

of dividend decision.

The former set of theories, with which James E. Walter, Myron Gordon, John Linter and Richardson are associated, hold that there is a direct relationship between dividend policies of the firm and the market valuation of its earnings since the investors are not neutral as to how the earnings stream is split between dividends and retention.

Irrelevance approach of dividend decision was propounded by Merton Miller and Franco Modigliani, According to these scholars, dividend decision is irrelevant and it does not in any way effect share values as investors are basically indifferent to returns in the form of dividends or of capital gains.

- **Self-Check Questions (Fill in the blanks)**

a) Payment by a firm to its shareholders from any source other than current or accumulated retained earnings is known as _____.

b) Cash payment by a firm to its owners as a part of a firm's normal operations is called _____.

c) The formula of Dividend payout ratio is _____.

10.3 THEORIES OF DIVIDEND DECISION

10.3.1 Walter s Model

Walter's model, one of the earlier theoretical models, clearly indicates that the choice of appropriate dividend policy almost always affects the value of the enterprise. Professor James E. Walter has studied the significance of the relationship between the firm's internal rate of return, r, (or actual capitalization rate) and its cost of capital, Ke (normal capitalization rate) in determining such dividend policy as will maxi se the wealth of the stockholders. Walter's model is based on the following premises:

1. The firm finances its entire investments by means of retained earnings. New equity stock or debentures is not issued to raise funds.
2. Internal rate of return (r) and cost of capital (Ke) of the firm remain constant.
3. The firm's earnings are either distributed as dividends or reinvested internally.
4. Beginning earnings and dividends of the firm never change.
5. The firm has a very long or infinite life.

The formula used by Walter to determine the market price per share is:

$$P = \frac{D}{Ke} + \frac{r(E-D)/Ke}{Ke}$$

Where, P = Market price per share
D = Dividend per share
E = Earnings per share
r = Internal rate of return (Actual capitalization rate)
Ke = Cost of capital [External capitalization rate]

It may be noted that the Walter formula has the same effect as the continuing dividend growth formula. It seeks to measure the effect of dividends on common stock value by comparing actual and normal capitalization rates.

Another feature of the Walter formula is that it provides an added or reduced weight to the retained earnings portion of the capitalization earnings formula. The factor 'r' and 'e' are placed in front of retained earnings to change its weighted value under different situations as discussed below

(a) Growth Firms: In growth firms' internal rate of return is greater than the normal earning rate. Therefore, r/k_e factor will be greater than 1.

Such firms must reinvest retained earnings since existing alternative investments offer a lower return than the firm is able to secure. Each rupee is retained earnings will have a higher weighting in the Walter formula that a comparable rupee of dividends. Thus, larger the firm retains, higher the value of the firm. Optimum dividend payout ratio for such a firm will

be zero.

(b) Normal Firm: Normal firms comprise those firms whose internal rate of return is equal to normal capitalization rate (r=*k_0) These firms earn on their investments rate of return equal to market rate of return. For such firm's dividend policy will have no effect on the market value per share in the Walter's model. Accordingly, retained earnings will have the same weighted value as dividends. In this case the market value per share is not affected by the payout ratio.

(c) Declining Firms: Firms which earn on their investments less than the minimum rate required by investors are designated as declining firms. The management of such firms would like to distribute its earnings to stockholders so that they may either spend it or invest elsewhere to earn higher return than earned by the declining firms. Under such a situation each rupee of retained earnings will receive lower weight that dividends and market value of the firm will tend to be maximum when it does not retain earnings at all.

Evaluation of the Walter's Model

Professor Walter has endeavored to show in an erudite manner the effects of dividend policy on value of equity shares under different situations of a firm. However, the basic premises on which edifice of the theory are laid down are unrealistic and therefore, conclusions drawn from the Walter's model are hardly true in real life situations.

Thus, for instance to assume that a firm finances its investment opportunities only by means of internal sources and no external financing is resorted to for this purpose, is to ignore the solid facts. Under such a situation, either the firm's investment to dividend policy or both will be sub-optimum level of investment for the firm. If the firm' entire earnings are not adequate to finance the above investment, the remaining amount should be raised from external sources. On the contrary. Walter argues that value of the firm is maximised by retaining all the earnings so as to finance the available investments. However, this may not always be true because magnitude of investments financed by retained earnings may be less than the optimum level of investment.

10.3.2 Gordon's Model

Another popular model analyzing the relationship between dividend policy and valuation of firm is developed by M.J., Gordon. According to this model, a corporation's share price is not independent of the dividend rate. In other words, dividend policy influences the value of a share. The Gordon's model is based on the following premises: -

(a) The firm is an all-equity firm and there is not leverage in its capitalization.
(b) There is no outside financing and corporate growth is expected to derive from retained earnings.
(c) The internal rate of return, r, if the firm remains constant.
(d) The capitalization rate, k, for the firm remains constant regardless of change is risk complexion of the firm.
(e) The firm derives its earnings in perpetuity.
(f) There does not exist corporate taxes.
(g) Retention ratio, b once, decided will remain unchanged under all the circumstances.

Market value of a share, according of Gordon, is equal to the present value of its expected future dividends. Symbolically valuation of a share may be represented as below:

$$P_0 = \frac{DIV_1}{(I+K)} + \frac{DIV_2}{(I+K)^2} \cdots\cdots\cdots\cdots \frac{DIV_t}{(I+K)^t}$$

$$= \sum_{t=1} \frac{DIV}{(I+K)^t}$$

CONCLUSIONS

1. The market value of the share, Po, increases with the retention ratio, b, for firms with growth opportunities i.e.,>K.
2. The market value of share, Po, increase with the payment ratio (I-b), for declining firms with R < K.
3. The market value of share is not affected by dividend policy when r = k.

Gordon's model's conclusions about dividend policy are similar to that of Walter's model. This similarity is due to the similarities of assumptions which underlies both the models.

10.3.3 Modigliani-Millers Model (M-M's Model)

Modigliani Miller's thoughts, for irrelevance of dividends are most comprehensive and logical. According to them, dividend policy does not affect value of a firm and is, therefore, of no consequence. They are of the view that sum of the discounted value per share after dividend payments is equal to the market value per share before dividend is paid. It is the earning potentiality and investment policy of the firm rather that its pattern of distribution of earnings that affects value of the firm.

