COURSE MATERIAL

ON

FINANCIAL MANAGEMENT

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RV INSTITUTE OF MANAGEMENT

SECOND SEMESTER

2022 - 2023

MODULE : 1

INTRODUCTION TO FINANCIAL MANAGEMENT

Introduction:

In our present day economy, finance is defined as the provision of money at the time when required. Every enterprise whether it is big or small, needs finance to carry on its activities and to achieve its targets. Without adequate finance, no enterprise can possibly accomplish its objectives.

The subject of finance has been traditionally classified into two :

1. Public Finance
2. Private Finance

Public finance deals with the requirements, receipts and disbursements of funds in the government institutions.

Private finance is concerned with requirements, receipts and disbursements of funds in case of an individual, a profit seeking business organization and a non-profit organization.

Thus, private finance can be classified into:

1. Personal finance
2. Business finance
3. Finance of non profit organizations

Personal finance deals with the analysis of principles and practices involved in managing one's own daily need of funds.

The principles and practices, procedures and problems concerning financial management of profit making organizations engaged in the field of industry, trade and commerce is undertaken under the discipline of **business finance.**

The **finance of non-profit organization** is concerned with the practices; procedures and problem involved in financial management of charitable, religious, educational, social and other similar organizations.

CONCEPT OF BUSINESS FINANCE

The term business finance connotes financing of business activities. Thus, in order to develop the meaning business finance explanations of the two terms are necessary. **They are business and finance.**

Business : Business in the narrow sense means merchandising, the operation of some sort of shop or store. But in the broader sense business means every human activity where by man's wants are satisfied. Usually these activities are activated with the profit motive. Business can be categorized into : Commerce, Industry and Services

Commerce - concerned with the transfer of commodities through various channels from the producer to the customer. Ex. Warehousing, Transporting, insurance of commodities etc.

Industry - concerned with sale of goods produced by the manufacturer. It is actually concerned with manufacturing of commodities.

Services - rendering some services for making profit. Such activities are categorized under the heading of services Ex. Services of lawyers, doctors, and lecturers

Finance : Finance may be defined as the provision for money at the time when it is required. Finance refers to the management of flows of money through an organization. However, there are three main approaches to finance:

1. According to traditional concept the finance is concerned with acquiring the funds on reasonable terms and conditions to pay bills promptly.
2. The second approach holds that finance is concerned with cash
3. The third approach to finance looks on finance as being concerned with procurement of funds and their utilization.

Business finance can further be classified in to three categories

a. Sole proprietary finance
b. Partnership firm finance, and
c. Corporate or company finance / financial management

Definitions

"Business finance can broadly be defined as the activity concerned with planning, raising, controlling and administering of funds used in the business" - **Guttmann and Dougall.**

"Financial management is the operational activity of a business that is responsible for obtaining and effectively utilizing the funds necessary for efficient operation" – **Joshph and Massie.**

"FM is the area of business management devoted to a judicious use of capital and a careful selection of sources of capital in order to enable a business firm to move in the direction of reaching its goals" – **J.F.Bradlery**.

"FM is application of the planning and control functions to finance function" – **Archer and Ambrosio.**

"FM is a subject which deals with the tools and techniques through which a company's balance sheet is constructed".

SCOPE OF FINANCIAL MANAGEMENT

The approach to the scope of financial management is divided in to 2 broad categories.

1. **Traditional Approach**
2. **Modern Approach**

I. Traditional Approach:

The traditional approach, which was popular in 1920's, limited the role of the finance manager to raise the funds and administering of the funds needed by the corporate enterprise to meet their financial requirements.

It covered **three aspects**

1. Arrangement of funds from financial institutions.
2. Arrangement of funds through financial instruments from capital market.

3. Looking after the legal and accounting relationship between the corporate and its sources of funds.

The finance manager had a limited role to play. He was required to look into financial problems of in incorporation, mergers, liquidation, reorganization etc. He was essentially concerned with the long-term problems of financing.

Traditional Approach continued to dominate academic thinking during 1940's and 1950's. However, in later fifties it started to be severally criticized

Criticisms of Traditional Approach:

- ✓ Outsider looking in approach
- ✓ Ignored routine problems
- ✓ Ignored non corporate enterprises
- ✓ Ignored working capital financing
- ✓ No emphasis on allocation of funds

The traditional approach out to live due to changed business situations since mid 1950's. Technical improvements, widened marketing operations, development of strong market structure, keen and healthy business competitions etc. all are necessary for management to make an optimum use of available resources for continuous survival of the business.

II. Modern Approach:

According to Modern Approach, "Financial Management is concerned with both acquiring of funds as well as their allocation". MA is an analytical way of looking at the financial problems of a firm. The main content of the Approach are:

Main Contents

1. What is the total amount (volume) of funds an enterprise should commit?
2. What specific assets should an enterprise acquire?
3. How the required funds should be finance?

   The above 3 questions relate to 3 broad decisions of finance.

   1. Investment Decisions
   2. Financing Decision and
   3. Dividend decision

FUNCTIONS OF FINANCE / DECISIONS IN FINANCIAL MANAGEMENT

1. Investment Decisions
2. Financing Decision and
3. Dividend decision

1. **Investment Decisions :** Investment decision refers to selection of assets in which the funds will be invested by a firm. The assets which can be acquired falls under two groups:
    a. Long term Assets - which yield a return over a period of time in future
    b. Short term Assets - those assets which in the course of business are convertible into cash with in year.

Accordingly, the asset selection decision of a firm is of two types.

a. **Capital Budgeting :** (most critical decision of any firm)
    - ✓ It relates to the selection of an asset or investment proposal whose benefits are likely to be available in future over the time of a project.
    - ✓ Long Term Assets can be old / new/ existing.

Important aspects of capital Budgeting

- ✓ Future benefits are difficult to measure and cannot be predicted with certainty, because of uncertainty, capital budgeting involves risk, Investment proposals should therefore be evaluated in terms of Risk and Return
- ✓ Other major aspect is the measurement of standard or hurdle rate against which the expected return of a new investment can be compared.

b. Working Capital management (current asset management)

- ✓ Current asset management which affects the firm's liquidity is yet another important investment decision. Current assets should be managed effectively for safeguarding the firm against the Danger of illiquidity and insolvency
- ✓ A conflict exists between profitability and liquidity while managing current assets. If the sufficient funds are not invested in the current assets, it may become illiquidity. But it would loose profitability, as idle current assets cannot earn anything. Thus the proper trade off between Profitability and liquidity should be achieved.

2. **Financing Decision :** It is the second important function to be performed by the finance manager. Broadly speaking, he must decide when, where and how to acquire the funds to meet the firm's investment need. The main issue now is to determine the proportion of the debt and equity. The mix of that debt and equity is known as the firm's capital structure. The finance manager must strive hard to obtain the best financing mix or optimum capital structure. The firm's capital structure is concerned to be optimum when the market value of the share is maximized. Once the finance manager is able to determine the best combination of debt and equity, he must raise the appropriate funds through best available sources.

3. **Dividend Decision :** The third major decision of financial management is the decision relating to the dividend policy. This dividend should be analysed in relation to the financing decision of a firm. Two alternatives are available in dealing with the profits.
   a) They can be distributed among the shareholders in the form of dividend
   b) They can be retained in the business.

   If the dividends are paid, what portion of the profits must be paid as dividends to the shareholders? The decision will depend upon the preferences of the shareholders and investment opportunities available with in the firm.

   The modern approach has broadened the scope of the financial management which involves the solution of 3 major decisions namely investment, financing and dividend. These are interrelated and should be jointly taken so that financial decision making is optimal.

   Apart from the above main functions, following are some of the subsidiary functions, which the finance manger should perform
   1. To ensure supply of funds to all parts of the organization.
   2. Evaluation of financial performance.
   3. To negotiate with bankers, financial institutions and other suppliers of credit.
   4. To keep track record of stock exchanges quotations and stock market prices.

GOALS / OBJECTIVES OF FINANCIAL MANAGEMENT

The objectives provide a framework for optimum decision-making. In other words, they are concerned with designing a method of operating the internal investment and financing of a firm.

There are two specific objectives

1. **Profit Maximization :** According to this approach, actions that increase profits should be undertaken and those that decrease profits should be avoided. The PM criteria imply that the investment, financing and dividend decision of the firm should be oriented to the maximization of profit.

The rationale behind profitability maximization is

1. It provides yardstick by which economic performance can be judged.
2. It leads to efficient allocation resources
3. It ensures maximum social welfare.

Objections to Profit Maximisation

1. It assumes perfect competition and in the phase of imperfect modern markets, it cannot be legitimate objective of the firm.
2. A PM criterion was developed in 19th century when the characteristic features of the business were self-financing, private property and single enterprises were prevailing and the main objective of these owners was to maximize the profit. But in the modern times limited liability as come into being with business and a divorce between management and owners. So profit maximization is regarded as unrealistic.
3. From the societies point of view PM may lead to inequality of income and wealth.

Limitations of Profit Maximisation:

1. It is Vague (unreal)
2. Ignored time value of money
3. Ignores risk (quality of benefits is ignored)

To summarize the above discussion, the profit maximization criterion is inappropriate and unsuitable as an operational objective of investment, financing and dividend decisions of the firm. The alternative to the profit maximization is wealth maximization criteria.

2. Wealth Maximization (Value Maximisation / NPW Maximisation) : This is known as value maximization or net present worth maximization. In current literature the value maximization is almost universally accepted as an appropriate operational decision criterion for financial management decisions as it removes the technical limitations of the earlier profit maximization criteria.

WM means maximizing the Net Present Value of a course of action. NPV of a course of action is the difference between the Present Value of its benefits and the PV of its costs. A financial action which has + NPV creates wealth and therefore is desirable. A financial action which has – NPV should be rejected. Among the mutually exclusive projects – project with highest NPV should be adopted.

The wealth maximization objective is also consistent with the objective of maximizing the welfare of the shareholders of the company. From the shareholders point of view, the wealth created by the company through its action is reflected in the market value of the company's shares. Therefore, the wealth maximization objective implies the fundamental objective of the firm should be to maximize the market value of its shares.

Features:

1. The WM concept is based on the concept of cash flows generated by decision rather than the accounting profit.
2. It considers both the quality and quantity of benefits. It incorporates time value of money.

Advantages:

1. WM is a clear term
2. It considers the concept of time value of money.
3. Universally accepted.
4. It guides the management in framing consistent strong dividend policy to reach maximum returns to equity shareholders.
5. Considers impact of risk.
6. WMO is consistent with the objective of maximizing the SHW.

Criticisms of Wealth Maximisation:

1. The concept of wealth maximization is not descriptive.
2. The objective of WM is not necessarily socially desirable.
3. There is some controversy as to whether the objective is to maximize the stock holders wealth or the wealth of the firm which includes other financial claim holders
4. The objective of WM may also face difficulties when ownership and management are separated as is the case in most of the large scale corporate from of organization.

Differences between the two primary objectives of financial management

	Profit Maximization	Wealth Maximization
Objective	Large amount of profits	Highest value to the firm and highest market value of shares
Advantages	✓ It is easy to calculate profits ✓ It is easy to establish the relationship between financial decisions and profits	✓ It emphasizes on long term returns and profits. ✓ It recognizes uncertainty and risk ✓ It recognizes the timing of returns ✓ It considers shareholders' returns
Disadvantages	✓ It emphasizes on short-term gains ✓ It ignores uncertainty and risk ✓ It ignores timing of returns ✓ It requires immediate resources	✓ It offers no clear relationship between financial decisions and share prices. ✓ It can lead to management anxiety and frustration

The value of the stream of cash flows under wealth maximization criteria is calculated by discounting it back to the present at a capitalization rate (discount rate).

Capitalization Rate (Discount Rate)

It is the rate, which reflects the time and risk preference of the owners or suppliers of capital. The capitalization rate as a measure of quality (risk) and timing is expressed in decimals i.e. a discount rate of 20% is written as 0.20. The higher the risk the longer the capitalization rate.

General Objectives of Financial Management

- ✓ Balanced Asset Structure.
- ✓ Liquidity.
- ✓ Judicious Planning of Funds (reducing the cost)
- ✓ Efficiency
- ✓ Financial Discipline.

"A"S OF FINANCIAL MANAGEMENT

- ✓ Anticipating Financial needs
- ✓ Acquiring financial resources
- ✓ Allocating funds in business
- ✓ Administering the allocation of funds
- ✓ Analyzing the performance of finance
- ✓ Accounting and reporting to management

"AIMS" of Financial Management

- ✓ Acquiring Adequate funds
- ✓ Proper Deployment of funds
- ✓ Escalating Profitability
- ✓ Maximising firms value

ORGANISATION OF FINANCE FUNCTION

The organization structure of finance is as important as any other functional department. Finance function is established directly under the control of BOD. The structure of finance department differs from industry to industry.

- Small – Owners
- Big – independent Finance department
- Very big – an expert committee

Finance function is controlled by the top management. Survival and growth of the company depends upon the finance function. Funds flow will be smooth because of sound working of Finance function. Finance function can be divided into

a. Routine matters – Treasurer, b. Special finance functions – Controller.

Treasurer and Controller are governed by Finance Committee.

The **controller** is concerned with management and control of the firm's assets. His duties include providing information for formulating the accounting and financial policies, preparation of financial reports, direction to internal auditing, budgeting, internal control, taxes etc. while the **treasurer** is mainly concerned with managing the firms funds, his duties include forecasting the financial needs, administering the flow of cash, managing credit, floating securities, maintaining relations with financial institutions and protecting funds and securities.

Functions of the Treasurer and Controller

Treasurer	Controller
✓ Obtaining finance ✓ Banking relationship ✓ Cash management ✓ Credit Administration ✓ Capital Budgeting	✓ Financial Accounting ✓ Internal Auditing ✓ Taxation ✓ Management Accounting ✓ Control

Functions of Controller

- ✓ Formulation of the accounting and costing policies, standards and procedures.
- ✓ Preparation of financial statements.
- ✓ Preparation of interpretations of financial reports.
- ✓ Maintenance of books of accounts.
- ✓ Internal audit.

- ✓ Preparation of budgets.
- ✓ Inventory control.
- ✓ Safeguarding company's assets.
- ✓ Controlling cash receipts and payments.
- ✓ Preparation of payrolls.

Functions of a Treasurer

- **Cash management Functions**
  - Opening accounts and depositing funds in the banks.
  - Payment of company obligations through proper disbursements.
  - Managing records of cash transactions.
  - Management of petty cash and cash balances.
- **Credit Management Functions**
  - Determination of customers credit standards.
  - Orderly handling of collections from debtors.
  - Cash discounts to encourage prompt payment from debtors.
  - Determination of customers credit risk.
- **Financial Planning Functions**
  - Reporting financial results to the top management.
  - Forecasting future financial requirements.
  - Forecasting cash receipts and cash payments.
  - Planning the various avenues for investment of company's surplus funds.
  - Advice on dividend payments.
- **Security Floatation Functions**
  - Taking the decisions on the type of securities a company has to float to raise the funds from the public.
  - Compliance with government regulations.
  - Maintaining good relationships with the stock holders.
  - Disbursement of dividends.
  - Redemption of bonds.

FINANCE MANAGER

- ✓ Finance Manager is a person who heads the department of finance.
- ✓ He forms activities in connection with general functions of management.
- ✓ His focus is on profitability of the firm.
- ✓ He plans and controls financial activities.
- ✓ Finance Manager takes key decisions on the allocation and use of money by various departments.

FUNCTIONS OF FINANCE MANAGER

- ✓ Anticipate the finance requirement.
- ✓ Selection of right source
- ✓ Allocation of funds
- ✓ Analysis of the financial performance
- ✓ Administration of financial activities
- ✓ Protection of interest of investors and creditors

CHANGING ROLE OF FINANCE MANAGER

Traditional Role

- ✓ Primary market
- ✓ Secondary market
- ✓ Financial institutions
- ✓ Leverages
- ✓ Capital structure
- ✓ Deployment of funds
- ✓ Capital budgeting
- ✓ Working capital management
- ✓ Dividend decisions

New Role

- ✓ Mergers
- ✓ tax planning
- ✓ Cost reduction strategies
- ✓ access to foreign investment
- ✓ Forex management
- ✓ information technology
- ✓ Communication network
- ✓ Learning attitude etc.

Functions of Financial Management or the role of Chief Financial Officer (CFO)

The functions of financial management or shortly called financial functions can be summarized into Five A's, viz.,

- ✓ **A**nticipation of Funds required for business (i.e., financial analysis and planning);
- ✓ **A**cquisition of required funds (i.e., Financing and Capital Structure Decisions);
- ✓ **A**llocation of acquired funds (i.e., Investment Decisions);
- ✓ **A**dministration of allocated funds (like working capital management, risk management, etc.,) And
- ✓ **A**ccounting for the funds mobilized and utilized.

While the above mentioned functions are the standard functions to be performed by any financial manager or CFO, in the recent times the role of a CFO has widened. In the current business context, a CFO is supposed to perform the following functions in addition to those stated above:

- ✓ Budgeting
- ✓ Forecasting
- ✓ Managing Mergers and Acquisitions
- ✓ Profitability analysis
- ✓ Pricing analysis
- ✓ Decisions about outsourcing
- ✓ Overseeing the IT function
- ✓ Overseeing the HR function
- ✓ Strategic planning
- ✓ Corporate governance
- ✓ Regulatory compliance
- ✓ Risk management etc.

FUNCTIONAL AREAS OF FINANCIAL MANAGEMENT

1. Estimation of financial requirement
2. Selection of the right sources of funds
3. Allocation of funds
4. Analysis and interpretation of financial performance
5. Analysis of cost volume profit
6. Capital budgeting
7. Working capital budgeting
8. Profit planning and control
9. Fair return to the investors
10. Maintaining liquidity and wealth maximization

RELATIONSHIP BETWEEN FINANCIAL MANAGEMENT AND OTHER RELATED AREAS

Financial management is integral part of the overall management. FM is not totally independent area. It is related to some of the disciplines namely Economics, Accounting, Marketing and Production

1. Financial Management and Cost Accounting

   Most of the large companies have a separate cost accounting department to monitor expenditure in their operational areas. The cost information is regularly supplied to the management for control purpose. The financial manager is concerned with the proper utilization of funds and therefore he is rightly concerned with the operational costs of the firm. The information supplied by cost accounting department is most important to him and he makes suitable recommendations to keep costs under control.