Assumptions of M-M approach

1. There exists perfect capital market where all investors are rational. Information is available to all at no cost; there are no transaction costs and floatation costs. There is no such investor as could alone influence market value of shares.
2. There does not exist taxes. Alternatively, there is no tax differential between income on dividend and capital gains.
3. There is no uncertainty as to future investments and profits of the firm. Thus investors are able to predict future prices and dividends with certainty. This assumption is dropped by M-M's later.

M-M's irrelevance approach is based on arbitrage argument. Arbitrage is the process of entering into such transactions simultaneously as exactly balance or completely offset each other. The two transactions in the present case are payment of dividends and garnering funds to exploit investment opportunities. Suppose, for example, a firm decides to invest in a project it has two alternatives :

1. Payout dividends and raise an equal amount offunds from the market.
2. Retain its entire earnings to finance the investment programme. The arbitrage process is involved where a firm decides to pay dividends and raise funds from outside.

When a firm pays its earnings as dividends, it will have to approach market for procuring funds to meet a given investment programme. Acquisition of additional capital will dilute the existing share capital which will result in drop in share values. Thus what the stockholders gain in cash dividends they loose in decreased share values. The market price before and after payment of dividend would be identical and hence the stockholders would

be indifferent between dividend and retention of earnings. This suggests that dividend decision is irrelevant.

M-M's argument of irrelevance of dividend remains unchanged whether external funds are obtained by means of share-capital or borrowing. This is for the fact that investors are indifferent between debt and equity with respect to leverage and real cost of debt is the same as the real cost of equity.

Finally, even under conditions of uncertainty, dividend decision will be of no relevapce because of operation of arbitrage. Market value of shares of the two firms would be the same if they are identical with respect to business risk, prospective future earnings and investment policies. This is because of rational behavior of investors who would prefer more wealth to less wealth. Difference in respect of current and future dividend policies cannot influence share values of the two firms.

M-M approach contains the following mathematical formulations to prove irrelevance of dividend decision.

The market value of a share in the beginning of the year is equal to the present value of dividends paid at the year-end plus the market price of the share at the end of the year; this can be expressed as below:

$$P_0 = \frac{D_1 + P_1}{(1+K)} \quad \text{.....(1)}$$

Where P_1 = Existing price of a share

K = cost of capital,

D_1 = Dividend to be received at the year end,

P_1 = market value of a share at the year end.

If there is no additional financing from external sources, value of the firm will be number of shares (n) multiplied by the price of each share (P_0)' Symbolically V = n.

$$PQ = \frac{n(D_1 + P_1)}{(1+K)} \quad \text{.....(2)}$$

If the firm issues m number of shares to raise funds at the end of year I so as to finance investment and at price P_1, value of the firm at time O will be :

$$nP_0 = \frac{n(D_1 + P) + mP_1 - nmP_1}{(1+K)}$$

$$= \frac{nD_1 + nP_1 + mP_1 - mP_1}{(1+K)}$$

$$= \frac{nD_1 + (n+m)P_1 - mP_1}{(1+K)} \quad \text{.....(3)}$$

Thus the total of the firm as per equation (3) is equal to the capitalised value of the dividends to be received during the period plus the value of the number of shares outstanding at the end of the period less the value of the newly issued shares.

A firm can finance its investment programme either by ploughing back of its earnings or by issue of new shares or by both. Thus, total amount of new shares that the firm will issue to finance its investment will be :

$$mP_1 = I_1 - (X_1 - nD_1) = I_1 - X_1 + nD_1 \quad \text{.....(4)}$$

Where mP_1 = total amount of funds raised by issue of new shares to finance investment projects.

I_1 = total amount of investment during the period.
X_1 = total amount of net profit during first period.
If equation (4) is substituted into equation (3) we get the following equation :-

$$nP_0 = \frac{nD_1 + (n+m)P_1 + mP_1 - mP_1}{1+K}$$

$$= \frac{nD_1 + (n+m)P_1 - (I_1 - X_1 - nD_1)}{1+K}$$

$$= \frac{(n+m)P_1 - I_1 + K_1}{(1+K_0)}$$

On Comparison of equation (3) we find that there is no difference between the two valuation equations although equation (5) has expressed the value of firm without dividends. This led M-M to conclude that dividend policy has no role to play in influencing share value of a firm.

11.0 Self- Check Questions:

a) Dividend irrelevance argument of MM Model is based on:

1) Issue of debentures 2) Issue of bonus shares 3) Arbitrage 4) Hedging

b) Which of the following is not true for MM Model?

1) Share price goes up if dividend is paid
2) Share price goes down if dividend is not paid
3) Market value is unaffected by Dividend policy
4) All of the above

c) Which of the following stresses on investor's preference reorient dividend than higher future capital gains?

1) Walter's Model 2) Residuals Theory 3) Gordon's Model 4) MM Model

Evaluation of M-M's Model

M-M model of dividend irrelevance is laid down on a number of simplifying and potentially restrictive assumptions. In a world where taxes, transaction costs and a host of other complexities do exist, it should come as; no surprise that the irrelevance proposition is only a starting point for our discussion. The following paragraphs are devoted to review and critically examine the more important arguments against irrelevance.

1. Risk Aversion

The first argument set forth in support of the relevance of dividend policy is that investors are always cautious about the future which is uncertain and unpredictable. They are interested more in short run income which is more certain and assured than in the long run earnings that are highly unpredictable., Since dividend averts risk, in respect, of availability of income to investors, they may give greater weightage to expectation concerning present dividends than to beliefs as to what the trend in price and dividends might to over the long run. Furthermore, the present value of income received in short-run is higher than the value of future earnings. In view of this, Gordon holds that stockholders can remain neutral between dividends, and capital gains. They prefer early resolution of uncertainty and are willing to pay a higher price for the stock that offers greater current dividend all other things remaining constant.

2. Desire for Current Income

Investors also prefer regular dividend payment to future capital gains because that helps them to satisfy their current requirements. However, this argument is not accepted universally. It is argued that stockholdings, can liquidate a portion of their stockholdings at times when they need money to meet their requirements. Since with perfect markets and no taxes the home-made dividends are perfect substitutes for corporate dividends, there is no reason to anticipate that increasing risk and desire for current income will alone create investor dividend preferences.

It is true that stockholders can procure funds by liquidating their share and make use of these in whatever manner they like as in the case of dividend income. But under conditions of uncertainty, share prices oscillate and certain stockholders may be adverse to disposing off shares for income at fluctuating prices. Alongside this, it is not always easier to sell a small portion of stock periodically incurred for sale of securities which will consume a portion of income. Thus to avoid risks and inconveniences and costs involved in liquidation

of shares, stockholders have define preference for dividend income.

3. Information Content of Dividends

In arguing for the significance of dividend policy it has been contended that dividend decision affects share values because amount of dividends and the manner in which they are distributed are considered a significant piece of information regarding the future earnings capacity of the firm, a high dividend exhibiting small but steady growth is looked upon as an index of stability of the organisation. Empirical study of Richardson Pettit has substantiated this notion. The main finding of Pettit's study is that the market reacts to announcements of dividend changes and these announcements convey significantly more information than earnings announcement.

4. Sales of Additional Stocks at Lower Prices

Irrelevance doctrine is based on the argument that the firm distributing all of its earnings will be able to sell additional stocks at current prices. In order to tempt new investors or existing ones to buy new stocks the company may offer lower price. Linter argues that the equilibrium price of a share of stock will tend to decline in correspondence to sale of additional stocks for replacement of dividend. Thus, cereris paribus, this mix or equity share capital in capital structure would result in a fall in total value of the equity of corporation which implies a definite preference for retention as opposed to dividend payments.

5. Differential Tax Treatment of Dividends and Capital Gains

The tax treatment of dividends as distinct from capital gains explains investors' preference for income retention. An investor is required to pay tax on dividend income at an ordinary income tax rate applicable to investor's income which is usually higher than the capital gains tax rate. Moreover, capital gains will taxable only when stocks are sold while dividend income is taxed immediately when it is paid. For these reasons there is a propensity among some stockholders to prefer retention of earnings to current dividends.

6. Transaction Costs

Existence of transaction costs in the stock market also justifies the strong bias of investors for retention of earnings. Two types of transaction costs are involved when a company visits the Market for securing funds and the other is the cost borne by investors when they trade securities. Cost of flotation can be avoided in case the firm decides to retain earnings. Due to transaction cost factor, while certain groups of investors have definite bias for dividend income, other would have preference, for retention of earnings.

- **Keyword:** *Dividend decision, MM approach, Walters' Model, Gordon's Model*

10.4 SELF- CHECK EXERCISE

- **Long Question Answer**

Q.1. Discuss the various form of dividends?

Q.2.How far do you agree that dividends are irrelevant?

- **Short Question Answer**

1. Define Walter's Model.
2. Describe the assumptions of Modigliani-Millers' approach.

10.5 SUGGESTED BOOKS

- H. Kent Baker : "Dividends and Dividend Policy", 2009
- Black, Fischer. 1976. :"The DividendPuzzle." Journal of Portfolio Management 2:2, 5–8.
- Gordon, Myron J. 1959. : "Dividends, Earnings and Stock Prices." Review of Economics and Statistics 41:2, 99–105.

10.6 SELF-CHECK QUESTIONS (ANSWER KEY)

10.2 (a) Distribution (b) Regular Cash Dividend (c)DPS/EPS

10.3 (a)3 (b) 3 c) 3

MBA (DISTANCE EDUCATION) Part-IPAPER: FM 202
Semester-IIFINANCIAL MANAGEMENT

Lesson No. 11 **AUTHOR: MANJIT SINGH**

MERGERS AND ACQUISITIONS

STRUCTURE

11.0 OBJECTIVES

After studying this lesson, students would be able to answer:

- Understand the meaning of mergers and acquisitions
- Motives behind the mergers and acquisitions

11.1 INTRODUCTION

Every firm seek to grow, Financial Managers use the term growth to mean increase in the size and activities of a firm over the long run.

11.2 THREE MEASURES OF CORPORATE GROWTH

1. Increase in Sales

It is a direct indicator of growth in a firmoperating area. This gives an indication that a firm is able to maintain its competitive position and achieve the stability that usually accompanies a large volume of sales.

2. Increase in Profits

This measure shows the firm's ability to convert growth in sales and operations into increasing returns to shareholders. The growth in profits is normally measured through increase in the firms earning per share.

3. Increase in Assets

Steady increase in a firm's operating resources may also be viewed as an indication of growth. Although most firms must increase their assets to increase capacity for Production and sales, as firm's assets may increase without a corresponding increase in sales or earnings per share. Because of possibility, increase in assets should not be used by itself as an indicator of growth.

Growth may be of following two types:

(a) Internal Growth: A firm is said to be growing internally when it increases sales and profits by expanding its own operations. It may purchase new machinery to increase its capacity to produce existing product, or it may purchase machinery

and train its sales force to produce and sell a new product. Internal growth may be funded from source inside or outside the firm. It includes retained earnings and the funds shielded depreciation and other non-cash expenses. Even if the firm receives funds from external sources such as the firm offer debt or equity securities, also then the firm is experiencing internal growth, since the money is used to expand existing operations.

(b) External Growth: External growth occurs when a firm takes over the operation of another firm. The acquiring firm may purchase the assets or stock or may combine with the second firm. Since the second company has sales and assets of its own, the first company does not have to generate the new business from search. The term acquisition is generally used to refer to the taking over of assets in the process of external growth.

11.3 FORMS OF BUSINESS COMBINATIONS

External growth may be achieved by the purchase of the assets or common stock of another firm, paid for with cash or the issuance of securities.

11.3.1 Mergers

A merger is a combination of two or more business in which only one of the corporations survives. The other corporations ceased exist, and its assets and possibly debts are taken over by the surviving corporations. In a merger of companies X and Y company continue while Y ceases to exist.