2. Financial Management and Marketing

   Marketing is one of the most important area on which the success or failure of the company depends to a great extent. Determination of the appropriate price for the firm's products is of importance both for marketing and finance manager and therefore should be a joint decision of both. The marketing manager provides information as to how different prices will affect the demand for the company's products in the market and the firm's competitive position while the financial manger can supply information about costs, change in cost at different levels of production and the profit margin required to carry on the business. Thus, the financial manager contributes substantially towards formulation of the pricing policies of the firm.

   The finance manager while formulating the credit and collection policies for the firm must consult the marketing manager because these policies affect the magnitude of the sales of the firm, weather to sell for credit, to what extent and on what terms are part of the sales strategy of an enterprise. But they have financial implications too because the funds which will be tied up in receivables must be made available and any change in policies will tie up a large / smaller amount of receivables. Thus, this aspect of business decision involves both finance and marketing.

3. Financial Management and Personnel Management

The recruitment, training and placement of staff are the responsibility of the personnel department. However, all this requires finance and therefore decisions regarding these aspects cannot be taken by the personnel department alone. These decisions require the help of finance department and therefore these decisions are taken in isolation of both the departments.

4. Financial Management and Purchase & Production

Finance is closely related with purchase and production functions. The decisions to determine the level of fixed assets and the different types of such assets for an enterprise is the task of the production department. In the same way the types of goods to be held in the inventory and the amount required for each are a basic part of sales and purchase function.

As these assets and inventory involves risk and long-term funds, they require the special attention of the finance manager. Since finance manager is primarily responsible for supplying funds to finance inventory and fixed assets which must earn sufficient returns to cover the cost involved in procuring funds. He is also directly responsible for the decisions pertaining to acquisition and replacement of assets.

5. Financial Management and Economics

There are two broad areas of economics 1. Macro Economics 2. Micro Economics.

Macroeconomics is concerned with overall institutional environment in which the firm operates. I.e. it looks economy as a whole.

Key macro-economic factors like the growth rate of the economy, the domestic savings rate, the role of the government in economic affairs, tax environment, the nature of external economic relationships, the availability of funds to the corporate sector, the rate of inflation, the real rate of interest, and the terms on which the firm can raise the funds define the environment in which the firm operates. Since the business firm operate in the macro economic environment and the impact of the same on the firm.

Microeconomics deals with the economic decisions of individuals and organizations. The theories of macroeconomics provide for effective operations of business firms.

They are concerned with defining actions which will permit the firms to achieve success.

The finance manager must be familiar with the theories of microeconomics such as

1. Demand and supply relationship and profit maximization strategies.
2. Issues related to the mix of productive factors, optimal sales level and product pricing strategy.
3. Measurement of risk and determination of value.
4. The rational of depreciating assets.

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

6. Financial Management and Accounting

Finance Management and Accounting are quite distinct from each other. Financial accounting is concerned with the recording, reporting and measuring of business transactions. The information provided by financial accounting is used by the finance manager to take decisions in order to achieve the objective of the business organization. Financial accounting is the data collection process dealing with accurate recording and reporting while financial management is a managerial decision making process. Financial accounting is therefore concerned with the measurement of funds while financial management is concerned with the management of funds.

The objective financial accounting is to keep a systematic record of the transactions of the company profit and loss account and balance sheet and prepared by the financial accountant in order to know the results of operations and financial state of affairs.

Financial management on the other hand, is primarily concerned with the task of ensuring that the funds are produced at optimum cost and equally minimum financial risk and it also ensures that the funds are made available at the right time.

Though financial accounting and financial management are quite distinct from each other both have a role to play, which is complementary to the other. This would be clear from the following:

a. P&L account discloses the profit made by the company over a period of time. Earning per share is the concept, which is of the vital interest of the financial manager, which in turn depends on profit. Thus both FA and FM are concerned with the ascertainment of true profit.
b. Determination of dividend policy is generally a function of a finance manager, the figures of profits earned by the enterprise play an important part in determining the amount of dividend.
c. Decisions regarding the expenditure on assets are taken by the finance manager through the technique of capital budgeting. However, it is the accounts department, which feeds the finance manager with the necessary data.
d. One of the important functions of the finance manager is to maintain proper working capital management. For this purpose, cash budget is prepared, inventory level is decided and credit policy of the company is determined. The information required for taking with regard to above is provided by the accounting department.

Thus, although accounting and financial management differ from each other in many respects, yet both of them are a must for every organization as they perform complementary functions to each other.

Factors influencing the financial decisions

There are number of factors that influence the financial decision. The list of important external as well as internal factors influencing the decisions are

External Factors

- ✓ State of the economy
- ✓ Structure of capital and money markets
- ✓ Requirements of investors
- ✓ Government policy
- ✓ Taxation policy
- ✓ Lending policy of financial institutions

Internal Factors

- ✓ Nature and size of business
- ✓ Expected return, cost and risk
- ✓ Composition of assets
- ✓ Structure of ownership
- ✓ Trend of earnings
- ✓ Age of the firm
- ✓ Liquidity position
- ✓ Working capital requirements
- ✓ Conditions of debt agreement

THE AGENCY PROBLEM

An agency relationship occurs when a principal hires an agent to perform some duty. A conflict, known as an "agency problem," arises when there is a conflict of interest between the needs of the principal and the needs of the agent.

In corporate finance, the agency problem usually refers to a conflict of interest between a company's management and the company's stockholders. The manager, acting as the agent for the shareholders, or principals, is supposed to make decisions that will maximize shareholder wealth. However, it is in the manager's own best interest to maximize his own wealth. While it is not possible to eliminate the agency problem completely, the manager can be motivated to act in the shareholders' best interests through incentives such as performance-based compensation, direct influence by shareholders, the threat of firing and the threat of takeovers.

In finance, there are two primary agency relationships:

- Managers and stockholders
- Managers and creditors

1. Stockholders versus Managers

- If the manager owns less than 100% of the firm's common stock, a potential agency problem between mangers and stockholders exists.
- Managers may make decisions that conflict with the best interests of the shareholders. For example, managers may grow their firms to escape a takeover attempt to increase their own job security. However, a takeover may be in the shareholders' best interest.

2. Stockholders versus Creditors

- Creditors decide to loan money to a corporation based on the riskiness of the company, its capital structure and its potential capital structure. All of these factors will affect the company's potential cash flow, which is a creditors' main concern.
- Stockholders, however, have control of such decisions through the managers.
- Since stockholders will make decisions based on their best interests, a potential agency problem exists between the stockholders and creditors. For example, managers could borrow money to repurchase shares to lower the corporation's share base and increase shareholder return. Stockholders will benefit; however, creditors will be concerned given the increase in debt that would affect future cash flows.

Motivating Managers to Act in Shareholders' Best Interests

There are four primary mechanisms for motivating managers to act in stockholders' best interests:

1. Managerial compensation
2. Direct intervention by stockholders
3. Threat of firing
4. Threat of takeovers

1. **Managerial Compensation -** Managerial compensation should be constructed not only to retain competent managers, but to align managers' interests with those of stockholders as much as possible. This is typically done with an annual salary plus performance bonuses and company shares. Company shares are typically distributed to managers either as:
   - Performance shares, where managers will receive a certain number shares based on the company's performance
   - Executive stock options, which allow the manager to purchase shares at a future date and price. With the use of stock options, managers are aligned closer to the interest of the stockholders as they themselves will be stockholders.

2. **Direct Intervention by Stockholders -** Today, the majority of a company's stock is owned by large institutional investors, such as mutual funds and pensions. As such, these large institutional stockholders can exert influence on mangers and, as a result, the firm's operations.
3. **Threat of Firing -** If stockholders are unhappy with current management, they can encourage the existing board of directors to change the existing management, or stockholders may re-elect a new board of directors that will accomplish the task.
4. **Threat of Takeovers -** If a stock price deteriorates because of management's inability to run the company effectively, competitors or stockholders may take a controlling interest in the company and bring in their own managers.

MODULE : 2

TIME VALUE OF MONEY

Introduction

Investment decision is made on the basis of sound financial arithmetic's. Investment involves parting with money and taking some risk. Money has many alternative uses and the return vary with the risk taken. Thus investment in risk free assets like bank deposits require a minimum rate of return, called risk free rate of return. The risk free rate of return is thus the minimum rate of return on investment, required, if that investment is to be. The main objective of this module is to equip the readers with the basic knowledge of the arithmetic's of the finance i.e. the time value of money.

An investment decision taken today has implications for a number of years i.e. it spread into future. For example, if an individual want to acquire some financial assets than he has to pay a certain sum of money. The benefits arising out of the acquisition of such assets. Here the investor will invest first i.e. cash outflow is taking place today and we receive benefits in the future i.e. cash inflow will occur in the future at different time periods. Therefore, two variables should be strictly comparable to have meaningful comparison. One basic requirement of comparability is the incorporation of the time element in the calculations.

In other words, in order to have a logical and meaningful comparison between cash inflows that accrue at different periods it is necessary to convert sums of money to a common point of time.

CONCEPT OF TIME VALUE OF MONEY

'The simple concept of TVM means that the value of the sum of money received today is more than the value of money received after certain period' i.e. the sum of money received in future is less valuable than it is today.

In other words, the present worth of a rupee received after some period of time will be less than a rupee received today. In other words, money received in the future is not as

valuable as the money received today. **TVM is also referred to as time preference for money**

The main reason for TPM is to be found in the reinvestment opportunities for funds, which are received earlier. The funds so invested will earn rate of return, which will not be possible in case they are received later. The TPM is, therefore expressed generally in terms of a rate of return or more popularly known as Discount Rate. The TVM will vary from individual to individual depending upon his perception.

Need / Reasons for Time Value of Money

- ✓ Reinvestment opportunities
- ✓ Uncertain
- ✓ Inflation
- ✓ Personal consumption preference

COMPONENTS OF TIME VALUE OF MONEY

Broadly, time value of money has three aspects, viz.,

- ✓ Compounded Value
- ✓ Present Value
- ✓ Indexed Value

Compounded Value refers to the future value of present money. The process of calculating future value of present money is called Compounding.

Present Value refers to the present value of future money. The process of calculating present value of future money is called Discounting.

Indexed Value refers to the present value of past money. The process of calculating present value of past money is called Indexing.

Relevance of Time Value of Money in Financial Decisions

Any decision in the business, especially financial decisions are related to future course of operations and activities. Expenditure incurred at present would result in incomes over a

future period of time and vice-versa. Since, the value of money differs with passage of time, considering the present money and future money in equivalent terms is not correct. Hence, there is a need for time value of money in making financial decisions.

Incomes earned in the past and / or expenses incurred in the past period are irrelevant for decision-making purposes. Hence, from financial perspective only Compounding and Discounting are relevant.

Various terms and concepts relating to time value of money

1. **Compounding:** It refers to finding the future value of present inflow or outflow. That is, it refers to the amount receivable at the end of a given period, for an investment made today; or the amount payable at the end of a given period for a borrowing today.
2. **Continuous Compounding:** Where the interest on investment or loan is calculated for a period less than one year, then the calculation of amount receivable or payable at the end of a given period is called continuous compounding.
3. **Effective Rate of Interest:** It refers to the rate of interest actually earned or paid when interest is charged or collected for a period less than one year (i.e., in case of continuous compounding).
4. **Discounting:** It refers to finding the present value of future inflow or outflow. That is, it refers to the value of money in today's terms of inflows or outflows occurring over a future period of time.
5. **Annuity:** It refers to same amount of inflows or outflows, received or paid in regular intervals, for a given period of time. Examples of annuity are: Payment of Insurance Premium, Payment of Equated Installments on loan borrowed, investment in recurring deposit scheme; investment in Systematic Investment Plans of Mutual Fund Schemes etc.

   The total amount receivable or payable at the end of the annuity scheme is called 'terminal value of annuity' or 'future value of an annuity'.

   The present value of the inflows or outflows in an annuity scheme is called 'present value of annuity'.

6. **Growing Annuity:** It refers to inflows or outflows which grow at a constant rate, received or paid in regular intervals, for a given period of time.

   The present value of the inflows or outflows in a growing annuity scheme is called 'present value of growing annuity'.

7. **Perpetuity:** It refers to same amount of inflows or outflows, received or paid in regular intervals, forever. A simple example for perpetuity is pension received after retirement by an employee or amount received from Pension Fund Scheme.

   The present value of the inflows or outflows in a perpetuity scheme is called 'present value of perpetuity'.

8. **Growing Perpetuity:** It refers to inflows or outflows which grow at a constant rate, received or paid in regular intervals, forever. The present value of the inflows or outflows in a growing perpetuity scheme is called 'present value of growing perpetuity'.

TECHNIQUES OF TIME VALUE OF MONEY

In order to have logical and meaningful comparisons between cash flows that result in different time periods it is necessary to convert the sums of money to a common point in time. They are 1. Compounding and 2. Discounting 3. Indexed Values

1. COMPOUNDING TECHNIQUE:

In case of this concept, the interest earned on the initial principle becomes a part of principal at the end of the compounding period. In other words, interest is compounded when the amount earned on an initial deposit becomes part of the principal at the end of the first compound period.

In simple the term itself merely implies that interest earned (paid) on investment (loan) is periodically added to the principal. As a result, interest earned on interest as well as the initial principal. It is this interest o interest or compounding.

$$FV = P + P\,(i)\,(n)$$

Compounding over number of years

The returns from the investment are generally spread over a number of years.

$$A = P (1 + i)^n$$

Where

A = Amount at the end of period 'n'

P = Principal at the beginning of the period

i = Interest rate

n = number of years.

SEMI ANNUAL COMPOUNDING

Interest can be compounded even more than once in a year. Saving institutions, particularly, compound interest semi annually, quarterly and even monthly. Semi Annual means that there are two compounding periods with in the year, interest is actually paid after every six months at a rate of half of the annual rate of interest.

QUARTERLY COMPOUNDING

Means that there are four compounding period with in a year. Instead of paying the interest once a year, it is paid in four equal installments after every 3 months.

$$A = P (1 + i/f)^{f*n}$$

Where,

A = Amount after a period

P = Principal at the beginning of the period

i = Interest rate

n = number of years for which the compounding is done.

f = number of times per year a compounding is made.

Continuous Compounding : $A = P(1+i/f)nXf$

FUTURE VALUE OF SERIES OF CASH FLOWS

An investor investing money in installments may wish to know the value of saving after 'n' years i.e. the investor may be interested in the future value of a series of payments made at different time periods.

COMPOUND SUM OF AN ANNUITY.

An annuity is a stream of equal annual cash flows. Annuities involve calculations based upon the regular periodic contribution or receipt of a fixed stream of sum of money. The term annuity does not necessarily apply to equal annual cash inflows even monthly or quarterly equal cash inflows occurring at equal intervals are termed as annuity.

This can be calculated with the following formula

$$\text{Future Value of Annuity} = P[(1+i)n - 1] / i$$

Sn = IF x A

Sn = Compound sum of an annuity

IF =the appropriate factor for sum of annuity for Re 1

A = the value of annuity.

DOUBLING PERIOD

Compound Factor table can be easily used to calculate the doubling period. i.e. the length of period which an amount is going to double at a certain given rate of interest.

Doubling Period can also be calculated by adopting the following Rules of Thumb

Rule of 72

Doubling Period = 72 / Rate of Interest

Rule of 69

Doubling Period = 0.35 + 69 / Rate of Interest

2. PRESENT VALUES OR DISCOUNTING CONCEPT –

Present value concept is exactly opposite of the compounding technique. In case compounding technique we calculate the future value of sum of money or series of payment, while in case of present value concept, we estimate the present worth of a future payment adjusted for time value of money. The basis for present value approach is that opportunity cost exists for money lying idle i.e. to say, that interest can be earned.

$$PV = A / (1 + K)^{n}$$

Present value of series of payment

In a business situation, it is very natural that returns received by a firm are spread over a number of years. An investment made now may fetch returns for a period after some time. Any investor will like to know whether it is worth to invest or forego a certain sum now, in anticipation of returns he will earn over a number of years. In order to take this decision, he will need to equate the total anticipated future returns, to the present sum he is going to sacrifices. To estimate the present value of future series of return, to the present value of each expected inflow is calculated.

$$P = \frac{A1}{(1+K)^1} + \frac{A2}{(1+K)^2} + \frac{A3}{(1+K)^3} + \cdots + \frac{An}{(1+K)^n}$$

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

Pv = Sum of individual present values of each cash flow

A1, A2, A3 cash inflows after period 1, 2, 3 etc

K= Discounting rate

PRESENT VALUE OF ANNUITY

An Annuity is a stream of equal annul cash flows. Annuities involve calculations based upon the regular periodic contribution or receipt of a fixed sum of money.

$$PV_{An} = A \times ADF$$

PV_{An} = Present Value of 'n' annuity.

A = Value of a single installment

ADF = Annuity discount factor

Present Value of Annuity = P[1-{1/(1+i)n}] / i

PRESENT VALUE OF GROWING ANNUITY

The present value of a growing annuity formula calculates the present day value of a series of future periodic payments that grow at a proportionate rate. A growing annuity may sometimes be referred to as an increasing annuity. A simple example of a growing annuity would be an individual who receives $100 the first year and successive payments increase by 10% per year for a total of three years. This would be a receipt of $100, $110, and $121, respectively.

The present value of a growing annuity formula relies on the concept of time value of money. The premise to this concept is that a specific quantity of money is worth more today than at a future time.

Like all financial formulas that involve a rate, it is important to correlate the rate per period to the number of periods in the present value of a growing annuity formula. If the payments are monthly, then the rate would need to be the monthly rate.

$$\frac{P}{r-g}\left[1-\left(\frac{1+g}{1+r}\right)^{n}\right]$$

$$P = First\ Payment$$
$$r = rate\ per\ period$$
$$g = growth\ rate$$
$$n = number\ of\ periods$$

Present Value of Growing Annuity = P1 [{1-(1+g)n/(1+i)n}/(i-g)]

PRESENT VALUE OF PERPETUAL ANNUITY

A person may like to find out the present value of his investment in case, he is going to get a constant return year after year. An annuity of this kind which goes on forever is called perpetuity. Ex. Scholarships given to students in colleges and schools.

PV of Perpetual Annuity = P / K

P = Value of single investment

K = Discount factor

PRESENT VALUE OF GROWING PERPETUITY:

The present value of a growing perpetuity formula is the cash flow after the first period divided by the difference between the discount rate and the growth rate.

A growing perpetuity is a series of periodic payments that grow at a proportionate rate and are received for an infinite amount of time. An example of when the present value of a growing perpetuity formula may be used is commercial real estate. The rental cash flows could be considered indefinite and will grow over time.

It is important to note that the discount rate must be higher than the growth rate when using the present value of a growing perpetuity formula. This is due to the present value of a growing perpetuity formula being an infinite geometric series as explained in one of the following sections. In theory, if the growth rate is higher than the discount rate, the growing perpetuity would have an infinite value.

$$PV\ of\ Growing\ Perpetuity = \frac{D_1}{r-g}$$

$D = Dividend\ or\ Coupon\ at\ period\ 1$
$r = discount\ rate$
$g = growth\ rate$

Present Value of Growing Perpetuity = P1 / (i-g)

EFFECTIVE RATE OF INTEREST

The effective interest rate is the true rate of interest earned. It could also be referred to as the market interest rate, the yield to maturity, the discount rate, the internal rate of return, the annual percentage rate (APR), and the targeted or required interest rate.

The **effective interest rate**, **effective annual interest rate**, **annual equivalent rate (AER)** or simply **effective rate** is the interest rate on a loan or financial product restated from

the nominal interest rate as an interest rate with annual compound interest payable in arrears.

It is used to compare the annual interest between loans with different compounding terms (daily, monthly, annually, or other). The effective interest rate differs in two important respects from the annual percentage rate (APR):

1) the effective interest rate generally does not incorporate one-time charges such as front-end fees;
2) the effective interest rate is (generally) not defined by legal or regulatory authorities (as APR is in many jurisdictions).

By contrast, the effective APR is used as a legal term, where front-fees and other costs can be included, as defined by local law.

Annual percentage yield or effective annual yield is the analogous concept used for savings or investment products, such as a certificate of deposit. Since any loan is an investment product for the lender, the terms may be used to apply to the same transaction, depending on the point of view.

Effective annual interest or yield may be calculated or applied differently depending on the circumstances, and the definition should be studied carefully. For example, a bank may refer to the yield on a loan portfolio after expected losses as its effective yield and include income from other fees, meaning that the interest paid by each borrower may differ substantially from the bank's effective yield.

Calculation

The effective interest rate is calculated as if compounded annually. The effective rate is calculated in the following way, where *r* is the effective annual rate, *i* the nominal rate, and *n* the number of compounding periods per year (for example, 12 for monthly compounding):

$$r = \left(1 + \frac{i}{n}\right)^n - 1$$

For example, a nominal interest rate of 6% compounded monthly is equivalent to an effective interest rate of 6.17%. 6% compounded monthly is credited as 6%/12 = 0.005 every month. After one year, the initial capital is increased by the factor $(1 + 0.005)^{12} \approx 1.0617$.

When the frequency of compounding is increased up to infinity the calculation will be:

$$r = e^i - 1$$

The yield depends on the frequency of compounding:

Effective Rate of Interest = (1+i/f)f – 1

Formulae for calculation of time value of money

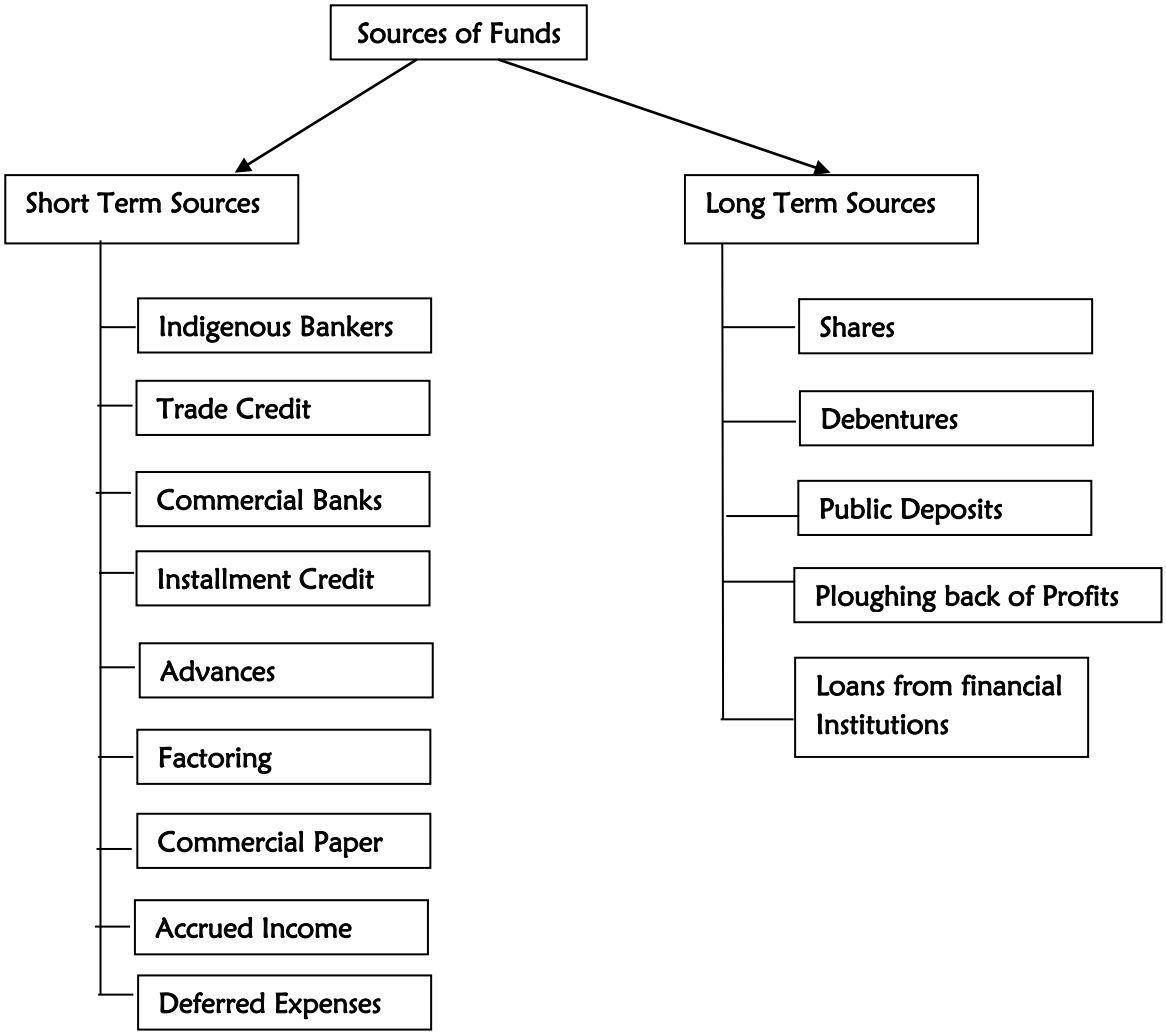
1. Compounding (Future Value) = **A = P(1+i)n**
2. Continuous Compounding = **A = P(1+i/f)nXf**
3. Effective Rate of Interest = **(1+i/f)f – 1**
4. Discounting (Present Value) = **P = A/(1+i)n**
5. Future Value of Annuity = **P[(i+i)n – 1] / i**
6. Present Value of Annuity = **P[1-{1/(1+i)n}] / i**
7. Present Value of Growing Annuity = **P1 [{1-(1+g)n/(1+i)n}/(i-g)]**
8. Present Value of Perpetuity = **P / i**
9. Present Value of Growing Perpetuity = **P1 / (i-g)**
10. Doubling Period:
    a. Rule 72 = **72/i**
    b. Rule 69 = **0.35 + (69/i)**

MODULE 4

COST OF CAPITAL AND CAPITAL STRUCTURE

SOURCES OF FUNDS

A company needs funds to meet its diverse types of financial needs. There are several sources available for the company to raise the required money. Before the company raises the money, the company must find what is the amount of money which the company requires which vary with the type and size of the company. The basic principle is that short term financial needs should be met from short term sources and long term financial needs from the long term sources. The business relies upon the following short term and long term sources of finance.



Short Term Sources of Funds

To finance temporary working capital, short term capital is required for a short period, normally not exceeding one year. The principal sources are :

- ✓ Indigenous Bankers
- ✓ Trade credit from suppliers
- ✓ Bank credit (Commercial Banks)
- ✓ Purchasing and discounting of bills
- ✓ Installment
- ✓ Advances from the customers
- ✓ Factoring
- ✓ Commercial Papers
- ✓ Accrued Expenses
- ✓ Deferred incomes

Indigenous Bankers - According to the Indian Banking Enquiry committee an indigenous banker or bank is defined as an individual or private firm which receives deposits, deals in hundies or engages itself in lending money.

Trade credit from suppliers -

- ✓ It is the credit which the firms get from its suppliers. It does not make available the funds in cash, but it facilitates the purchase of supplies without immediate payment.
- ✓ No interest is payable on the trade credits.
- ✓ The period of trade credit depends upon nature of product, location of the customer, degree of compensation in the market, financial resources of the suppliers and the eagerness of suppliers to sell his stocks.

Bank credit (Commercial Banks) -

- ✓ Commercial Banks are the most important sources of short term capital.
- ✓ The major portion of working capital loans are provided by commercial banks.
- ✓ They provide variety of loans to meet specific requirements of a concern.
- ✓ The different forms of credit provided by the commercial banks are :

Loans - When a bank makes an advance in lump sum against some security is called a loan. In case of loan, the bank sanctions specified amount to the customers. The customers are required to pay interest on the same. Loan may be repayable in lump sum or in installments.

Cash credits - Cash credit refers to an arrangement whereby the bank allows the borrower to draw money from time to time within a specified limit. The cash credit facility is generated against the pledge or hypothecation of stock or pledge of marketable instruments etc. during the period of credit, the borrower can draw and

repay again draw the amount within the sanctioned limit. Interest is charged only on the amount with drawn for the actual period of use. Cash credit may be secured credit and clean cash credit.

Overdrafts - Overdraft is a financial agreement with a bank by which a current account holder is allowed to withdraw more than the balance to his credit up to a certain limit. Interest is charged on daily overdrawn balances. The main difference between cash credit and overdraft is that overdraft is allowed for a short period and is temporary arrangement whereas the cash credit is allowed for a long period.

Purchasing and discounting of bills -

- ✓ Purchasing and discounting of bills is the most important form in which a bank lends without any collateral security.
- ✓ The seller draws bills of exchange on the buyer of goods on credit.
- ✓ The bill is accompanied by documents of title of goods. The bank purchases the bills payable on demand and credits the customer's account with the amount of bill less discount.
- ✓ At the maturity of the bills, the bank presents the bill to the acceptor for payment.
- ✓ In case the bill discounted is dishonored by nonpayment, the bank recovers the full amount of the bill from the customer along with the expenses in that connection.

Installment -

- ✓ Under this method, the assets are purchased and the possession of goods is taken immediately but the payment is made in installments over a pre-determined period of time.
- ✓ Generally, interest is charged on the unpaid price or it may be adjusted in the price.

Advances from the customers -

- ✓ Some business houses get advances from their customers against orders and this source is a short term sources of finance for them.
- ✓ It is a cheap sources of finance and in order to minimize their investment in working capital, some firms having long production cycle, especially the firms manufacturing industrial products prefer to take advances from their customers.

Factoring -

- ✓ Factoring is a financial option for the management of receivables.
- ✓ In simple definition it is the conversion of credit sales into cash.
- ✓ In factoring, a financial institution buys the accounts receivable of a company (client) and pays up to 80% of the amount immediately on agreement.
- ✓ Factoring company pays the remaining amount to the client when the customer pays the debt.
- ✓ Collection of debt from the customer is done either by the factor or the client depending upon the type of factoring.

Commercial Papers -

- ✓ Commercial paper represents unsecured promissory notes issued by firms to raise short term funds.
- ✓ It is an important money market instrument in advance countries like USA.
- ✓ In India, the RBI introduced commercial paper in the Indian money market on the recommendations of the Vaghul Committee on working capital.
- ✓ But only large companies enjoying high credit rating and sound financial health can issue commercial paper to raise short term funds.
- ✓ Only a company which is listed on the stock exchange has a net worth of at least Rs. 10 crores and a maximum permissible bank finance of Rs. 25 crores can issue commercial paper not exceeding 30% of its working capital limit.
- ✓ The maturity period of commercial paper, in India, mostly ranges from 91 days to 180 days it is sold at a discount from its face value and redeemed at face value on its maturity.
- ✓ Commercial paper is usually bought by investors including banks, insurance companies, unit trust and firms to invest surplus funds for a short period.

Accrued Expenses -

- ✓ Accrued expenses are the expenses which have been incurred but not yet due and hence not yet paid.
- ✓ These simply represent liability that a firm has to pay for the services already received by it.
- ✓ The most important items of accruals are wages and salaries, interest and taxes.

Deferred incomes -

- ✓ Deferred incomes are incomes received in advance before supplying goods or services.
- ✓ They represent funds received by a firm for which it has to supply goods or services in future.
- ✓ Firms having great demand for its products and services and those having good reputation in market can demand deferred incomes.

LONG TERM SOURCES

When the firm wants to invest in long-term assets, it must find the means to finance them. The firm can rely on funds generated internally to some extent, however, in most of the cases internal sources are not enough to support investment plans. When that happens the firm may have to seek external financing. A company might raise new funds from the following sources:

- ✓ The capital markets:
  - i) New share issues, for example, by companies acquiring a stock market listing for the first time
  - ii) Rights issues
- ✓ Loan stock
- ✓ Retained earnings
- ✓ Bank borrowing
- ✓ Government sources
- ✓ Business expansion scheme funds
- ✓ Venture capital
- ✓ Franchising

SHARES

Shares are the most common or universal form of rising long-term funds. Every company in India generally uses this method.

Meaning of shares - A share may be defined as one of the units into which the share capital of a company has been divided.

According to section 2 (46) of the Companies Act, "A share is the share in the share capital of a company and includes stock except where a distinction between stock and share is expressed or implied".

EQUITY SHARES:

Ordinary or common shares represent the ownership in a company. The holders of ordinary shares are called shareholders and are the owners of the company. Equity shares are the sources of permanent capital since they do not have a maturity date. Equity shareholders are entitled for the dividends. The amount or rate of dividend is not fixed and it is fixed by the company's board of directors. Therefore, equity shares are known as variable income securities. Being the owners of the company, shareholders bear the risk of ownership.

Features of Equity shares

Ordinary share has a number of special features, which distinguish it from the other securities. These features generally relate to the rights and claims of equity shareholder:

- Maturity
- Claims on assets
- Voting rights
- Limited liability
- Claims on income
- Right of control
- Preemptive right

Advantages

1. Since equity shares are not redeemable, the company has no liability for cash flow associated with its redemption. It is a permanent capital, and is available for use as long as the company goes.
2. A company is not legally obligated to pay dividends. In times of financial difficulties, it can reduce or suspend the payment of dividend. Thus it can avoid cash flows associated with ordinary shares in practice.
3. Equity shares do not carry any charge against the assets of the company hence the capacity of the company to raise additional funds through borrowing on the security is no way diminished.
4. The company does not face the risk of magnifying the losses in the periods of adversity.
5. Financing through equity shares also provides the company with sufficient flexibility in the utilization of its profits and funds. Since neither the payment of dividend is compulsory nor any provision is to be made for repayment of capital.

Disadvantages

1. Equity shares from the point of view of investors as there is uncertainty regarding the dividend.
2. From the companies point of view it is one of the highest cost of sources.
3. The issue of new equity shares dilutes the earning per share.
4. The issue of the new equity shares dilutes the ownership rights and control of the existing shareholders.
5. The cost of underwriting and distributing the equity share capital is generally higher than for preference shares and debentures.

New shares issues - A company seeking to obtain additional equity funds may be:

a. An unquoted company wishing to obtain a Stock Exchange quotation
b. An unquoted company wishing to issue new shares, but without obtaining a Stock Exchange quotation
c. A company, which is already listed on the Stock Exchange wishing to issue additional new shares.

RIGHTS ISSUES -

A rights issue provides a way of raising new share capital by means of an offer to existing shareholders, inviting them to subscribe cash for new shares in proportion to their existing holdings.

For example, a rights issue on a one-for-four basis at 280c per share would mean that a company is inviting its existing shareholders to subscribe for one new share for every four shares they hold, at a price of 280c per new share.

A company making a rights issue must set a price which is low enough to secure the acceptance of shareholders, who are being asked to provide extra funds, but not too low, so as to avoid excessive dilution of the earnings per share.

Advantages

- ✓ The existing shareholders control is maintained
- ✓ Less flotation cost
- ✓ The issue will be more successful

Disadvantages

- ✓ Decline in wealth of the shareholders
- ✓ Sometimes the companies shareholding is concentrated in the hands of financial institutions

PREFERENCE SHARES

Preference shares have a fixed percentage dividend before any dividend is paid to the ordinary shareholders. As with ordinary shares a preference dividend can only be paid if sufficient distributable profits are available, although with 'cumulative' preference shares the right to an unpaid dividend is carried forward to later years. The arrears of dividend on cumulative preference shares must be paid before any dividend is paid to the ordinary shareholders.