The mergers may occur in four ways:

1. Purchase of Assets: The assets of company 'Y' may be sold to company 'X' Once this is done, company 'Y' is corporate shell with a capital structure but no resources. The company is then legally terminated Company 'X' survives in the asset merger.
2. Purchase of Common Stock: The common stock of company 'Y' may be purchased. When company X holds and stock of company is dissolved.
3. Exchange of Stock for Assets: Company 'X' may give shares of 'X' common stock to the shareholders of 'Y' of the assets is terminated by a vote of its shareholder, who how hold X stock.
4. 'Exchange of the Stock for Stock: Company 'X' gives its shares to the shareholders of 'Y' then 'Y' is terminated.

State law governs the merger of firm into a single economic unit. In most cases, the merger must be recommended by the Board of Directors of both first and must be approved by a majority of three fourths of the shareholders in accordance with the applicable states' laws.

11.3.2 Consolidations

A consolidation is a combination of two or more business into a third, entirely new corporation: The new corporation absorbs the assets, and possible liabilities of both original corporations which cease to exist. The legal and financial characteristics of the consolidation are basically the same as those for a merger.

When is a consolidation preferable to a merger? Possible solutions are the following:

1. **For Firms of Equal Size:** When a larger and small firm combines, normally the small firm is merged into the larger firm. For firms of equal size, however it may be difficult to get either of the Boards of Directors to agree that their company should terminate by being merged into the other company. In these cases, a new company is the better choice.

2. **When a New Charter is Desired:**Companies receive their corporate charters at the beginning of their existence form and individual state. A consolidation representsan opportunity to obtain a new corporate charter with more favorable features than in either of the charter of the existing companies.

Because mergers and consolidations involve the combination of two or more firms in to a single firm, the term merger is commonly used to refer to both forms of external growth.

11.4 KINDS OF MERGERS

Three major types of mergers have been important in the development of large American corporations.

1. Horizontal Merger: This is the joining of two firms in the same area of business; Examples would be the combining of two book publishers or two manufacturers of toys.

2. Vertical Merger: This is the joining of two firms involved in different stage of the production or distribution of same product. For e.g., the combing of a coal company & a railroad that carries the coal or the joining of a typewriter manufacturer and a chain of the office supply stores.

3. Conglomerate Merger: A conglomerate is a firm that has external growth through a number of mergers of companies whose business was not related either vertically or horizontally. A typical conglomerate might have operating areas in manufacturing electronics, insurance and other unrelated business.

Self-check Questions

a) Combination of two or more business in which only one of the corporations survives is known as:

1) Consolidation 2) Merger 3) Acquisition 4) External Growth

b) The joining of two firms involved in different stage of the production or distribution of same product is known as:

1) Horizontal Merger 2) Vertical Merger 3) Conglomerate Merger 4) Internal Growth

c) Which of the following is a way of merger?

1) Purchase of common stock 2) Purchase of Assets

3) Exchange of stock of Assets4) All of the above

11.5 TAX ASPECTS OF MERGER

From the point of view of financial management, given its objective of maximization of wealth of shareholders, the overall desirability and acceptability of the proposed merger scheme depends on its tax implications for the companies involved and their shareholders. The income tax act section 2(IA) of the act provides:

Amalgamation in relation to companies, means the merger of one or more companies with another company is such a manner that

(i) all the property of amalgamating company(ies) immediately before the amalgamated becomes the property of amalgamated company, by virtue of amalgamation.

(ii) all the liabilities 'of the amalgamating company(ies) immediately before the amalgamation become the liability of the amalgamated virtue of amalgamation.

(iii) Shareholders holding not less than nine-tenth in the value of the shares in amalgamating company by virtue of amalgamation.

According different provisions of the act are attracted, depending on the fact whether the proposed scheme fulfils at the three conditions mentioned above or not. The following discussion on tax aspects of merger assumes that the proposed merger qualifies as amalgamation under the income

11.6 DEVELOPMENT REBATE, DEVELOPMENT ALLOWANCE

An amalgamated company which in a scheme of amalgamation has received such property in respect of which the amalgamating company has been allowed investment allowance or development rebate or development allowance, it would continue to fulfill the condition regarding creation and utilization of reserves and sale of transfer of such property otherwise it will attract the relevant provision of Section 155.

Unabsorbed Depreciation Allowance: Unabsorbed depreciations, if any, cannot be assigned to the amalgamated company and hence to tax benefit is available on this count.

Amortization of Certain Capital Expenditure: Amalgamated Company is eligible to claim tax benefits on capital expenditure incurred by the amalgamating company for scientific research, acquisition of patents and copyrights, prospecting of certain minerals and preliminary expenses etc.

11.7 COST OF CERTAIN ASSETS

(a) the 'actual cost' of a capital asset transferred to amalgamated company is a scheme of amalgamation is same as it would have been to the amalgamating company if the latter would have continued to hold it for its own business;

(b) the acquisition cost of an asset which becomes the property of an amalgamated company in a scheme of amalgamation and is sold after 29-2-1988 as stock in trade by the amalgamated company shall be the cost of its acquisition to the amalgamation company as increased by the cost of improvement made, if any, and the expenditure incurred, wholly and excessively for such transfer by the amalgamating company;

(c) the cost of which shares were acquired in the amalgamating company is deemed to be the cost of shares received in lieu of such shares, form an amalgamated company;

(d) where in any previous year; any block of assets is transferred in a scheme of amalgamation then actual cost of the block of assets to the amalgamating company is the written down value of the block of assets to the amalgamating for the immediately preceding previous year as reduced but the amount of depreciations actually allowed in relation to the said previous year.

11.8 AMALGAMATION OF SICK INDUSTRIAL COMPANIES

To facilitate revival of sick industrial companies a new section 71A was inserted in the income tax act by the Finance (No.2) Act 1977. It relaxes the provision of Section 72 and enables an amalgamated company to carry forward and set off accumulated losses and unabsorbed depreciation allowance, provided the following conditions are fulfilled to the satisfaction of Central Government, based on recommendations of specified authority;

(a) the amalgamating company just before its amalgamation was not financially variable;

(b) the merger was in public interest;

(c) the merger would facilitate rehabilitation or arrival of amalgamating company;

(d) every year the amalgamating company, while the set off is claimed, furnished, along with its return of income a certificate from the specified authority that the adequate steps have been take for rehabilitation or revival of the business of sick industrial unit. The benefits available are:

(i) The unabsorbed depreciation of the amalgamating company become the

unabsorbed depreciation of amalgamated company and can be carried forward and infinitum as provided in section 32.