Features of Preference shares

- ✓ Claims on the income and assets
- ✓ Cumulative dividend
- ✓ Sinking fund
- ✓ Participation feature
- ✓ Convertibility
- ✓ Fixed dividend
- ✓ Redemption
- ✓ Call feature
- ✓ Voting right

Kinds of Preference shares

- ✓ Cumulative and non cumulative preference shares
- ✓ Participating and non participating preference shares
- ✓ Convertible and non convertible preference shares
- ✓ Redeemable and non redeemable preference shares

Difference between Preference shares and equity shares

1. The face value of the preference share is relatively higher than that of equity share in general.
2. Preference shares have priority over equity shares in the repayment of capital in the event of winding up of the company.
3. The dividend paid to preference shareholders is fixed in nature while the dividend paid on equity shares varies from year to year.
4. The rate of dividend in preference share is generally fixed by the Articles of association, but the rate of dividend on equity share is dependent on the discretion of the BOD.

5. Preference shares cannot participate in surplus profits where as Equity shares can participate in surplus profits.
6. Cumulative Preference shares can get arrears of dividend but Equity share cannot get arrears of dividend.
7. The dividend paid to Preference shareholders is fixed where as dividend paid to Equity shareholders is fluctuating.
8. Redeemable Preference shares are redeemable in nature where as Equity shares are not redeemable in nature.
9. Preference shareholders do not have voting rights but Equity shareholders have voting rights.
10. A preference shareholder does not have much control over the management of the company while Equity shareholders have control over the management of the company.
11. Preference shareholders are not the real owners of the company while Equity shareholders are the owners of the company.
12. Preference shares provide long term and medium term capital but Equity shares provide long-term finance.

LOAN STOCK

Loan stock is long-term debt capital raised by a company for which interest is paid, usually half yearly and at a fixed rate. Holders of loan stock are therefore long-term creditors of the company.

Loan stock has a nominal value, which is the debt owed by the company, and interest is paid at a stated "coupon yield" on this amount. For example, if a company issues 10% loan stocky the coupon yield will be 10% of the nominal value of the stock, so that $100 of stock will receive $10 interest each year. The rate quoted is the gross rate, before tax.

Debentures are a form of loan stock, legally defined as the written acknowledgement of a debt incurred by a company, normally containing provisions about the payment of interest and the eventual repayment of capital.

DEBENTURES

A debenture is a long-term promissory note for raising loan capital. The firm promises to pay interest and principal as stipulated. The purchasers of debentures are called debenture holders. An alternative form of debenture in India is bond.

Features

- Interest rate
- Redemption
- Security
- Maturity
- Indenture
- Claims on assets

Types

1. Convertible and non convertible
2. Redeemable and non redeemable and
3. Secured and unsecured

Debentures with a floating rate of interest

These are debentures for which the coupon rate of interest can be changed by the issuer, in accordance with changes in market rates of interest. They may be attractive to both lenders and borrowers when interest rates are volatile.

Security - Loan stock and debentures will often be *secured.* Security may take the form of either a *fixed charge* or a *floating charge.*

a) **Fixed charge;** Security would be related to a specific asset or group of assets, typically land and buildings. The company would be unable to dispose of the asset without providing a substitute asset for security, or without the lender's consent.

b) **Floating charge;** With a floating charge on certain assets of the company (for example, stocks and debtors), the lender's security in the event of a default payment is whatever assets of the appropriate class the company then owns (provided that another lender does not have a prior charge on the assets). The company would be able, however, to dispose of its assets as it chose until a default took place. In the event of a default, the lender would probably appoint a receiver to run the company rather than lay claim to a particular asset.

Difference between Shares and Debentures

1. A shareholder is a joint owner of the firm but a debenture holder is only the creditor of the firm.
2. The debenture holders will receive the interest due to him whether or not the company has made a profit, but the shareholders will not receive any dividend if the company has incurred the losses. Even if the company has made profits, the payment of dividend normally depends upon the discretion of the BOD.

3. The amount of debentures must be repaid in accordance with the terms of issue, but except in case of preference shares (redeemable) the share capital will be repaid without legal formalities.
4. In case of the winding up of the company, the amount of debentures must be repaid before any amount is paid to preference shareholders and equity shareholders.

RETAINED EARNINGS

For any company, the amount of earnings retained within the business has a direct impact on the amount of dividends. Profit re-invested as retained earnings is profit that could have been paid as a dividend. The major reasons for using retained earnings to finance new investments, rather than to pay higher dividends and then raise new equity for the new investments, are as follows:

a. The management of many companies believes that retained earnings are funds, which do not cost anything, although this is not true. However, it is true that the use of retained earnings as a source of funds does not lead to a payment of cash.
b. The dividend policy of the company is in practice determined by the directors. From their standpoint, retained earnings are an attractive source of finance because investment projects can be undertaken without involving either the shareholders or any outsiders.
c. The use of retained earnings as opposed to new shares or debentures avoids issue costs.
d. The use of retained earnings avoids the possibility of a change in control resulting from an issue of new shares.

Another factor that may be of importance is the financial and taxation position of the company's shareholders. If, for example, because of taxation considerations, they would rather make a capital profit (which will only be taxed when shares are sold) than receive current income, then finance through retained earnings would be preferred to other methods.

BANK LENDING

Borrowings from banks are an important source of finance to companies. Bank lending is still mainly short term, although medium-term lending is quite common these days.

Short term lending may be in the form of:

a. An overdraft, which a company should keep within a limit, set by the bank. Interest is charged (at a variable rate) on the amount by which the company is overdrawn from day to day;
b. A short-term loan, for up to three years.

c. Medium-term loans are loans for a period of from three to ten years. The rate of interest charged on medium-term bank lending to large companies will be a set margin, with the size of the margin depending on the credit standing and riskiness of the borrower. A loan may have a fixed rate of interest or a variable interest rate, so that the rate of interest charged will be adjusted every three, six, nine or twelve months in line with recent movements in the Base Lending Rate.

Lending to smaller companies will be at a margin above the bank's base rate and at either a variable or fixed rate of interest. Lending on overdraft is always at a variable rate. A loan at a variable rate of interest is sometimes referred to as a *floating rate loan.* Longer-term bank loans will sometimes be available, usually for the purchase of property, where the loan takes the form of a mortgage. When a banker is asked by a business customer for a loan or overdraft facility, he will consider several factors, known commonly by the mnemonic **PARTS.**

- **P**urpose
- **A**mount
- **R**epayment
- **T**erm
- **S**ecurity

P	The purpose of the loan A loan request will be refused if the purpose of the loan is not acceptable to the bank.
A	The amount of the loan. The customer must state exactly how much he wants to borrow. The banker must verify, as far as he is able to do so, that the amount required to make the proposed investment has been estimated correctly.
R	How will the loan be repaid? Will the customer be able to obtain sufficient income to make the necessary repayments?
T	What would be the duration of the loan? Traditionally, banks have offered short-term loans and overdrafts, although medium-term loans are now quite common.
S	Does the loan require security? If so, is the proposed security adequate?

LEASING

A lease is an agreement between two parties, the "lessor" and the "lessee". The lessor owns a capital asset, but allows the lessee to use it. The lessee makes payments under the terms of the lease to the lessor, for a specified period of time.

Leasing is, therefore, a form of rental. Leased assets have usually been plant and machinery, cars and commercial vehicles, but might also be computers and office equipment. There are two basic forms of lease: "operating leases" and "finance leases".

Operating leases

Operating leases are rental agreements between the lessor and the lessee whereby:

a. The lessor supplies the equipment to the lessee
b. The lessor is responsible for servicing and maintaining the leased equipment
c. The period of the lease is fairly short, less than the economic life of the asset, so that at the end of the lease agreement, the lessor can either
    i) Lease the equipment to someone else, and obtain a good rent for it, or
    ii) Sell the equipment secondhand.

Finance leases

Finance leases are lease agreements between the user of the leased asset (the lessee) and a provider of finance (the lessor) for most, or all, of the assets expected useful life.

Suppose that a company decides to obtain a company car and finance the acquisition by means of a finance lease. A car dealer will supply the car. A finance house will agree to act as lessor in a finance leasing arrangement, and so will purchase the car from the dealer and lease it to the company. The company will take possession of the car from the car dealer, and make regular payments (monthly, quarterly, six monthly or annually) to the finance house under the terms of the lease.

HIRE PURCHASE

Hire purchase is a form of installment credit. Hire purchase is similar to leasing, with the exception that ownership of the goods passes to the hire purchase customer on payment of the final credit installment, whereas a lessee never becomes the owner of the goods.

Hire purchase agreements usually involve a finance house.

i. The supplier sells the goods to the finance house.
ii. The supplier delivers the goods to the customer who will eventually purchase them.

iii. The hire purchase arrangement exists between the finance house and the customer.

The finance house will always insist that the hirer should pay a deposit towards the purchase price. The size of the deposit will depend on the finance company's policy and its assessment of the hirer. This is in contrast to a finance lease, where the lessee might not be required to make any large initial payment.

An industrial or commercial business can use hire purchase as a source of finance. With industrial hire purchase, a business customer obtains hire purchase finance from a finance house in order to purchase the fixed asset. Goods bought by businesses on hire purchase include company vehicles, plant and machinery, office equipment and farming machinery.

FRANCHISING

Franchising is a method of expanding business on less capital than would otherwise be needed. For suitable businesses, it is an alternative to raising extra capital for growth. Franchisors include Budget Rent-a-Car, Wimpy, Nando's Chicken and Chicken Inn.

Under a franchising arrangement, a franchisee pays a franchisor for the right to operate a local business, under the franchisor's trade name. The franchisor must bear certain costs (possibly for architect's work, establishment costs, legal costs, marketing costs and the cost of other support services) and will charge the franchisee an initial franchise fee to cover set-up costs, relying on the subsequent regular payments by the franchisee for an operating profit. These regular payments will usually be a percentage of the franchisee's turnover.

Although the franchisor will probably pay a large part of the initial investment cost of a franchisee's outlet, the franchisee will be expected to contribute a share of the investment himself. The franchisor may well help the franchisee to obtain loan capital to provide his-share of the investment cost.

Venture Capital

The term 'Venture Capital' is understood in many ways. In a narrow sense it refers to, investment in new and tried enterprises that are lacking a stable record of growth. In a broader sense, venture capital refers to the commitment of capital as shareholding for the formulation and setting up of small firms specializing in new ideas or new technologies.

Venture Capital Financing:

It generally involves start up financing to help technically sound, globally competitive and potential projects to compete in the international markets with the high quality and reasonable cost aspects. The growth of South East Asian economies especially Hong Kong, Singapore, South Korea, Malaysia along with India has been due to the large pool of Venture Capital funds from domestic / offshore arenas.

Venture Capitalists draw their investment funds from a pool of money raised from public and private investors. These funds are deployed generally as equity capital (ordinary and preference shares) and sometimes as subordinated debt which is a semi secured investment in the company (through debenture) ranking below the secured lenders that often requires periodic repayment. Today, a VC deal can involve common equity, convertible preferred equity and subordinated debt in different proportions.

The Venture Capital funding varies across the different stages of growth of a firm. The various stages are

1. **Pre seed Stage:** Here, a relatively small amount of capital is provided to an entrepreneur to conceive and market a potential idea having good future prospects. The funded work also involves product development to some extent
2. **Seed Stage:** Financing is provided to complete product development and commence initial marketing formalities.
3. **Early Stage / First Stage:** Finance is provided to companies to initiate commercial manufacturing and sales.
4. **Second Stage:** In the Second Stage of Financing working capital is provided for the expansion of the company in terms of growing accounts receivable and inventory.
5. **Third Stage:** Funds provided for major expansion of a company having increasing sales volume. This stage is met when the firm crosses the breakeven point.
6. **Bridge / Mezzanine financing or Later Stage Financing:** Bridge / Mezzanine Financing or Later Stage Financing is financing a company just before its IPO (Initial Public Offer). Often, bridge finance is structured so that it can be repaid, from the proceeds of a public offering.

There are basically four key elements in financing of ventures which are studied in depth by the venture capitalists. These are :

1. **Management:** The strength, expertise & unity of the key people on the board bring significant credibility to the company. The members are to be mature, experienced possessing working knowledge of business and capable of taking potentially high risks.
2. **Potential for Capital Gain:** An above average rate of return of about 30 - 40% is required by venture capitalists. The rate of return also depends upon the stage of the business cycle where funds are being deployed. Earlier the stage, higher is the risk and hence the return.
3. **Realistic Financial Requirement and Projections:** The venture capitalist requires a realistic view about the present health of the organization as well as future projections regarding scope, nature and performance of the company in terms of scale of operations, operating profit and further costs related to product development through Research & Development.
4. **Owner's Financial Stake:** The financial resources owned & committed by the entrepreneur/ owner in the business including the funds invested by family, friends and relatives play a very important role in increasing the viability of the business. It is an important avenue where the venture capitalist keeps an open eye.

Problems of Venture Capital Financing:

VCF is in its nascent stages in India. The emerging scenario of global competitiveness has put an immense pressure on the industrial sector to improve the quality level with minimization of cost of products by making use of latest technological skills. The implication is to obtain adequate financing along with the necessary hi-tech equipments to produce an innovative product which can succeed and grow in the present market condition. Unfortunately, our country lacks on both fronts. The necessary capital can be obtained from the venture capital firms who expect an above average rate of return on the investment. The financing firms expect a sound, experienced, mature and capable management team of the company being financed. Since the innovative project involves a higher risk, there is an expectation of higher returns from the project. The payback period is also generally high (5 - 7 years). The various problems/ queries can be outlined as follows:

a. Requirement of an experienced management team.
b. Requirement of an above average rate of return on investment.
c. Longer payback period.
d. Uncertainty regarding the success of the product in the market.

e. Questions regarding the infrastructure details of production like plant location, accessibility, relationship with the suppliers and creditors, transportation facilities, labour availability etc.
f. The category of potential customers and hence the packaging and pricing details of the product.
g. The size of the market.
h. Major competitors and their market share.
i. Skills and Training required and the cost of training.
j. Financial considerations like return on capital employed (ROCE), cost of the project, the Internal Rate of Return (IRR) of the project, total amount of funds required, ratio of owners investment (personnel funds of the entrepreneur), borrowed capital, mortgage loans etc. in the capital employed.

CAPITAL STRUCTURE

Introduction:

The objective of the firm is to maximize the value of the equity shares; therefore, the firm should select a financing mix / capital structure which will help in achieving the objective of the financial management.

The capital structure should be examined from the viewpoint of its impact on the value of the firm. If the capital structure decision affects the total value of the firm, a firm should select such a financing mix which will maximize the shareholder's wealth. Such a capital structure is referred to as the optimal capital structure.

The optimal capital structure may be defined as the capital structure or combination of debt and equity that leads to the maximum value of the firm.

The capital structure decisions have to be planned in the initial stages of a company. It is a management decision aims at supplying the required amount of capital. The role of finance manager is in deciding the amount of capital structure is significant. He has to study and

analyse the benefits and defects of issuing each type of securities. Here are some of the factors that influence the capital structure

Features of Capital Structure

A sound capital structure should have the following capital structure:

- ✓ It allows maximum possible use of leverage.
- ✓ It involves minimum possible risk of loss of control.
- ✓ It helps to avoid undue restrictions in agreement of debt.
- ✓ It helps to avoid undue financial risk with the increase of debt.
- ✓ It takes care of use of debt within the capacity of the firm.

Qualities of a Optimum Capital Structure

- ✓ Simplicity
- ✓ Flexibility
- ✓ Minimum cost of capital
- ✓ Liquidity
- ✓ Maximum Return
- ✓ Legal Requirement

DETERMINANTS OF CAPITAL STRUCTURE

The capital structure decisions have to be planned in the initial stages of a company. It is a management decision aims at supplying the required amount of capital. The role of finance manager is in deciding the amount of capital structure is significant. He has to study and analyse the benefits and defects of issuing each type of securities. Here are some of the factors that influence the capital structure

FACTORS INFLUENCING CAPITAL STRUCTURE

INTERNAL FACTORS

- Financial Leverage or Trading on equity
- Growth and Stability
- Cost of capital
- Flexibility
- Purpose of finance
- Risk
- Retaining control
- Cash flows
- Asset structure

EXTERNAL FACTORS

- Size of the company
- Investors
- Legal Requirements
- Level of interest rate
- Availability of funds
- Level of stock prices
- Nature of the industry
- Cost of floatation
- Period of finance
- Level of business activity
- Taxation policy

Principles of Capital Structure Theories

The capital structure theories are influenced by a variety of factors:

1. Cost Principle
2. Risk Principle
3. Control Principle
4. Flexibility Principle
5. Timing Principle

All these Principles have already been explained while discussing the factors determining the capital structure.

BENEFITS TO OWNERS

EBIT-EPS ANALYSIS IN LEVERAGE: CONCEPT, ADVANTAGES AND OTHER DETAILS

EBIT-EPS analysis gives a scientific basis for comparison among various financial plans and shows ways to maximize EPS. Hence EBIT-EPS analysis may be defined as 'a tool of financial planning that evaluates various alternatives of financing a project under varying levels of EBIT and suggests the best alternative having highest EPS and determines the most profitable level of EBIT'.

CONCEPT OF EBIT-EPS ANALYSIS:

The EBIT-EBT analysis is the method that studies the leverage, i.e. comparing alternative methods of financing at different levels of EBIT. Simply put, EBIT-EPS analysis examines the effect of financial leverage on the EPS with varying levels of EBIT or under alternative financial plans.

It examines the effect of financial leverage on the behavior of EPS under different financing alternatives and with varying levels of EBIT. EBIT-EPS analysis is used for making the choice of the combination and of the various sources. It helps to select the alternative that yields the highest EPS.

We know that a firm can finance its investment from various sources such as borrowed capital or equity capital. The proportion of various sources may also be different under various financial plans. In every financing plan the firm's objectives lie in maximizing EPS.

Advantages of EBIT-EPS Analysis:

We have seen that EBIT-EPS analysis examines the effect of financial leverage on the behavior of EPS under various financing plans with varying levels of EBIT. It helps a firm in determining optimum financial planning having highest EPS.

Various advantages derived from EBIT-EPS analysis may be enumerated below:

- **Financial Planning:** Use of EBIT-EPS analysis is indispensable for determining sources of funds. In case of financial planning the objective of the firm lies in maximizing EPS. EBIT-EPS analysis evaluates the alternatives and finds the level of EBIT that maximizes EPS.

- **Comparative Analysis:** EBIT-EPS analysis is useful in evaluating the relative efficiency of departments, product lines and markets. It identifies the EBIT earned by these different departments, product lines and from various markets, which helps financial planners rank them according to profitability and also assess the risk associated with each.
- **Performance Evaluation:** This analysis is useful in comparative evaluation of performances of various sources of funds. It evaluates whether a fund obtained from a source is used in a project that produces a rate of return higher than its cost.
- **Determining Optimum Mix:** EBIT-EPS analysis is advantageous in selecting the optimum mix of debt and equity. By emphasizing on the relative value of EPS, this analysis determines the optimum mix of debt and equity in the capital structure. It helps determine the alternative that gives the highest value of EPS as the most profitable financing plan or the most profitable level of EBIT as the case may be.

Limitations of EBIT-EPS Analysis:

Finance managers are very much interested in knowing the sensitivity of the earnings per share with the changes in EBIT; this is clearly available with the help of EBIT-EPS analysis but this technique also suffers from certain limitations, as described below

- **No Consideration for Risk:** Leverage increases the level of risk, but this technique ignores the risk factor. When a corporation, on its borrowed capital, earns more than the interest it has to pay on debt, any financial planning can be accepted irrespective of risk. But in times of poor business the reverse of this situation arises—which attracts high degree of risk. This aspect is not dealt in EBIT-EPS analysis.
- **Contradictory Results:** It gives a contradictory result where under different alternative financing plans new equity shares are not taken into consideration. Even the comparison becomes difficult if the number of alternatives increase and sometimes it also gives erroneous result under such situation.
- **Over-capitalization:** This analysis cannot determine the state of over-capitalization of a firm. Beyond a certain point, additional capital cannot be employed to produce a return in excess of the payments that must be made for its use. But this aspect is ignored in EBIT-EPS analysis.

EBIT-EPS Analysis - Equation:

- The capital structure of the company should be able to provide the maximum benefit to Equity Shareholders either in the form of highest / attractive earning per share or highest market value per share.

EPS = Profits available to Equity shareholders / Number of Equity Shares outstanding.

Market Value per share = EPS X P/E Ratio.

- The ideal capital structure, from the view point of shareholders, depends on EBIT and Indifference Point.
- Where the EBIT of the company is less than Indifference Point, a lower debt would lead to higher earnings per share; and where the EBIT of the company is more than the indifferent point, a higher debt would lead to higher earnings per share.

INDIFFERENCE POINTS:

The indifference point, often called as a breakeven point, is highly important in financial planning because, at EBIT amounts in excess of the EBIT indifference level, the more heavily levered financing plan will generate a higher EPS. On the other hand, at EBIT amounts below the EBIT indifference points the financing plan involving less leverage will generate a higher EPS.

Concept:

Indifference points refer to the EBIT level at which the EPS is same for two alternative financial plans. According to J. C. Van Home, 'Indifference point refers to that EBIT level at which EPS remains the same irrespective of debt equity mix'. The management is indifferent in choosing any of the alternative financial plans at this level because all the financial plans are equally desirable. The indifference point is the cut-off level of EBIT below which financial leverage is disadvantageous. Beyond the indifference point level of EBIT the benefit of financial leverage with respect to EPS starts operating.

The indifference level of EBIT is significant because the financial planner may decide to take the debt advantage if the expected EBIT crosses this level. Beyond this level of EBIT the firm will be able to magnify the effect of increase in EBIT on the EPS.

In other words, financial leverage will be favorable beyond the indifference level of EBIT and will lead to an increase in the EPS. If the expected EBIT is less than the indifference point then the financial planners will opt for equity for financing projects, because below this level, EPS will be more for less levered firm.

Computation:

We have seen that indifference point refers to the level of EBIT at which EPS is the same for two different financial plans. So the level of that EBIT can easily be computed. There are two approaches to calculate indifference point: Mathematical approach and graphical approach.

Financial Breakeven Point

In general, the term Breakeven Point (BEP) refers to the point where the total cost line and sales line intersect. It indicates the level of production and sales where there is no profit and no loss because here the contribution just equals to the fixed costs. Similarly financial breakeven point is the level of EBIT at which after paying interest, tax and preference dividend, nothing remains for the equity shareholders.

In other words, financial breakeven point refers to that level of EBIT at which the firm can satisfy all fixed financial charges. EBIT less than this level will result in negative EPS. Therefore EPS is zero at this level of EBIT. Thus financial breakeven point refers to the level of EBIT at which financial profit is nil.

Financial Break Even Point (FBEP) is expressed as ratio with the following equation:

$$\text{FBEP} = \frac{(\text{EBIT} - I)(1 - t) - P_d}{N} = 0$$

Or $$(\text{EBIT} - I)(1 - t) - P_d = 0$$

Or $$(\text{EBIT} - I) = \frac{P_d}{(1 - t)}$$

Or, $$\text{EBIT} = I + \frac{P_d}{(1 - t)}$$

where, EBIT = Earnings before Interest and Tax,
I = Interest,
t = Rate of Tax,
P_d = Preference Dividend, and
N = Number of Equity Shares.

It is to be noted here that beyond the financial breakeven point increase in EBIT will result in proportional increase in EPS.

COST OF CAPITAL

Costs

Cost – costs are recorded by division, plant department.

Types of costs:

1. **Jobs, process or product costs: Manufacturing costs.**
2. **Direct costs:** easily identified with specific product ex. labor, materials.
3. **Indirect costs:** these costs cannot be directly related to any specific unit.
4. **Out of packet costs:** theses result from the utilization of current resources.
5. **Avoidable costs:** all avoidable costs are variable and out of packet costs.
6. **Sunk costs:** usually fixed and includes the cost of long-lived assets.
7. **Unavoidable costs:** all unavoidable costs are sunk costs.
8. **Relevant costs:** only out of packet costs are, variable and semi variable.
9. **Irrelevant costs:** cost of depreciation is irrelevant decision bearing on replacement.
10. **Marginal costs:** incremental or differential costs. A marginal cost is additional cost incurred by producing one more unit.
11. **Committed cost:** they are fixed and include depreciation rates, rent, and insurance.
12. **Controllable costs:** these costs are defined with in an individual responsibility centre and depend upon his level of authority.
13. **Uncontrollable costs:** opposite to controllable
14. **Common costs:** incurred for general benefits.
15. **Programme costs:** these costs are according to how a management fixed certain costs to achieve stated objectives.
16. **Book cost or historical cost:** the book cost has its origin in the accounting system in which book values, as maintained by book of accounts, become readily available.
17. **Specific costs** – it is also known as component cost of capital.
18. **Explicit cost** – explicit cost is the discount rate, which equates the present value of cash inflows with the present value of cash out flows. In other words it is IRR.
19. **Implicit costs**- opportunity cost, it is the cost of opportunity, which is given up in order to purchase a particular action.

Types of capital

Real Capital: Real Capital is generic term for tangible man made assets that are used for a productive purpose. It includes machines, buildings etc.

Financial Capital; (money capital): it comprises money and financial instruments devoted to the production of goods and services represented by stock, debentures and other economic units.

Fluid Capital: in the form of cash. It may be in short term liquid assets such as inventory, account receivable etc.

Sunk capital: some capital may be sunk in some specialized use. It cannot be extricated and the value depends solely on its earning power. If earning power is small, the sunk capital may be worth less.

Fixed Capital: Fixed Capital is one which is locked up long-lived assets such as land etc.

Circulating capital: referred to as current assets and includes cash, receivables, inventories etc.

Loan capital: to the extent the company cannot or does not wish to obtain long-term funds from shareholders. It borrows from external sources. Such borrowings are called loan capital

Introduction to Cost of capital:

The term cost of capital refers to the minimum rate a firm must earn on its investment so that the market value of the company shares does not fall. This is consonance with the overall firm's objective of wealth maximization. This is possible only when the firm earns a return on the project financed by the equity shareholders funds at s rate which is at least equal to the rate of return expected by them. If the firm fails to earn return at the expected rate, the market value of the shares would fall and thus results in the reduction of overall wealth of the shareholders.

Thus, The firm's cost of capital may be defined, as "the rate of return the firm requires from investment in order to increase the value of the firm in market place".

The project's cost of capital is a minimum acceptable rate of return on funds committed to the project. The minimum acceptable rate is compensation for risk and time.

The firm represents the aggregate of investment projects undertaken by it. Therefore, firm's cost of capital will be the overall or average required rate of return on the aggregate of the investment projects. thus the firms cost of capital is not the same thing as the project's cost of capital.

Significance of cost of capital:

Cost of capital the most difficult and disputed Topics in finance theory. Financial experts express conflicting opinions as to the way in which the cost of capital can be measured. The concept is important in all financial decision making. It is useful as a standard for

1. Evaluating investment decision
2. Designing a firm's debt policy.
3. Appraising the financial performance of top management.

1. **Evaluating Investment decision:** the primary purpose of measuring COC is its use as a financial standard for evaluating the investment projects. In NPV method, an investment project is accepted if it has a positive value. The projects NPV is calculated by discounting its cash flows by the cost of capital in the sense, the cost of capital is the discount rate used for evaluating the desirability of the investment project. In the IRR method, the investment project is accepted if it has IRR greater than the cost of capital. In this context, the cost of capital is the minimum required rate of return on the investment project. It is also known as cutoff rate or the target or the hurdle rate.
2. **Designing the debt policy** – the debt policy of the firm is significantly influenced by the cost consideration. in designing the financing policy, that is the proportion of debt and equity in the capital structure, the firm aims at minimizing the overall cost of capital. The COC can also be useful in deciding about the methods of financing at a point of time. For example, cost many be compared in choosing between leasing and borrowing of course, equally we should give due consideration to control and risk.
3. **Performance appraisal:** COC framework can be used to evaluate the financial performance of the top management. Such an evaluation will involve a comparison of actual probabilities of the investment projects undertaken by the firm with the projected overall cost of capital, and the appraisal of the actual costs incurred by the management in raising the required funds. The cost of capital also plays useful role in dividend decision and investment in current assets.

OVERALL Vs SPECIFIC COST OF CAPITAL

A firm obtains capital from various sources. The Cost Of Capital of each source differs because of the risk differences and contractual agreements between the firm and investors. The cost of capital of each source is known as component or specific cost of capital. The combined cost of all sources of capital is called overall cost of capital / average cost of capital / weighted

average cost of capital. The component costs are combined according to the weights of the each component of capital to obtain the average cost of capital. Thus the overall cost is also called the Weighted Average Cost of Capital.

In practice, the firms do not use all the sources of capital together to finance their capital expenditure at one point in time. They may issue bonds at one time and at another time, they may either issue ordinary shares or may use retained earnings.

METHODS OF COMPUTING COST OFCAPITAL

1. Cost of debt.
2. Cost of preference shares.
3. Cost of equity shares.
4. Cost of internally generated funds.

I. COST OF DEBT:

Debt may be raised in variety of ways from financial institutions, or public deposits, or bonds, debentures. A bond or debenture may be issued at par, discount or premium. The contractual or coupon rate of interest forms the basis for calculating the cost of any form of debt.

The debt can be either perpetual / irredeemable or redeemable

1. **Cost of perpetual / irredeemable debt:** The computation of cost of irredeemable debt is easy to calculate. It is the rate of return which lenders expect. The debt carries a certain rate of interest. The interest rate can be said to represent an approximation of the cost of debt. The nominal rate of interest on debt is the before tax cost of debt. The efficient cost of debt is the tax-adjusted rate of interest. It can be issued at par, discount, and premium.

   Ki = I / SV

   Kd=I/SV X (1-T)

   Kd = R (1-T)

Where Ki= before tax cost of debt. I = interest rate SV = Sales proceeds of the bond / debt.

Kd = tax adjusted cost of debt R = Interest rate

Debt Issued at Par - Before tax cost of debt is the rate of return required by lenders. It is easy to compute before tax cost of debt issued and to be redeemed at par, it is simply equal to the contractual or coupon rate of interest.

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 issue of such debentures or bonds. Such cost may further be adjusted keeping in view the tax rate applicable to the company.

2. **Cost of redeemable debt:** Redeemable debt has definite date of maturity and the company is under legal obligation to pay back the money when due. The repayment can be made in lump sum (one) or in number of installments.

If the debentures are redeemable after the expiry of a fixed period, the effective cost of debt before tax can be calculated by using the following equation:

Kd (before tax) = I+(P-NP)/n / (P+NP)/2

Kd (after tax) = I+(P-NP)/n / (P+NP)/2 X (1-T)

Where P= Par value of the debenture I= Annual Interest rate

NP = Net proceeds of debentures n = number of years to maturity

T = Tax

<u>Cost of Zero coupon bonds:</u>

- Sometimes companies issue bonds or debentures at a discount from their eventual maturity value and having zero interest rate.
- No interest is payable on such debentures before their redemption and at the time of redemption the maturity value of the bond is to be paid to the investors.
- **The cost of such debt can be calculated by finding the present values of cash flows as below:**
  1. Prepare the cash flow table using an arbitrary assumed discount rate to discount the cash flows to the present value.
  2. Find out the NPV by deducting the PVCOF from PVOCIF
  3. If the NPV is positive, apply higher rate of discount.
  4. If the higher discount still gives a positive NPV, increase the discount rate further until the NPV becomes negative.

5. If the NPV is negative at this higher rate, the cost of debt must be between these two rates.

Floating or Variable Rate of debt:

- The interest on floating rate debt changes depending upon the market rate or interest payable on gilt edged securities or the prime lending rate of the bank.
- For example, suppose a company raises debt from external sources on the terms of prime lending rate of the bank plus four percent.
- If the prime lending rate of the bank is 8% p.a. the company will have to pay interest at the rate of 12% p.a. . Further, if the prime lending rate falls to 6% p.a. , the company shall pay interest at only 10% pa.

Real or Inflation Adjusted Cost of Debt:

- In the days of inflation, the real cost of debt is much less than the nominal cost as the fixed amount is payable irrespective of the fall in the value of money because of price level changes. **The real cost of debt can be calculated as below:**

$$\text{Real Cost of Debt} = \frac{1 + \text{Nominal Cost of Debt}}{1 + \text{Inflation Rate}}$$

II. COST OF PREFERENCE SHARES: Computation of cost of preference shares is conceptually difficult as compared to computation of cost of debt. In case of debt, interest rate is the basis for calculating cost, because the payment of interest is a legal commitment on the part of the firm. But in case of preference shares, there is no legal obligation on the part of the firm to pay dividends. It is also true that holders of such shares have a preferential right as regards payment of dividends as well as return on principal, as compared to ordinary shareholders, but, unlike debt, there is no risk of legal bankruptcy if the firm does not pay dividends. The firms can be expected to pay the stipulated dividend if there are sufficient profits, for the following reasons.

1. PSH carry preferential right to receive the dividend over ESH.
2. The PS usually cumulative in nature.
3. Non-payment of preference dividend leads to voting rights.

4. The firm encounters difficulty in raising further equity capital because the non-payment of preference dividend adversely affects the prospects of the ordinary shareholders.

The cost of preference share capital may be defined as the dividend expected by the preference shareholders. Dividend payable on preference shares are not taxable.

Two types of preference shares are

1. Irredeemable preference shares
2. Redeemable preference shares

Irredeemable cost of preference shares: it is kind of perpetual security in which the principle is not to be returned for a long time or Likely to be available till the life of the company. It can be calculated by using the following equation:

$$Kp = DP/NP$$

Where Kp= Cost of preference share capital Dp = fixed preference dividend

Np= net proceeds of preference shares

Redeemable cost of preference shares: The redeemable preference shares are issued with a maturity date so that the principal will be repaid at some future date.

$$Kp = DP + (P-NP) / n \;/\; (P+NP) / 2$$

III. COST OF EQUITY SHARES

The computation of cost of equity capital is a difficult task. Some people argue that, the equity capital does not involve any cost. The argument put forward by them is that it is not legally binding on the part of the company to pay dividends to equity shareholders. This does not seem to be correct approach because the equity shareholders invest money in the shares with the expectation of getting the dividends from the company. The company also does not issue equity shares without having any intension to pay them dividends. The market price of equity shares depends upon the return expected by equity shareholders. "The cost of equity share capital may be defined as the minimum rate of return that a firm must earn on the equity financed portion of an investment project in order to leave unchanged the market price such shares".

APPROACHES TO CALCULATE COST OF EQUITY CAPITAL

1. **Dividend Price (D/P) Approach** – According to this Approach, the investor arrives at the market price of an equity share by capitalizing the set of expected dividend

payment. In other words, the cost of equity capital will be that rate of expected dividends, which will maintain the present market price of equity shares. This approach rightly emphasizes the importance of dividends, but it ignores the fact that retained earnings have also an impact on the market price of equity shares.

Cost of new equity = Ke = D/NP

Cost of existing equity = Ke= D/MP

Where Ke = cost of equity capital

D = Dividend per equity share

NP = Net proceeds of an equity share.

MP= Market price of Equity share

2. **Dividend price plus growth Approach:** According to this approach, the cost of equity capital is determined on the basis of the expected dividend rate plus the 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.

Ke = (Cost of new equity) = D/NP +g

Ke = (Cost of existing equity)= D/MP + g

Where Ke = cost of equity capital D = expected Dividend per equity share

NP = Net proceeds of an equity share. MP= Market price of Equity share

g = growth in expected dividend

3. **Earnings Price Approach** – According to this Approach, it is the EPS which determines the market price of the share. This is based on the assumption that the share holders capitalize a stream of future earnings in order to evaluate their shareholdings, hence cost of capital should be related to that earnings, hence cost of capital should be related to that earnings percentage which could keep the market price of the equity share constant. This approach takes into account both dividends as well as retained earnings.

Ke = E / NP

Where

Ke= cost of equity capital

E = earnings per share NP = Net proceeds of an equity shares.