(iii) The accumulated loss become the current loss of the amalgamated company and can set off against the income of amalgamated company under any head of income.

(iv) Irrespective of the number of years for which the sick unit has carried forward the loss, it can be carried forward for next 8 assessment years.

(v) The unabsorbed amount of investment allowance, development rebate and development allowance can be carried forward for 8 years form the year in which it was first claimable.

11.9 FINANCIAL FRAMEWORK

This section discusses the financial frame work of a merger decision. It covers three inter-related aspects:

(i) determining the firm's value;

(ii) financing techniques in mergers; and

(iii) analysis if merger as capital budget in decision.

(I) Determining the Firm's Value

The value of the firm (which have to be acquired) depends not only upon its earnings riijj also upon the operating and financial characteristics of the acquiring firm. It is therefore, not possible to place a single value for the acquired firm. To determine an acceptable price for a corporation a number of factors, quantitative as well as qualitative are relevant. However, placing a value on qualitative factors is difficult such as managerial talent, strong sales staff, and excellent production department and so on. Therefore, the focus of determining the firm’s value is on several quantitative variables.

The quantitative factors relate to:

(a) The value of the assets and

(b) The earning of the firm.

Based on the assets values and earning, these factors include book value, appraisal value, market value and earnings per share.

Book Value: It is determined dividing network by the number of equity shares outstanding. This method has a serious limitation i.e., it is based on the historical costs.

Appraisal Value: This value is based on the replacement cost of assets. The appraisal **value** has **several** merits. In the first phase, it is an important factor in special situations such as in financial companies, natural resources enterprises or organisation that have been operating at a loss. For instance, the assets of a financial company largely consist of securities. The value of the individual securities has a direct bearing on the firm's earning capacity. Secondly, the appraisal by independent appraisers may permit the reduction in accounting goodwill be increasing the recognised worth of specific assets. Goodwill results when the purchase price of a firm exceeds the value of the individual assets. Third appraisal by an independent agency provides a test of the reasonableness of results obtained through methods based upon the going-concern concept.

Market Value: The market value as reflected in the stock market quotations comprises another approach for estimating the value of a business. The justification of market value as an approximation of true worth of a firm is derived from the act that market quotation by and larger indicate the consensus of investors as the firms’ earnings potentials and the corresponding risk. The market value of a firm is determined by investment as well as speculation factors.

Earnings per Share: According to this approach, the value of a prospective acquisitionis considered to be a function of the impact of the merger of the EPS. In other words, theanalysis would focus in whetherthe acquisition will have a positive impact on the EPS aftermerger or it will have the effect of diluting it.

(II) Financial Techniques in Mergers

After the value of a firm has been determined on the basis of the preceding analysis, the next step is the choice of the method of payment to the acquired firm. The choice of financial instruments and techniques in acquiring a firm usually has an effect on the purchasing agreement. The payment may take the form of either cash or securities, i.e., ordinary shares, convertible securities, differed payments loans and tender offers.

Ordinary Shares Financing: When a company is considering to use common shares to finance a merger, the relative price earnings (P/D) ratio of two firms are an important consideration. For e.g., for a firm having a high P/E ratio, ordinary shares represent an ideal method for financing mergers and acquisitions.

Debt and Preference Shares Financing: Since, however, some firms may have a relatively lower P /E ratio as also the requirement of some investors might be different, the other type of securities, in conjunction with/in lieu of equity shares may be used for the purpose.

Deferred Payment Plan: Under this method, the acquiring firm, beside making initial payment also undertake to make additional payment in future years to the target firm in the even of the firm is able to increase earnings consequent to merger. Since the future payment is linked to the firm's earning, this plan is also known as earn-out plan.

Tender Offer: An alternative approach to acquire another firm is the tender offer. A tender offer as a method of acquiring firms, involve a bid by the acquiring firm for controlling interest in the acquired firm. The essence of this approach is that the purchaser approaches the shareholders of the firm rather than the management, to encourage them to sell their shares generally at a premium over the current market price.

(III) Merger as a Capital Budgeting Decision

The application of capital budgeting decision, merger decision requires comparison between the expected (measured in term of the present value of expected benefits cash inflows (CFAT) from the merger) with the cost of the acquisition of the target firm. The acquisition cost include the payment made to the target firm's share holders payment to discharge the external liabilities of the acquired firm less cash proceeds expected to be realised by the acquiring firm from the sale of certain asset of the target firm.

- **Keyword:** *Merger, Consolidation, Amalgamation, Capital Budgeting*

11.10 SELF- CHECK EXERCISE

- **Long Question Answer**
  1. Discuss various forms of Business combinations.
  2. Discuss the financial framework of a merger.
  3. Write notes:

(i) Consolidations
(ii) Kinds of Mergers
(iii) Internal and External Growth

- **Short Question Answer**
  1. Define Book value.
  2. Illustrate the meaning of conglomerate merger with suitable example.

11.11 SUGGESTED BOOKS

- Edwin L. Miller , Lewis N. Seggal: Mergers and Acquisitions, John Wiley, 2017
- SR Vishwanath, Chandrashekar Krishnamurti : Mergers, Acquistions and Corporate Restructuring, Sage Publications,2008
- Scott. C. Whitaker : Cross Border Mergers and Acquisitions, John Wiley, 2017

11.12 SELF-CHECK QUESTIONS (ANSWER KEY)

11.4 (a) 2 (b) 2 (c) 4

Financial Management: Additions

Lesson 1: Financial Management: Concept, Objective, Scope, Importance and its relationship with other area

1.8 Financial Distress and Insolvency

There are numerous factors like price of the product or service, price of the inputs such as raw material, labor etc., which are to be handled by any organization on a continuous basis. The proportion of debt also needs to be managed carefully by an organization. The more is the amount of debt, the more will be the interest and if the cash inflow is not adequate then it will put stress upon the firm. If all the above-mentioned factors are not managed well by the firm, it may create a situation known as distress. So financial distress can be described as a situation where in the Cash inflows of a firm are not adequate to meet the current obligations.

If distress continues for a longer period of time, the organization may have to sell its assets, even at a lower price. Further, when revenue is not adequate to revive the situation, firm would not be able to meet its obligations and thus, will become insolvent.