IV. COST OF INTERNALLY GENERATED FUNDS: As for as retained earnings are concerned, for many firms, it is a matter of pride. The measurement of cost of retained earnings is an issue of disagreement. Some financial experts consider equity capital as funds of cost free capital. It

should be remembered that retained earnings represent investment of funds of existing shareholders. They have, therefore the same cost as if they were raised through the stock. These funds should be considered as the investment of existing shareholders. Therefore they have the same cost as if they raised through the stock

First method

$$Kr = Ea (1 – TR /2) / P$$

Where

Kr = cost of retained earnings

Ea = the anticipated earnings

P = current market price

TR = the amount of the share holder tax rate

Second method

$$Kr = E / Po + g$$

Where

E = Earnings per share

Po = Price of share, if sold

g = growth rate of dividends

WEIGHTED AVERAGE COST OF CAPITAL

The composite or overall cost of capital is the weighted average of the costs of various sources of funds, weights being the proportion of each source of funds in the capital structure.

Steps involved in computation of WACC

1. **Calculation of the cost of specific sources of funds**
2. **Assigning weights to specific costs:** that is determining the proportion of each source of funds in the capital structure. This may be done according to
   a. **Marginal weights method** – According to this method weights are assigned to each sources of funds, in proportion of financing inputs the firm intends to employ. This method considers only new / incremental capital and not the capital which was raised in the past. In case the weights are applied in a ratio different than the ratio in which the new capital is employed, the WACC so calculated may be different.

      Limitations of Marginal Weights method - It does not consider the long-term implications of the firm's current financing.

b. **Historical Weights Method -** According to this method the relative proportion of various sources to the existing capital structure are used to assign weights. In case of this method the basis of weights is funds already employed by the firm. This is based on the assumption that the firm's present capital structure is optimum and should be maintained in the future also.

Weights under historical system may be either

1. Book value 2. Market value

WACC will be different depending upon book value or market value. The use of market value weights for calculating WACC is theoretically more appealing because of the following reasons

1. Market value of the securities are closely approximate to the actual amount to be received from the sale of such securities.
2. The cost of each specific sources of finance which constitutes the capital structure is calculated according to the prevailing market price.

However, the use of the market value as weights is subject to following practical difficulties.

a. The market value of securities may fluctuate.
b. Market values are not readily available as compared to the book values. The book values can be taken from the published records of the firms.
c. The analysis of the capital structure of the company in terms of debt equity ratio is based on the book values and not on the market values.

Thus, market values are operationally inconvenient as compared to the book value weights. However, market value weights are theoretically consistent and sound, hence they are a better indicator of the firm's cost of capital.

3. Multiplying the cost of each source by the assigned weights
4. Adding up of the weighted cost of all sources of funds to get an overall weighted average cost of capital

Marginal cost of capital:

Sometimes, we may be required to calculated the cost of additional funds to be raised, called the marginal cost of capital. The marginal cost of capital is the weighted average cost of new capital calculated by using the marginal weights. The marginal weights represent the proportion of various sources of funds to be employed in raising additional funds. In case, a

firm employs the existing proportion of capital structure and the component costs remain the same, the marginal cost of capital shall be equal to the WACC. But in practice, the proportion and / or the component costs may change for the additional funds to be raised. Under this situation, the marginal cost of capital shall not be equal to the WACC. However, the marginal cost of capital concept ignores the long term imperfections of the new financing plans, and thus, WACC should be preferred for maximization of shareholders wealth in the long run.

Cost of equity using capital asset pricing model (CAPM)

The value of the equity share is a function of cash inflows expected by the investors 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 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 return + Premium for risk

According to CAPM, the premium for risk is the difference between market return from diversified portfolio and the risk free rate of return. It is indicated in terms of beta coefficient (βi); i.e.

Risk Premium = (market return of a diversified portfolio – risk free return) X (βi) = βi (RmRf)

Thus, cost of equity, according to CAPM, can be calculated as below:

$$Ke = Rf + \beta i\ (Rm - Rf)$$

Where Ke = Cost of equity capital

Rf = Risk free rate of return

Rm = Market return of a diversified portfolio

Bi = Beta coefficient of the firms portfolio

LEVERAGE

Meaning: James Horne has defined leverage as " the employment of an asset or funds for which the firm pays a fixed cost or fixed return".

according to him Leverage results as a result of firm employing an asset or source of funds which has a fixed cost(fixed return)

TYPES OF LEVERAGE

Leverages can be classified as operating leverage, financial leverage and combined leverage. The leverage associated with investment (asset acquisition) activities is referred to as operating leverage, while the leverage associated with financing activities is called financial leverage. We are basically concerned with the financial leverage for the purpose of financing decision of a firm. The discussion of operating leverage is to serve as a background for the understanding of financial leverage because the two types of leverage are closely related.

OPERATING LEVERAGE

OL is determined by the relationship between the firm's sales revenues and its earnings before interest and taxes (EBIT / Operating Profit). EBIT are generally called as operating profits. OL results from the existence of fixed operating expenses in the firm's income stream.

The operating costs fall into 3 categories: a. Fixed Costs, b. Variable Costs, and C. Semi-variable Costs. The OL can also be measured in terms of Degree of Operating Leverage (DOL).

$$DOL = \frac{\text{\% Change in EBIT}}{\text{\% Change in Sales}} > 1 \quad \text{Alternatively} \quad \frac{\Delta \text{ EBIT / EBIT}}{\Delta Q / Q}$$

$$EBIT = Q (S- V) –F$$

$$\Delta \text{ EBIT} = \Delta Q (S- V) –F$$

$$DOL = \frac{\Delta \text{ EBIT} = Q (S- V) –F}{EBIT = Q (S- V) –F} \times \frac{Q}{\Delta Q} = \frac{S - V}{S –V – F}$$

$$= \frac{\text{Contribution}}{EBIT}$$

Where

Q = Sales Quantity in Units

S = Selling Price per Unit

V = Variable Cost per Unit

F = Total Fixed Costs.

Since DOL depends on fixed operating costs, it logically follows that the higher the fixed operating costs, the higher the firms operating leverage and its operating risk. Higher operating risk is good when revenues are rising and bad when they are falling. Operating risk is the risk of the firm not being able to cover its fixed operating costs. The larger the magnitude, the larger is the volume of sales required to cover all fixed costs. Therefore, the financial manager may be interested in knowing the level of sales that is required to meet such operating costs. Break-even analysis is a measure by which such a level of sales can be determined. It is also known as cost volume profit analysis. Its usefulness is that, it enables the analysts to determine not only the level of the sales which is necessary to cover the fixed costs but also to evaluate the profitability or non profitability at various levels of sales before break even and after break even points. Break even sales levels can be determined either algebraically or graphically.

BREAK EVEN SALES OR COST-VOLUME PROFIT ANALYSIS

Break even sales level can be determined either algebraically or graphically.

The Algebraic Approach:

Let S = break even sales (in units)

S* = current sales (in units)

F = fixed operating cost per period

V = Variable cost per unit

We know that EBIT is the difference between the sales revenue and total operating costs. Let us present EBIT in terms of the symbols:

EBIT = (S* X P) – (V X S*) – F -------- 1

EBIT = S* (P – V) – F -------- 2

The firm's break-even point is defined as the level of sales at which all operating costs are covered or alternatively when the EBIT is Zero. Assuming EBIT equals to Zero in the equation 1 and solving the equation for the firms S*,

We have

$$S^* = \frac{F}{(P - V)}$$

Since we are using symbol S for break even sales, equation 2 can be expressed as

$$S = \frac{F}{(P - V)}$$

$$S = \frac{F}{(P - V)}$$

The above equation gives break even sales levels in units. It is to be multiplied by per unit to get the sales revenue in amount (S X P).

The break even sales in amount can be measured directly by the following formula:

$$S = \frac{F}{C}$$

Where S = break even sales in amount

F = fixed cost per period

C = contribution margin ratio.

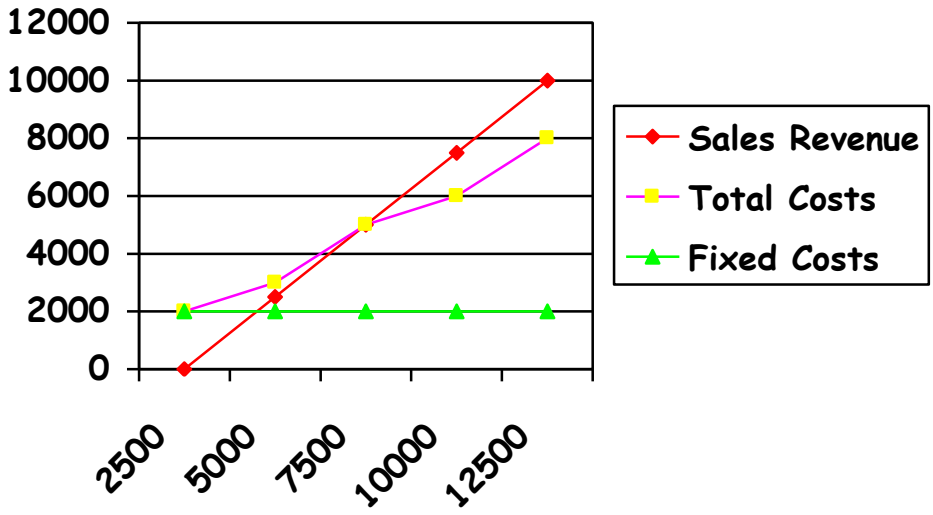
The difference between sales price, P and variable cost V, per unit is considered as the contribution towards the recovery of fixed operating costs. Therefore

$$C = \frac{P - V}{P}$$

The BEP will change if there occurs a change in any the variables. The effects of increase or decrease in any of variables on BEP are given below:

The Graphical Approach

The firm's break-even point can also be determined graphically, i.e. through breakeven chart. The following graph is based on the above example which displays the relationship between sales revenue and a. fixed costs, b. Variable costs, c. Total Costs and d. EBIT



The graphical approach (Break even chart)

The BEP will change, if there occurs a change in any of the variables. The effects of increase or decrease in any of the variable s on BEP are given below:

EFFECTS OF VARIABLES ON BREAK EVEN

CAHNGE IN	EFFECT ON BREAK EVEN POINT
a. Fixed Cost	
1. Increase	1.Increase
2. Decrease	2. Decrease
b. Sales per unit	
1. Increase	1.Decrease
2.Decrease	2.Increase
C. Variable Cost per unit	
1. Increase	1.Increase
2. Decrease	2.Decrease

Limitations to Break Even Analysis

The major weaknesses of Break Even analysis are:

1. Assumption of Linearity
2. Cost classification
3. Difficult to multi product applications and
4. Its short term nature

FINANCIAL LEVERAGE

Financial leverage is the second type of leverage. It is related to financing activities of the firm. The source from which funds can be raised by a firm can, from the point of view of the costs, be categorized in to:

1. Those which carry a fixed financial charges and
2. Those which do not involve any fixed charges.

The sources of funds in the first category consists of various types of long term debt, including bonds, debentures, and preference shares.

The long-term debts carry a fixed rate of interest, which is a contractual obligation for the firm. Although the dividend on preference share is not a contractual obligation, it is a fixed charge and must be paid before anything is paid to the ordinary shareholders. The equity shareholders are entitled to the remainder of the operating profits of the firm after the prior obligations are met.

Financial leverage results from the presence of fixed financial charges in the firm's income stream. These fixed charges do not vary with the EBIT or operating profits. They have to paid regard less of the amount of EBIT available to pay them. After paying them, the operating profits (EBIT) belong to the ordinary shareholder.

Financial Leverage is concerned with the effect of changes in EBIT, on the earnings available to equity shareholders.

Financial Leverage is defined as " the ability of a firm to use fixed financial charges to magnify the effects of changes in EBIT on the firm's earnings per share". In other words, financial leverage involves the use of funds obtained at a fixed cost in the hope of increasing the return to the shareholders.

DEGREE OF FINANCIAL LEVERAGE

Degree of financial leverage may be defined as % change in Earning Per Share as a result of % change in EBIT. The degree of financial leverage as per the above definition can be calculated according to the following equation:

$$DFL = \frac{\text{\% Change in EPS}}{\text{\% Change in EBIT}} > 1$$

When a % change in EPS resulting from a given % change in EBIT is greater than % change in EBIT, financial leverage exists. In other words, financial leverage occurs when the quotient in the above equation is more than one.

COMBINED LEVERAGE

Operating Leverage measures % Change in operating profit due to % change in sales. It explains the degree of operating risk. Financial Leverage measures % change in taxable profit (EPS) on account of % change in operating profit (EBIT). Thus, it explains the degree of financial risk.

Both these leverages are closely concerned with the firm's capacity to meet its fixed costs (both operating and financial). In case both leverages are combined, the results obtained will disclose the effect change in sales over change in taxable profit (EBIT).

Symbolically.

$$DCL = DOL \times DFL$$

Where DCL = Degree of Combined Leverage

DOL = Degree of Operating Leverage

DFL = Degree of Financial Leverage

Substituting the values of DOL and DFL,

We have

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

OR

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

Alternatively

$$DCL = -\frac{C}{OP} \times \frac{OP}{PBT} \quad \text{or} \quad DCL = \frac{C}{PBT}$$

Where

C = Contribution (i.e. Sales – Variable Cost)

OP = Operating Profit or EBIT

PBT = Profit Before Tax but after interest

Thus the DCL measures the % change in EPS due to % change in sales.

The combined leverage can work in both directions. It will be favorable if sales increase and unfavorable when sales decrease. This is because change in sales will result in more than proportional returns in the form of EPS.

SIGNIFICANCE OF OPERATING AND FINANCIAL LEVERAGE

The Operating Leverage and the Financial Leverage are the two quantitative tools used by the financial experts to measure the returns to owner (EPS) and the market price of equity share shares. The Financial Leverage is considered to be superior of these two tools, since it focuses the attention on the market price of the shares, which the management always tries to increase by increasing the net worth of the firm. The management for this purpose resorts to trading on equity because when there is increase in EBIT then there is corresponding increase in the price of the equity shares. However a firm cannot go indefinitely in raising the debt content in the total capital structure of the company. If the firm goes on employing greater proportion of debt capital, the marginal cost of debt will also go on increasing because the subsequent lenders will demand higher rate of interest. The company's inability to offer sufficient assets and security will also stand in the way of further employment of debt capital. Moreover, a firm with widely fluctuating income cannot afford to employ a high degree of financial leverage. A company should try to have a balance of the two leverages because they have got tremendous acceleration or deceleration effect on EBIT and EPS. It may be noted that a right combination of these leverages is a very big challenge for the management. A proper combination of both operating and financial leverages is a blessing for the firm's growth while an improper combination may prove to be a curse.

DIFFERENCE BETWEEN OPERATING AND FINANCIAL LEVERAGES

OPERATING LEVERAGE

1. OL is related to the investment activities
2. The fluctuation in the EBIT can be predicted with the help OL
3. Financial manager uses the operating leverage to identify the items of assets side of the balance sheet.

4. OL is used to predict business risk.

FINANCIAL LEVERAGE

1. FL is more concerned with financial matters (mixing of debt equity in CS)
2. The changes of EPS due to D: E mix is predicted by financial leverage
3. The use of financial leverage to make decisions in the liability side of the Balance Sheet.
4. FL is used to analyse the financial risk.

MASTER TABLE TO CALCULATE THE LEVERAGES

	Amount (Rs.)
Sales	XXX
Less: Variable Cost	XXX
Contribution	XXX
Less: Fixed Cost	XXX
Operating Profit/ EBIT	XXX
Less: Interest	XXX
Earnings Before Tax (EBT)	XXX
Less: Tax	XXX
Earnings After Tax	XXX
Less: Preference Dividend	XXX
Earnings Available to Equity Shareholders	XXX

WORKING CAPITAL LEVERAGE

Working Capital Leverage measures the sensitivity of return on investment (ROI) of changes in the level of current assets (CA) , Symbolically:

$$WCL = \frac{\text{\% Change in ROI}}{\text{\% Change in Current Assets}}$$

in case the earnings are not affected by the changes in the current assets , the working capital leverage can be simply calculated as :

$$WCL = \frac{CA}{TA \pm DCA}$$

Where CA = Current Assets, TA = Total Assets and DCA = Change in the level of current assets

MODULE 3
INVESTMENT DECISIONS

Capital Budgeting Decisions

In general, "CB means Investment of current funds in long term assets which are going to give benefits over a period of time"

Definitions

Capital Budgeting may be defined as "the firm's decisions to invest its current funds efficiently in long term assets in anticipation of expected flow of benefits over a series of years"

In other words, "the system of CB is employed to evaluate expenditure decisions which involve current outlays but are likely to produce benefits over a period of time longer than one year".

CB is defined as "the firm's formal process for the acquisition and investment of capital. It involves firm's decision to invest its current funds for addition, disposition, modification and replacement of fixed assets"

CB decisions pertain to fixed assets / long term assets. It is also known as Capital Budgeting Decision, Capital Expenditure Management, Long Term Investment Decision, and Management of Fixed Assets.

Features of Capital Budgeting

- Involves exchange of current funds for future benefits.
- The funds are invested in long-term assets.
- Involves relatively high degree of risk.
- Future benefits will occur to the firm over a series of years.

Example:

- ✓ Expansion of business by investing in P& M
- ✓ Introduction of new product
- ✓ Replacing and modernizing process
- ✓ Mechanization of process, acquision
- ✓ Change in methods of sales distribution, advertisement campaign,
- ✓ R and D

Importance of Capital Budgeting

CB / Investment decision requires special attention because of the following reasons:

- Commitment of large amount of funds.
- Long-term implications.
- Irrelevant decisions

Rationale (Fundamental Reasons)

The fundamental reason behind the capital budgeting decision is efficiency. Thus a firm must replace the worn and out dated plant and machinery and acquire fixed assets for production of current product and new products by making strategic investment decision. This will help the firm to achieve its objectives of maximizing profits either by way of increased revenues or by cost reduction.

CB decisions can be of 2 types

- Those which can expand revenues and
- Those which reduce costs

Types of Investment Decisions

- Mutually Exclusive Investment
- Independent Investment
- Contingent Investment

Mutually Exclusive Investments : Mutually Exclusive Projects are projects which compete with each other in such a way that acceptance of one will exclude the acceptance of other projects. Only one may be chosen among the different projects. Mutually Exclusive Projects serves the same purpose.

Independent Investments : An independent investment serves different purpose and do not compete with each other.

Contingent Investments : Contingent Investments are dependent projects i.e. choice of one investment necessitates that one or more other investments should also be undertaken. The total expenditure is treated as one single investment.

Factors influencing the Capital Budgeting

- Availability of funds
- Structure of capital
- Taxation policy
- Government policy
- Lending policies of the financial institutions
- Earnings
- Immediate need of the project
- Capital return
- Economic value of the project
- Working capital
- Accounting practices
- Trends of earnings

CAPITAL BUDGETING PROCESS

CB is a process which may be divided into the following phases:

1. Identification of potential investment opportunities
2. Assembling of proposed investment
3. Investment proposals may be 1. Replacement 2. Expansion 3. R and D
4. Decision making - using sound appraisal technique
5. Preparation of capital budget
6. Implementation
7. Performance review

Characteristics of sound investment evaluation criteria:

- It should consider all cash flows to determine true profitability.
- It should provide for an objective way of separating good projects from bad projects.
- It should help in ranking of the project according to their true profitability.
- It should recognize the fact that bigger cash flows are preferable to smaller ones and early cash flows are preferable to later ones.
- It should help to choose among mutually exclusive projects that project which maximizes the shareholders wealth

Factors affecting Capital Budgeting Decisions

The following are the four factors, which are generally taken into account while making a capital budgeting decision.

1. The amount of investment
2. Minimum rate of return on investment
3. Return expected from the investment
4. Ranking of investment proposal

1. The amount of investment

Computation of capital investment required

The term capital investment required refers to the net cash out flow which is the sum of all outflows and inflows occurring at a zero-time period. Zero-time period refers to the time the expenditure is made to determine the initial investment requirement of the proposed capital expenditure).

The net flow is determined by taking into account the following factors:

A. Cost of the project
B. Installation cost – establishment cost
C. Working capital
D. Proceeds from sale of asset
E. Tax effects
F. Investment allowance

The net cash out flow of the account of capital investment proposal can be ascertained as shown below:

Original cost of New machinery		xxx
Add:		
Installation cost	xxx	
Increase in the working capital	xxx	
Increase in the tax liability	xxx	xxx
		xxx
Less :		
Amount realised on the sale of machinery	xxx	
Decrease in the working capital required	xxx	
Decrease in tax liability	xxx	
Investment allowance	xxx	xxx
Net cash Outflow		xxx

Principles of Capital Budgeting

Capital budgeting has five principles that play a crucial role in the allocation of money and the process of capital budgeting.

The five principles are;

1. Decisions are based on cash flows, not accounting income,
2. Cash flows are based on opportunity cost,
3. The timing of cash flows are important,
4. Cash flows are analyzed on an after tax basis,
5. Financing costs are reflected on project's required rate of return.

1. Relevant cash flows are based on incremental cash flows: This represents the changes in cash flow if the project is undertaken. Aspects of cash flow that affect capital budgeting are sunk costs and externalities. These are both costs that cannot be avoided. Sunk costs are costs that are unavoidable, even if the project is undertaken. Externalities are side effects of a project that affect other firm cash flows.

2. Cash flows are based on opportunity cost: In other words, it is the cash flow that will be lost due to the financing of a project. These are cash flows that are accumulated by assets the firm

already owns and would be sunk if the project under consideration is undertaken.

3. **The timing of cash flow is crucial** because it is dependent on the time value of money. Cash flow that is received now will be worth more in the future if it were to be received later.
4. **Cash flows are measured on an after tax basis:** It is useless to measure cash flow before taxes because it is not its present value. Firm's value is based on cash flow that a firm gets to keep, not the money that is sent to the government.
5. **Financing costs are reflected on project's required rate of return:** Rate of return is an aspect of financing that has potential risks. Project's that are expected to have a higher rate of return than their cost of capital will increase the value of the firm.

CAPITAL BUDGETING EVALUATION TECHNIQUES OR INVESTMENT EVALUATION CRITERIA

1. Traditional / unsophisticated /Non-discounted criteria

a. Pay Back Period (PBP)

b. Accounting Rate of Return (ARR)

2. Time adjusted / sophisticated / discounted cash flow)

a. Net Present Value (NPV)

b. Internal Rate of Return (IRR)

c. Profitability Index (PI)

PAY BACK PERIOD

Pay Back Period is the most popular and widely recognized traditional methods of evaluating the investment proposals. PBP is defined as, "the number of years required to recover the original cash outlay invested in a project".

When project generates constant annual cash flow

PBP = Initial Investment / Annual Cash inflow

Accept / Reject criteria

Many firms use the PBP as an accept or reject criteria as well as method of ranking projects.

If PBP < Max. PBP set by the management - Accept

If PBP > Max. PBP set by the management - Reject

Ranking Method

Highest rank to that project which has a shortest PBP

Lowest rank to that project which has a highest PBP

In case of unequal cash flows

The PBP can be found out by adding up the inflows until the total is equal to the initial cash outlay.

$$PBP = \text{Initial years of pay back} + \frac{\text{Difference in investment and CCI of base year}}{\text{Cash inflow in the later year or CCI of BY less CCI of LY}}$$

Merits

1. Traditional and old method
2. Involves simple calculations
3. Selection or rejection of the project can be made easily.
4. The results are more reliable
5. Best method for evaluating high-risk projects.

Demerits

1. It is based on principle of rule of thumb.
2. Does not recognize the importance of time value of money
3. It does not consider the profitability of economic life of the project.
4. It does not recognize the pattern of cash flows and its timings.

PAY BACK PROFITABILITY METHOD OR POST PAY BACK PROFITABILITY METHOD

PBPM was developed to remove the drawback of PBP. Under this method, the cash flows generated from a project during the economic life is taken into account where as in PBP the cash inflows were considered only to the extent of recovering the original investment.

PPBP = Total cash flow generated during the economic life of a project or machine – original investment

Accept Reject Criteria - The project with highest PPBP is accepted

Merits

1. Based on simple calculations,
2. Less time consuming,
3. Easy to follow and even a non finance executive can also understand the concept
4. It takes into account the earnings of entire life.

Demerits

1. It is also based on rule of thumb principle.
2. It doesn't consider the impact of time value of money.
3. It ignores depreciation.

Discounted Pay Back Period

- One of the serious objection to the PBP method is that it does not discount the cash inflows for calculating the PBP.
- Some people therefore, discount cash flows and calculate the discounted PBP.
- The number of periods taken in receiving the investment outlay on the present value basis is called the Discounted PBP.
- The discounted PBP still fails to consider the cash flows occurring after the PBP.
- The project which gives a shorter discounted PBP is accepted.

ACCOUNTING RATE OF RETURN METHOD

It is also called as Average Rate of Return method or Return on Investment. ARR is found out by dividing the average after tax profit by the average investment. ARR is based on conventional Accounting concepts. This method uses the accounting information, as revealed by financial statements to measure the profitability of an investment.

ARR = Average Annual Income After Tax and Depreciation / Average Investment *100

Average Income : is determined by adding up the after tax profits expected for each of the year of the project life and dividing the result by number of years of project / life of project.

Average Investment = original investment /2

or

Average Investment = original investment - salvage value / 2 + additional working capital required + salvage value

Accept Reject Criteria

Accept - Projects whose ARR is higher than minimum rate established by management

Reject - ARR less than minimum rate

Ranking - Highest rank to the project with highest ARR

Lowest rank to the project with lowest ARR

Merits:

1. Simple to understand and use
2. Takes into account the entire stream of income in calculating the profitability
3. Calculated easily by using accounting data

Demerits:

1. Ignores time value of money.
2. Considers accounting profits rather than cash flows.
3. Does not considers the length of the life of project
4. It ignores the fact that profits earned can be reinvested.
5. It is not consistent with the firm's objective of maximizing the shareholders wealth.

DISCOUNTED CASH FLOW / TIME ADJUSTED TECHNIQUE

It is improvement over the PBP and ARR. It considers time value of money while evaluating the costs and benefits of a project. It takes into account all benefits and costs occurring during the entire life of a project.

Discount cash flow technique involves the following STEPS

1. Calculation of CIF and COF over the entire life of the asset.
2. Discounting the CF by discount factor.
3. Aggregating the Discounted CIF and comparing the total so obtained with the discounted out flows.

TIME VALUE OF MONEY:

TVM means that the value of a unit of money is different in different time periods. The value of sum of money received today is more than its value received after some time. In other words, the benefits received earlier period are more valuable than benefits received later. This is because of the fact that the benefits received earlier can be reinvested to earn return and later cannot. This is referred to as "time value of money"

DCT Methods / Techniques are

- Net present value
- Internal Rate of Return
- Profitability Index

NET PRESENT VALUE

This method recognizes the TVM. It is considered as best method evaluating the investment projects. It is widely used in practice and the cash inflow to be received at different period of time will be discounted at a particular discount rate .

NPV = Present value of cash inflows - present value of cash outflows

$NPV = (C1/1+K) +(C2/(1+K)^2) +--------+ (C1/(1+K)^n) - Cn$

Where C1, C2, Cn represents net cash inflows

K= cost of capital

Co= Cost of Investment

n= expected life of project

Acceptance Rule

Accept - if NPV > 0

Reject - if NPV < 0

Accept or Reject if NPV = 0

Ranking

a. Highest rank to the project with highest NPV
b. Lowest rank to the project with lowest NPV

Merits

1. It recognizes the TVM
2. Considers the CIF of the entire project
3. It is a sound method of appraisal
4. It estimates the present value of their cash flows by using a discount rate equal to the cost of capital.
5. Useful in selection of mutually exclusive projects.
6. It is consistent with the objective of maximizing the shareholders wealth.

Demerits

1. It requires the estimation of cash flows which is a tedious task.
2. It requires computation of opportunity cost of capital which is a tedious task.
3. It is sensitive to discount rates.

Present Value

Present Value = $1/ (1+K)^n$

Where K = discount rate, n= number of years

INTERNAL RATE OF RETURN

IRR is defined as that rate which equates the present value of cash inflows with the present value of cash outflows. In other words, it is the rate at which the NPV of investment is zero. It is called as internal rate of return because it depends mainly on the outlay and proceeds associated with the project and not on any rate determined outside the investment. This method was advocated by John Dean. This method is also known as marginal efficiency of capital, Rate of return over cost or time adjusted Return on Investment, yield of an investment.

$Co = (C1/1+r) +(C2/(1+r)^2) +---------+(Cn/(1+r)^n)$

Where cash flows are uniform

IRR can be calculated by locating factor in Annuity

Factor = Original Investment / Cash flow per year

IRR = A +(C-O/C-D) X B-A

Where

A= Discount factor (rate) of lower level trail

B= Discount factor of higher level trail

C= Present value of cash inflow at lower trail rate

D= Present value of cash inflow at higher trail rate

O= Original Investment

Where cash flows are not uniform - IRR is ascertained by Trial and Error Method

Acceptance Rule

Accept if r >k

Reject if r<k

Accept or Reject if r=k

Merits

1. It considers Time Value of Money
2. Calculation of cost of capital is not a prerequisite for adopting IRR.
3. It is consistent with the objective of maximizing the shareholders wealth.
4. It considers all the cash flow occurring over the entire life.
5. It does not require the computation of cost of capital.

Demerits

1. Difficult to understand and tedious to calculate.
2. Under certain situations it fails to indicate choice between mutually exclusive projects.
3. Sometimes it yields multiple rates.

Comparison of NPV and IRR

NPV

1. Interest rate is known.
2. It involves computation of the amount that can be invested in a given project so that the anticipated earnings will be sufficient to repay this amount with market rate of interest.
3. It assumes that the cash inflow can be remitted at the discounting rate in the new projects.
4. Reinvestment is assumed to be at the cutoff rate.

IRR

1. Interest rate is to be calculated.
2. It attempts to find out the maximum rate of interest at which funds are invested in the project. Earnings from the project in the form of cash flow will help us to get back the funds already invested.
3. It also assumes that cash inflow can be reinvested at the discounting rate in the new projects
4. Reinvestment of funds is assumed to be at the IRR.

Modified Internal Rate of Return

There are several limitations attached with the concept of the conventional Internal Rate of Return. The MIRR addresses some of these deficiencies e.g., it eliminates multiple IRR rates; it addresses the reinvestment rate issue and produces results which are consistent with the Net Present Value method.

Under this method, all cash flows, apart from the initial investment, are brought to the terminal value using an appropriate discount rate (usually the Cost of Capital). 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 inflow as mentioned above. The discount rate which equates the present value of the terminal cash inflow to the zeroth year outflow is called the MIRR.

PROFITABILITY INDEX

- Known as Benefit cost ratio.
- It is the ratio of the present value of cash inflows, at the required rate of return, to the initial cash out flow of the investment.

PI= Present value of cash inflows / initial cash out lay

Acceptance rule

Accept if PI >1

Reject if PI <1

Accept or reject if PI =1

Merits

1. Easy to understand and to compute
2. Recognizes the time value of money
3. Considers all cash inflows
4. Relative measure of true profitability

Demerits

1. Estimation of cash inflow is a tedious job
2. Sometimes it fails to indicate correct choice between mutually exclusive projects.

CAPITAL RATIONING

A firm normally fixes up maximum amount that can be invested in capital projects during a given period of time. The firm then attempts to select a combination of investment proposals, that will within the specific limits provide maximum profitability and put them in descending order according to their rate of return. Such a situation is called 'Capital Rationing'.

A firm should accept all investment projects with positive NPVs, with an objective to maximize the wealth of shareholders. However, there may be resource constraints due to which a firm may have to select from among various projects with positive NPVs. Thus there may arise a situation of capital rationing where there may be internal or external constraints on procurement of necessary funds to invest in all investment proposals with positive NPVs.

Capital rationing can also be experienced due to external factors, mainly imperfections in capital markets which can be attributed to non-availability of market information, investor attitude etc. Internal capital rationing is due to the self-imposed restrictions imposed by management like not to arise additional debt or laying down a specified minimum rate of return on each project. There are various ways of resorting to capital rationing. For instance, a firm may effect capital rationing through budgets. It may also put up a ceiling when it has been financing investment proposals only by way of retained earnings (ploughing back of Profits). Since the amount of capital expenditure in that situation cannot exceed the amount of retained earnings, it is said to be an example of capital rationing.

Capital rationing may also be introduced by following the concept of 'responsibility accounting', whereby management may introduce.' capital rationing by authorizing a particular department to make investment only up to a specified limit, beyond which the investment decisions are to be taken by higher-ups.

In capital rationing it may also be more desirable to accept several small investment proposals than a few large investment proposals so that there may be full utilization of budgeted amount. They may result in accepting relatively less profitable investment proposals if full utilization of budget is a primary consideration. Similarly, capital rationing may also mean that the firm foregoes the next most profitable investment following after the budget ceiling even though it is estimated to yield a rate of return much higher than the required rate of return. Thus capital rationing does not always lead to optimum results.

Classification of Investment Proposals:

For Capital Rationing purpose, the investment proposals are classified as under:

Nature of Project	Indivisible	Divisible
Meaning	Investment should be made in full. Partial or Proportionate investment is not possible.	Proportionate NPV can be generated. Partial Investment is possible.
Steps involved in decision making	Determine the combination of projects to utilize amount available. Compute NPV of each combination. Select the combination with maximum NPV.	Compute PI of various projects and rank them. Projects are selected based on maximum Profitability Index.

Limitations of capital budgeting

- All the techniques of capital budgeting presume that various investment proposals under consideration are mutually exclusive which may not practically be true in some particular circumstances
- The techniques of capital budgeting require estimation of cash inflows and cash out flows. The future is always uncertain and data collected for future may not be exact. Obviously the results based on wrong data may not be good.
- The factors like morale of employees, goodwill of the firm etc which cannot be correctly quantified but which otherwise substantially influence the capital decision.
- Urgency is another limitation in the evaluation of capital investment decisions.
- Uncertainty and rise pose the biggest limitation.

MODULE 6

DIVIDEND POLICY

Meaning of Dividends

The term dividends refer to that part of the profits of a company, which is distributed amongst its shareholders. It may be defined as the return that a shareholder gets from the company, out to its profits, on his shareholdings.

According to institute of Chartered Accountants of India, dividend is a "distribution to shareholders out of profits or revenues available for this purpose.

DIVIDEND POLICY

The term dividend policy refers to the policy concerning quantum of profits to be distributed as dividends.

The concept of dividend policy implies that companies through their board of directors evolve a pattern of dividend payments, which has a bearing on future action. In practice many companies do not have a dividend decision independent of every other such decision. This is not a sound practice but the finance manager cannot do much about it, since he works only in an advisory capacity and the power to recommend or declare dividends vests completely with the board of directors of the company.

Nature of Dividend Decision

Dividend Decision of the firm is of crucial importance for the finance manager since it determines the amount of profit to be distributed among shareholder and the amount of profit to be retained in the business for financing its long-term growth. There is a reciprocal relationship between the dividends and retained earnings. Larger dividends results in less retained earnings. While taking the dividend decision, the management will obviously take into consideration the effect of the decision on the maximization of shareholders wealth.

In case if the dividend helps the management in achieving the objective of maximizing the shareholders wealth, it would be advisable to pay dividends. In case the payment of dividend does not help in achieving this objective, the management would be well advised to retain the profits and use them for financing investment programs. Thus the dividend decision is largely based on its impact on the value of the firms.

FACTORS INFLUENCING THE DIVIDEND POLICY

There is controversy among financial analysts regarding impact of dividends on market price of the company's shares. Some argue that dividends do not have any impact on the value of the firm and share prices while others hold a different opinion. However, the evidences suggest that dividend policies do have a significant effect on the value of the firm's equity shares in the stock exchange.

Having accepted this, it will now be appropriate to consider those factors which affect the dividend policy of the firm. The factors affecting the dividend policy are both external as well as internal

EXTERNAL FACTORS

- General state of the economy
- State of the capital market
- Legal restrictions
- Contractual restrictions
- Tax Policy

INTERNAL FACTORS

- Desires of the shareholders
- Capital gains
- Dividends
- Financial needs of the company
- Nature of the earnings
- Desire of control
- Liquidity position

STABILITY OF DIVIDENDS

The term stability of dividends means consistency or lack of variability in the stream of dividend payments. To be precise, it means regular payment of a certain minimum amount as dividend. Stability of dividend can be in any of the following form:

- Constant dividend per share
- Constant percentage of net earnings
- Stable rupee dividend plus extra dividend
- Dividend as a percentage of market value.