So, insolvency means inability of a firm to repay various debts and is a result of continuous financial distress.

Lesson 2: Financial System: Assets, Markets, Intermediaries and Regulatory Framework

2.7.3 Insurance Regulatory and Development Authority of India (IRDAI)

It is an autonomous statutory body which was constituted under the Insurance Regulatory and Development Authority Act, 1999, tasked with regulating and promoting the insurance and reinsurance industries in India. The headquarters of IRDAI are located in Hyderabad.

It has a team of ten members including a chairman, five whole-time members and four-part time members and all of them are appointed by the Government of India.

Section 14 of IRDAI Act, 1999 lays down the duties, powers and functions of Insurance Regulatory and Development Authority of India. The duty of IRDAI is to regulate, promote and ensure orderly growth of the Insurance business and re-insurance business.

Some of the Powers and functions are:

- Issuing, renewing, modifying, withdrawing and suspending or cancelling the registration of the applicant
- Protecting the interest of the policyholders
- Specifying code of conduct for surveyors and loss assessors
- Specifying requisite qualifications, code of conduct and practical training for intermediaries and agents
- Promoting efficiency in the conduct of insurance business
- Levying fee and other charges for carrying out the purposes of the Act.

2.7.4 Pension Fund Regulatory and Development Authority (PFRDA)

PFRDA was established by the government of India on August 23, 2003 to act as a regulator of pension funds. The headquarters are located in Delhi, India. The Pension fund Regulatory & Development Authority Act was passed on 19th September, 2013 and was notified on February 1st, 2014. It regulates the National Pension Scheme which is subscribed by the employees of Government of India, State Governments and by employees of private institutions or organizations and unorganized sectors. The PFRDA is ensuring the orderly growth and development of pension market. The vision of PFRDA is to be a model regulator for promotion and development of an organized pension system to serve the old age income needs of people on a sustainable basis.

The organizational structure consists of a chairperson and not more than six members out of which at least 3 members and are appointed by the Central Government.

Lesson 3: Capital Market and Money Market in India 3.6

Capital Market in India Functions of SEBI

SEBI works for the regulation and development of securities market. It performs a lot of functions:

1. It protects the interest of investors in securities and to promote the development of and to regulate the securities market.
2. It regulates the business in stock exchanges and any other securities market.
3. It calls out the information by undertaking inspection, conducting inquiries and audits of stock exchanges and intermediaries.
4. It registers and regulates the working of venture capital funds and collective investment schemes, including mutual funds
5. Prohibiting insider trading in securities
6. Promoting investors' education and training of intermediaries of securities markets.
7. Regulating substantial acquisition of shares and takeover of Companies

Lesson 4: Concept in valuation: Time value of Money, Present values, IRR, Bond Returns, Return from Stock Market investments

4.6.4 Yield to maturity: It can be defined as the discount rate at which the present value of future cash flows from a bond equals its market price. It is a bond's internal rate of return if it is held till the maturity of the bond.

Bond Duration: Bond Duration is the weighted average time in which an investor gets back the principal and the promised yield to maturity. The investment coupon bearing bond always has a

duration which is less than its maturity. The higher is the coupon rate, the lesser would be the duration and higher the yield to maturity, lower will be the duration of a bond.

It estimates how quickly a bond repays its true cost. The longer the time it takes the greater exposure the bond has to changes in the interest rate risk - and hence higher interest rate risk. Duration is also a measure of interest rate risk - higher duration implies higher interest rate risk and lower duration means lower interest rate risk.

Lesson 5: Capital Budgeting 5.2.2 Discounted Cash Flow

Method of Capital Budgeting Modified Internal Rate of Return

(MIRR):

The Modified Internal Rate of return covers up the weaknesses of internal rate of return. This method is also known as Terminal Value Method. Under this method, all the cash flows except the initial investment are brought to the terminal value by using an appropriate discount rate. This results in a single stream of cash inflow in the terminal year. The MIRR is obtained by assuming a single outflow in the zeroth year and the terminal cash flow. The discount rate which equates the present value of the terminal cash inflow to the zeroth-year outflow is called the MIRR.

The decision criterion of MIRR is the same as IRR i.e., you accept an investment if MIRR is larger than the required rate of return and reject if it is lower than the required rate of return

Lesson 7: Financial and Operating Leverage 7.4

Margin of Safety and Operating leverage

In Cost Accounting, Margin of Safety (MOS) may be calculated as follows:

$$MOS = \frac{\text{Sales - BEP Sales}}{\text{Sales}} \times 100$$

Higher margin of safety indicates lower business risk and higher profit and vice versa. MOS is inversely related to OL.

$$\text{Degree of Operating leverage} = \frac{1}{\text{Margin of Safety}}$$

Lesson 8: Cost of Capital

8.4 Marginal Cost of Capital

The marginal cost of capital can be defined as the cost of raising an additional rupee of capital. As the capital is raised in substantial amount in practice, marginal cost is described as the cost incurred in raising new funds. Marginal cost of capital is derived when the average cost of capital when the average cost of capital is calculated using the marginal weights.

The marginal weights show the proportion of funds that the firm intends to use. So, the issue of selection between the book value weights and the market value weights does not come in computation of marginal cost of capital.

In calculating this, the planned financing proportion is to be applied as weights to marginal component costs. The marginal cost of capital should be calculated in the composite manner. When a firm raises funds in proportional manner and the component's cost does not change, there would be no difference between average cost of capital and the marginal cost of capital. The component cost will remain constant to a certain level of funds raised and then starts increasing with amount of funds raised.

Lesson 9: Capital Structure

9.2Capital Structure theories

5. Pecking Order Theory

Pecking order theory is based upon asymmetric information that refers to a situation in which different parties have different information. In a firm, managers will have better information than the investors. This theory states that firms would prefer to issue debt in case they are positive about future earnings. Equity will be issued if they would be doubtful and internal finance is not sufficient.

The pecking order theory asserts that the capital structure decision is influenced by the manager's choice of the source of capital which gives more priority to sources which reveal least information.

Myers has given this theory the name of 'PECKING ORDER' theory as there is no well-defined debt-equity target and there are two kinds of equity exist: internal and external. Debt is cheaper than both internal and external equity due of interest. Also, internal equity is less than external equity mainly because of no transaction cost, no tax etc.

Pecking order theory propose that managers may different sources for raising funds in this order:

1. The first choice is to use internal finance
2. In case of absence of internal finance, they may use secured debt, unsecured debt etc.
3. They may issue fresh equity shares as last option.

Lesson 10: Dividend Theories

10.3.4 Other Traditional Models

1. Grahm & Dodd Model

According to this theory given by Grahm & Dodd, the stock market gives significant weight to dividends than retained earnings. Their view is indicated quantitively in the following valuation model:

$$P = m (D + E/3)$$

Where,

P = Market Price per share D =

Dividend per share E =

Earnings per share M = a

multiplier

2. Lintner's Model Lintner's Model

has two parameters:

The target payout ratio and the spread at which current adjust to the target

Using this model, the current year's dividend is dependent on current year's earnings and last year's dividend

$$D_1 = D_0 + [(EPS \times Target\ Payout) - D_0] \times Af$$

Where,

D_1 = Dividend in Year 1

D_0 =Dividend in Year 0 (last year dividend)

EPS = Earnings per Share

Af = Adjustment factor or Speed of adjustment

Lesson 11: Mergers and Acquisitions

11.4 Kinds of Mergers

4. Congeneric Merger: A Congeneric Merger is the one in which the acquirer and the target company are those which do not offer the same products but are related through technologies, production processes, distribution channels or markets. The acquired company represents an extension of product-line, market participants or technologies of the acquirer. These mergers represent an outward movement by the acquirer from its current business scenario to other

related business activities and an opportunity to expand the product line or gain a new market share.

5. Reverse Merger: Also known as Reverse takeovers. Such mergers involve acquisition of a public shell company by a private company, as it helps private company to avoid lengthy and complex, expensive process required to be followed in case it is interested in going public.

6. Acquisition: This refers to the purchase of controlling interest by one company in the share capital of an existing company.

LESSON 6

Need for working capital

Working capital is needed by business concerns to run their day-to-day operating activities and for meeting the short-term requirement of funds. One can hardly find a business concern which does not require any amount of working capital. These are some needs of business for having adequate working capital:

Acquisition of resources such as raw material, labour, power, etc.

Conversion of raw material into work-in-progress and work-in-progress into finished goods.

Sale of the product either for cash or on credit and collection of cash from sundry debtors.
Seasonal differences in cash flow are typical of many businesses, which need working capital to gear up for a busy season or to keep the business operating when there is less money coming in.

Thus, working capital is required for purchasing raw materials, making payments of operating, administrative and selling expenses, maintaining stock of raw materials, work-in-progress and finished goods, allowing credit to customers, and meeting contingencies.

A good management should, therefore, maintain an adequate amount of working capital on a continuous basis. Only then, the proper functioning of the business operations can be ensured. Various financial and statistical techniques should be used to predict the quantum of working capital needed at different time periods.

Determinants of working capital

A large number of factors influence the working capital needs of the firms. These factors affect different firms differently. Also, the importance of factors changes for a firm over the time.
Following are the important factors that influence the requirement of the working capital of a firm.

1. **Nature and size of a business:** working capital requirements of a firm are basically dependent on the nature and size of the business. For instance, public utilities have a very limited need for working capital and have to invest largely in fixed assets. Their working capital needs are, minimal because they have cash sales only and supply services and not products. On the other hand trading firms have very less investment in fixed assets and a large investment in working capital. Working capital requirement of most manufacturing firms fall between these two extremes, that is, public utilities and trading firms. the size of business also plays a vital role in working capital requirement. Scales maybe measured in terms of the scale of operations. Larger the size of firm, higher would be the need of working capital, or vice-versa.
2. **Length of production cycle:** funds will have to be necessarily tied-up during the process of manufacture. Thus, larger the time span of the manufacturing cycle, higher will be the requirement of the working capital and vice-versa.
3. **Business cycle:** most of the firms experience cyclical fluctuations in demand for their products and services. Working capital requirement will be higher during times of boom as compared to the lean periods.
4. **Product policy:** In the case of the seasonal demand for certain products, the production may either be confined only to periods when goods are purchased or production may be carried on steadily throughout the year. In the former case, there will be serious production problems. During the slack season the firm will have to maintain its labour force and physical facilities without adequate production and sales. During peak period, the firm will have to operate at full cap to meet the

demand which will be very inconvenient and expensive. On the other hand, a steady production policy will result in accumulating of inventories during the off-season period requiring an increasing amount of working capital and the firm will be exposed to greater inventory cost and risks.

5. **Credit policy of the firm:** the credit policy of the firm has a bearing on the magnitude of working capital by determining the level of book debt. Larger credit sales will result in higher book debts and more working capital or vice versa.
6. **Credit policy of the supplier:** credit terms granted by its creditors also influence the working capital of will be less. On the other hand, the working capital requirements will be higher if the supplier follows tight credit policy.
7. **Growth and expansion:** as a firm grows in size, it is logical to expect that a larger amount of working capital will be required. It is, however, difficult to determine precisely the relationship between volume of sales and working capital than those are static. However, the need for more working capital does not follow the growth in business activities but precedes it.

Working capital cycle: working capital refers to that part of firm's capital which is required for financing short term current assets such as cash, marketable securities, debtors and inventories. Funds, thus invested in current assets keep revolving fast and are being constantly converted into cash and this cash flows out again in exchange for other current assets. Hence, it is also known as revolving or circulating capital. The circular flow concept of working capital is based upon this operating or working capital cycle of the firm.

The working capital cycle (WCC) is the amount of time it takes to turn the net current assets and current liabilities into cash. The longer the cycle is, the longer a business is tying up capital in its working capital without earning a return on it. Therefore, companies strive to reduce its working capital cycle by collecting receivables quicker or sometimes stretching accounts payable.

The cycle starts with the purchase of raw material and other resources and ends with the realization of cash from the sale of finished goods. It involves purchase of raw material and stores and conversion into finished goods through work in progress with the progressive increaement of labour and service costs, conversion of finished stock into sales, debtors and receivables and ultimately realization of cash and this cycle continues again from cash and this cycle continues again from cash to purchase of raw material and so on.

LESSON 10

Dividend Policy

Dividend refers to that part of the net profit that a company distributes among shareholders as a return on the capital they invested In business. Dividend is paid on both types of shares; equity as well as preferences but on preference shares, rate of dividend is pre-determined and fixed but the decision of dividend rate on equity shares is dependent on earnings of a company and the rate of dividend on equity shares is not fixed.

Therefore, dividend policy means the broad approach which dictates the amount of the net profits paid out by company as dividend. It also defines the frequency of dividend distribution. In other words dividend policy describes how much amount of net profit are to be distributed among shareholders or how much are to be retained in a business for meeting the future capital requirement of a company.

Thus, the dividend policy divides the net profits or earnings after taxes into two parts:

- Earnings to be distributed as dividend
- Earnings retained in the business

as we know, dividends are that part of net profit which a company distributes among shareholders that's why it has negative relation with retained earnings. If a company distributes a large amount of net profit as dividend, retained earnings would be less and on the contrary, if less amount of profit distributed as dividend then the amount of retained earnings would be larger.

The retained earnings are the most easily accessible source of finance for any company. If a company distributed a large amount of profit as dividend will have to use the external source of financing to finance its business operation and to attaining the growth opportunities. A growth-oriented company may not pay or pay small amount of net profit as a dividend.

Thus, a firm will have to make a decision about how much amount of net profit distributed as dividend and how much portion have to be ploughed back in the business. This choice is called dividend policy and it affects both the long-term borrowings and the wealth of shareholder.

Types of Dividend

We can classify dividends into various forms. Dividends paid in the ordinary course of business are known as Profit dividends, while dividends paid out of capital are known as Liquidation dividends.

A company may pay dividends in different forms as follows:

1. Regular dividend: when payment of dividend to be paid periodically in equal amounts over the course of a year, typically quarterly, it is termed as regular dividend.

2. Interim dividend: when a company made payment of dividends before it's annual general meeting (AGM) and the announcement of final financial statements, it is known as interim dividend. Such kind of dividend is paid when company gains heavy profit.

3. Cash dividend: it is the most popular form of dividend payment. In this, the company paid the dividend to shareholders and the amount of dividend is deposited in the bank accounts of the shareholders as per their holdings. The result of cash dividend is outflow of funds and due to this outflow; the net worth of a company reduces, though with the cash in hand shareholders get an opportunity to invest this in any other way they want. This is why shareholders prefer to receive dividends in cash.

4. Stock dividend: Stock dividend means the issue of bonus shares or additional shares to its existing shareholders without any other consideration. A company declares the stock dividend when it doesn't have sound liquid resources. It amounts to capitalization of earnings and distribution of profits among the existing shareholders without affecting the cash position of the firm.

5. Scrip or bond dividend: A scrip dividend promises to pay the shareholders at a future specific date. A company issues promissory notes and bonds as dividend due to insufficient funds. A scrip dividend bears interest and it is accepted as collateral security.

6. Liquidating dividend: when a company returns the original capital invested by the shareholders then, it is called liquidating dividend. Generally this would happen when company intends to wrap up its business.

7. Property dividend: when a company paid the dividend in the form of some assets except cash, is known as Property dividends. It is an uncommon way of paying dividends and it is not popular in India.

8. Composite dividend: when some part of the dividend is paid in cash and the other part in the form of some assets, it is known as composite dividend.

9. Optional dividend: instead of giving the dividend in composite form, if a company gives option to shareholders for choosing among the cash or property dividend, it is known as optional dividend.

Types of dividend policy

There are mainly four types of dividend policies:

1. Stable dividend policy	2. Regular dividend policy	3. Irregular dividend policy	4. No dividend policy

1) Stable dividend policy: A stable dividend policy company fixed amount that would be distributed as dividend out of profit among shareholders that they receives periodically.

2) Regular dividend policy: In a regular dividend policy, the company fixed a certain percentage that would be distributed as dividend out company's profits. When a company earns high profits, the dividend pay-out will automatically be high. While a company earns low profits, the dividend payment will remain low. This is the most suitable policy as per the Experts usually for dividend payment and creating goodwill.

3) Irregular dividend policy: Under the irregular dividend policy, the company has all the rights regarding distribution of dividend to its shareholders and the board of directors decides what to do with the profits. If a company make an abnormal profit in a certain year, then bod's made the decision whether to distribute it among the shareholders or not pay any dividends, instead keep the profits as retained earnings for business expansion and future projects.

4) No dividend policy: Under the no dividend policy, the company doesn't distribute dividends to shareholders. Company retains all the profit in the business for future growth. Companies that don't distribute dividends show constant growth and expansion, and shareholders invest in them because the value of the company's stock appreciates. For the investor, the share price appreciation is more valuable than a dividend payout.

Essentials of a sound dividend policy:

1. Stability: Stability in dividend distribution refers to the regularity in the distribution of dividends. If a company distributes a high amount of dividend in one year but doesn't pay any dividend in the next year, then it cannot be said as good. On the other hand, if a company distributes dividends every year although at a normal rate, its shareholders will remain satisfied and its shares will not be subjected to high speculation.

2. Gradually rising dividend: To attract more investors and for creating goodwill a company should always try to increase the dividend rate each year even at a lower rate, though this increase will depend on the profit of a company. If there are abnormal profits in a certain year then a company should distribute additional or special dividends.

3. Distribution of cash dividend: Dividends should be paid in cash. But, if a company has ample amounts of reserves and funds, then stock dividends may also be declared. But the distribution of stock dividends should remain within reasonable limits otherwise it causes over-capitalization.

4. Moderate start: At the time of incorporation a company should declare dividends at lower rates for some years so that the company's financial position may become sound. Afterwards with the growth and progress of the company, dividend rates may be increased gradually.

5. Other factors: Dividends should only be paid when company earned profits. If there has losses of some past years, then dividend should not be declared till these are set off. Though, the dividend is usually paid only once in a financial year in order to keep the shareholders faith in company and for goodwill, interim dividends should also be declared. The dividends and dividend policy of a company are important factors that affect the investors consider while deciding what stocks to invest in. Dividends can help investors earn a high return on their investment, and a company's dividend payment policy is a reflection of its financial performance.