SIGNIFICANCE OF STABILITY OF DIVIDEND

From the stability of dividend, the shareholders and the company secure certain advantages. They are:

- Confidence among shareholders
- Investor desire for current income
- Institutional investors requirements
- Stability in market price of shares
- Raising additional finance
- Spreading of ownership of outstanding shares
- Reduces the chances of loss of control
- Market for debentures and preference shares

FORMS OF DIVIDEND

- Cash Dividend
- Bond Dividend
- Property Dividend
- Stock Dividend

CONFLICTING THEORIES

There are two conflicting theories regarding impact of dividend decision on the valuation of the firm. According to one school of thought dividend decision does not affect the shareholders wealth and so also the valuation of the firm. While according to another school of thought, dividend decision materially affects the shareholders wealth and also the valuation of the firm. We can put the viewpoints of scholars under the following two groups:

1. IRRELEANCE CONCEPT OF DIVIDEND
2. RELEVANCE CONCEPT OF DIVIDEND

IRRELEVANCE CONCEPT OF DIVIDEND

This school of thought is associated with Soloman, Modigliani and Miller. According to them, dividend policy has no effect on the share prices of a company and is therefore of no consequence. In their opinion, investors do not differentiate between dividends and capital gains. Their basic desire is to earn higher return on their investment. Dividend decision is essentially a financing decision. In case the company has profitable investment opportunities, it will retain the earnings to finance them, otherwise distribute them. The shareholders are only interested in income whether it is in the form of dividend or in capital gain.

1. MODIGLIANI AND MILLERS APPROACH

MM are of the opinion that prices of shares of a firm is determined by its earnings and investment policy and never by the pattern of income distribution. As observed by them, "Under conditions of perfect capital market, rational investors, absence of tax discrimination between dividend income and capital appreciation, given the firm's investment policy, its dividend policy may have no influence on the market price of the shares".

The logic put forward by them in support of their hypothesis is that whatever increase in shareholders wealth results from dividend payments, will be exactly offset by the effect of raising additional capital.

ASSUMPTIONS OF MM HYPOTHESIS

MM Hypothesis is based on the following assumptions:

1. Capital markets are perfect.
2. Investors behave rationally. Information is freely available to them and there are no floatation and transaction costs.
3. There are either no taxes or there are differences in tax rates applicable to capital gains and dividends.
4. The firm has a fixed investment policy.
5. Risk or uncertainties does not exist.

Proof for MM Hypothesis

According to MM hypothesis, the market value of a share in the beginning of the period is equal to the present value of dividends paid at the end of the period. This can be expressed in the form of equation:

$$P0 = \frac{D1 + P1}{(1 + Ke)}$$

Where **P0** = Prevailing market price of a share

Ke = Cost of Equity Capital

D1 = Dividend to be received at the end of period one.

P1 = Market price of a share at the end of period one.

From the above equation, the following equation is derived to determine the value of P1

$$P1 = P0 (1 + Ke) - D1$$

COMPUTATION OF THE NUMBER OF SHARES TO BE ISSUED

The investment program of a firm, in a given period of time, can be financed either by retained earnings or by issue of new shares or both. The no. of new shares to be issued can be determined by the following equation:

$$m \times P1 = I - (X - nD1)$$

Where m = No. of new shares to be issued

P1= Price at which new issue is to be made

I = Amount of investment required

X = Total net profit of the firm during the period.

nD1 = total dividend paid during the period

Further, the value firm can be calculated with the help of the following equation:

$$nPo = \frac{(n + m)P1 - (I - E)}{(1 + Ke)}$$

Where m = No. of new shares to be issued

I = Amount of investment required

E = Total earnings of the firm during the period

P1 = Market price of a share at the end of period one.

Ke = Cost of Equity Capital

n = number of shares outstanding at the beginning of the period

D1 = Dividend to be paid at the end of the period

nPo = Value of the firm

CRITICISMS OF MM HYPOTHESIS

MM Hypothesis has come under several criticisms on the account of unrealistic nature of assumptions as shown below:

1. Tax differential
2. Floatation Costs
3. Transaction costs
4. Discount Rate

RELEVANCE CONCEPT OF DIVIDEND

Myron Gordon, John Linter, James Walter and Richardson, among others are associated with the relevance concepts of dividends.

According to them, a firm's dividend policy has a profound effect on the firm's position in the stock market. Higher dividends increase the value of stock while low dividends decrease their value. This is because dividends communicate information to the investors about the firm's profitability. A firm must declare dividends to meet the expectations of the investors and shareholders in order to maximize the net worth of the business. Prof. James.E.Walter has strongly argued in support of the above proposition.

WALTER'S APPROACH

Prof. James Walter strongly supports the doctrine that dividend policy almost always affects the value of the firm. The finance manager can, therefore use it to maximize the wealth of the shareholders. Prof. James Walter's model is based on the relationship between the firms's

1. Return on investment or internal rate of return (r) and
2. Cost of capital or required rate of return (K)

According to Prof. Walter,

if r>K – growth firm – retain the earnings - firm can earn more than that the investor can earn – dividend payout ratio would be ZERO.

if r<K – distribute the entire earnings - investor can earn more than that the firm can earn – dividend payout ratio would be 100%.

if r=K – does not matter whether the firm retains or distributes its earnings. – no optimum dividend payout ratio.

ASSUMPTIONS OF WALTER'S APPROACH

Walter's model is based on the following assumptions:

1. The firm does the entire financing through retained earnings. It does not use external sources of funds such as debt or new equity capital.
2. The firm's business risk does not change with additional investment. It implies that the firm's internal rate of return (r) and cost of capital (K) remains constant.
3. Earnings per share (E) and dividend per share (D) are assumed to be constant in determining a given value.
4. The firm has very long life.

Equation:

Walter has suggested the following formula for determining the market value of a share.

$$P = \frac{D + r\frac{(E - D)}{Ke}}{Ke}$$

Where

P = Market price of an equity share

D = Dividend per share

r = Internal rate of return

E = Earnings per share

Ke = Cost of equity capital or capitalization rate.

Criticisms

Walter's model has also been the subject of criticism since many of its assumptions are unrealistic as explained below.

1. Walter's assumption that financial requirements of a firm are met only by retained earnings and not by external financing is seldom true in real world situations. Firms do raise funds by new equity shares or debentures whenever they are in need of additional funds.
2. The assumption that firms internal rate of return (r) will remain constant does not also hold good. As a matter of fact with increased investments, 'r' also changes.
3. The assumption that 'K' will also constant does not also hold good. A firm's risk pattern does not always remain constant and as such it is not correct to presume that 'K' will always remain constant.

GORDON MODEL

Myron Gordon proposed a model of stock valuation using the dividend capitalization approach. His model is based on the following assumptions:

ASSUMPTIONS:

1. Retained earnings represent the only source of financing for the firm. Thus, the Gordon model ties dividend and investment decisions as the Walter model does.
2. The rate of return on the firm's investment is constant.
3. The growth rate of the firm is the product of its retention ratio and its rate of return. This assumption follows the first two assumptions.
4. The cost of capital for the firm remains constant and it is greater than the growth rate.
5. The firm has a perpetual life.
6. Tax does not exist.

Gordon basic valuation formula

$$P0 = \frac{Y0\ (1 - b)}{K - br}$$

Where

P0 = Price per share at the beginning of year 0

Y0= Earnings per share at the end of year 0

(1 – b)= fraction of earnings, the firm distributes by way of dividends.

b = fraction of earnings, the firm ploughs back

K= rate of return required by the shareholders

r = rate of return earned on investments made by the firm

br= growth rate of earnings and dividends

Thus the basic Gordon model leads to dividend policy implications at that of the Walter model:

1. The optimal payout ratio for a growth firm (r>K) is nil.
2. The payout ratio for a normal firm is irrelevant
3. The optimal payout ratio for a declining firm(r>K) is 100%.

GORDAN'S REVISED MODEL

The basic assumption in Gordon's Basic Valuation Model that cost of capital (k) remains constant for a firm is not true in practice. Thus, Gordon revised his basic model to consider risk and uncertainty.

In the revised model, he suggested that even when r=k, dividend policy affects the value of shares on the account of uncertainty of future, shareholders discount future dividends at a higher rate than they discount near dividends. That is there is a two-fold assumption, viz

1. Investors are risk averse
2. They put a premium on a certain return and discount / penalize uncertain returns.

Because the investors are rational and they want to avoid risk, they prefer near dividends than future dividends.

This argument is described as **bird – in – the hand argument,** i.e. the value of a rupee of dividend income is more than the value of rupee of capital gain. In the words of Krishnan, John.E. "of two stocks of identical earnings, record, prospects, but the one paying a larger dividend than the other, the former will undoubtedly command a higher price merely because shareholders prefer present to future values. Mypoic vision plays part in the price making process. Stock holders often act on the principle that a bird in hand is worth more than two in the bushes and for this reason are willing to pay a premium for the stock with the higher dividend rate, just as they discount the one with the lower rate. Thus, if dividend policy is considered in the context of uncertainty, the cost of capital cannot be assumed to be constant and so firm should set a high dividend payout ratio and offer a high dividend yield in order to minimize its cost of capital.

BONUS ISSUE

A company can pay bonus to its shareholders either in cash or in the form of shares. Many a times, a company is not in a position to pay bonus in cash in spite of sufficient profits because of unsatisfactory cash position or because of its adverse effects on the working capital of the company. In such cases, if the company so desires and the articles of the association of the company provide, it can pay bonus to its shareholder in the form of shares by making partly paid shares as fully paid shares or by the issue of fully paid bonus shares.

The dictionary meaning of bonus shares is: a premium or gift, usually of stock, by a corporation to shareholders or an extra dividend paid to shareholders in a joint stock company from surplus profit. However, in legal context the meaning is not the same. A bonus share is neither dividend nor a gift. It is governed by so any regulations that it can neither be declared like a dividend nor gifted away. Issue of bonus shares in lieu of dividend is not allowed as according to section 205 of the companies act, 1956, no dividend can be paid except in cash. It cannot be termed as a gift also because it only represents the past sacrifice of the shareholders.

Effects and objects of Bonus Issues:

When the company accumulates huge profits and reserves, its balance sheet does not reveal a true picture about the capital structure of the company and the shareholders do not get fair return on their capital. Thus, if the Articles of Association of the company so permit, the excess amount can be distributed among the existing shareholders of the company by the way of issue of bonus shares.

The effect of bonus issue is twofold, viz.,

1. It amounts to reduction in the amount of accumulated profits and reserves.
2. There is a corresponding increase in the paid up share capital of the company.

By the issue of bonus shares, the accumulated profits and reserves of the company are converted into share capital which is used permanently in the business and hence it is also known as capitalization of profits and reserves.

The following circumstances warrant the issue of bonus shares.

1. When a company has accumulated huge profits and reserves and it desires to capitalize these profits so as to use them on permanent basis in the business.
2. When the company is not able to declare higher rate of dividend on its capital, in spite of sufficient profits, due to restrictions imposed by the government in regard to payment of dividend.
3. When higher rate of dividend is not advisable for the reason that the shareholders may expect the same higher rate of dividend in future also.
4. When the company cannot declare a cash bonus because of unsatisfactory cash position and its adverse effects on the working capital of the company.
5. When there is a large difference in the nominal value and market value of the shares of the company.

Hence, the bonus issue is made to achieve the following objects:

1. To bring the amount of issued and paid up capital in line with the capital employed so as to depict more realistic earning capacity of the company.
2. To bring down the abnormally high rate of dividend on its capital so as to avoid labor problems such as demand for higher wages and to restrict the entry of new entrepreneurs due to the attraction of abnormal profits. Hence, to bring down abnormally high rate of dividend, it is advisable that the company should issue shares.
3. To pay bonus to the shareholders of the company without affecting its liquidity and the earning capacity of the company.

4. To make the nominal value and the market value of the shares of the company comparable.
5. To correct the balance sheet so as to give a realistic view of the capital structure of the company.

ADVANTAGES OF ISSUE OF BONUS SHARES

A. Advantages from the viewpoint of the company

1. It makes available capital to carry a larger and more profitable business.
2. It is felt that financing helps the company to get rid of market influences.
3. When a company pays bonus to its shareholders in the value of shares and not in cash, its liquid resources are maintained and the working capital of the company is not affected.
4. It enables a company to make use of its profits on a permanent basis and increases credit worthiness of the company.
5. It is the cheapest method of raising additional capital for the expansion of the business.
6. Abnormally high rate of dividend can be reduced by issuing bonus shares which enable a company to restrict entry of new entrepreneurs into the business and there by reduces competition.
7. The balance sheet of the company will reveal a more realistic picture of the capital structure and the capacity of the company.

B. Advantages from the viewpoint of the investors or shareholders:

1. the bonus shares are permanent sources of income to the investors.
2. even if the rate of dividend falls, the total amount of dividend may increase as the investor gets dividend on a large number of shares.
3. the investors can easily sell these shares and get immediate cash, if they so desire.

DISADVANTAGES OF ISSUE OF BONUS SHARES

In spite of many advantages, the issue of bonus shares suffers from the following disadvantages:

1. The issue of bonus shares leads to a drastic fall in the future rate of dividend, as it is only the capital that increases and not the actual resources of the company. The earnings do not usually increase with the issue of bonus shares.
2. The fall in the future rate of dividend results in the fall of the market price of the shares considerably. This may cause unhappiness among the shareholders.
3. The reserves of the company after the bonus issue decline and leave lesser security to investors.

New guidelines for the issue of Bonus Shares

New guidelines on bonus shares have been issued by the Primary Market. Department of SEBI vide press release dated 13.4.1994 modifying the earlier guidelines issued by the SEBI on 11.6.1992. SEBI believes that, while deciding on bonus issues, the BOD of the companies wishing to make bonus issues will take into consideration the relevant financial factors and observe the following modified guidelines.

1. These guidelines are applicable to existing limited companies who shall forward a certificate duly signed by the issuer and duly signed by its statutory auditor or by the company secretary in practice to the effect that the terms and conditions for issue of bonus shares, as laid down in these guidelines have been compelled with.
2. Issue of bonus shares after any public/ rights issue is subject to the condition that no bonus issue shall be made which will dilute the value or rights of the holders of debentures convertible fully or partly. In other words, no company shall, pending conversion of FCDs /PCDs issue any shares by way of bonus unless similar benefit is extended to the holders of such FCDs /PCDs, through reservation of shares in proportion to such convertible part of the FCDs or PCDs. The shares so reserved may be issued at the time of conversion of such debentures on the same terms and conditions.
3. The bonus issue is made out of free reserves built out of the genuine profits or share premium collected in cash only.
4. Reserves created by revaluation of fixed assets are not capitalized.
5. The declaration of bonus issue, in lieu of dividend, is not made.
6. The bonus issue is not made unless the partly paid shares, if any existing, are made fully paid.
7. THE COMPANY:
    a. Has not defaulted in payment of interest or principal in respect of fixed deposits and interest on existing debentures or principal on redemption thereof, and.
    b. Has sufficient reason to believe that it has not defaulted in respect of payment of statutory dues of the employees such as contribution to PF, gratuity, bonus etc.
8. A company which announces its bonus issue after the approval of the BOD must implement the proposals with in a period of six months from the date of such approval and shall not have the option of changing the decision.
9. There should be a provision in the Articles of Association of the company for capitalization of resources, etc. and if not, the company shall pass a resolution at its general body meeting making provision in the Articles of association for capitalization.

10. Consequent to the issue of bonus shares, if the subscribed and paid up capital exceed the authorized share capital, a resolution shall be passed by the company at its general body meeting for increasing the authorized capital.

SOURCES OF BONUS SHARES

The bonus shares can be issued out of the following:

1. Balance in Profits and Loss Account.
2. General Reserves.
3. Capital Reserves.
4. Balance in sinking fund reserves for redemption of debentures after the debentures have been redeemed.
5. Development Rebate reserves, development allowance reserves etc. allowed under the Income tax act 1961, after the expiry of the specified period (8 years).
6. Capital redemption reserve account.
7. Premium received in cash.

However, u/s 78 (2) of the companies Act, 1956 share premium account and u/s 80(5) capital redemption reserve account can be used to declare fully paid bonus shares only.

Bonus shares are usually issued out of accumulated profits although the issue can be made even out of current profits. As per the government press note dated 19th July 1974, the bonus issue is permitted to make out of free reserves built out of genuine profits or share premium collected in cash only. Bonus shares cannot be issued out of reserves created for specific purposes, premium received in kind and reserves created out of revaluation of assets.

ACCOUNTING TREATMENT FOR THE ISSUE OF BONUS SHARES

a. **When the unissued shares of the company are issued to its existing shareholders as fully paid bonus shares, the following journal entries should be recorded:**

1. **For declaration of bonus:**

P&L Appropriation A/c	Dr.
Or	
Share Premium A/c	Dr.
Or	
Respective Reserve A/c	Dr.
To Bonus to Shareholders A/c	

2. **For the issue of bonus shares:**

Bonus to shareholders A/c Dr.
To Share capital A/c
To Share premium A/c

b. When the existing partly paid shares are converted into fully paid shares as a result of bonus issue, the following journal entries shall be made:

1. For the declaration of bonus:

P&L Appropriation A/c Dr.
or
Respective Reserve A/c Dr
To Share Capital A/c

2. For making the final call on shares due:

Share final call A/c Dr.
To Share capital A/c

3. For the issue of bonus shares

Bonus to share holders A/c Dr
To Share capital A/c

Bonus issue (Stock dividend) Vs Stock Split

Stock dividend means the issue of bonus shares to the existing shareholders of the company. It amounts to capitalization of earnings and distribution of profits among the existing shareholders without affecting the cash position of the firm. Stock split, on the other hand, means reducing the par value of the shares by increasing the number of shares proportionately viz, a share of Rs. 100 may be split into 10 shares of Rs 10 each thus, the two terms are quite different from each other.

The effect of bonus issue is that it amounts to reduction in the amount of profits and reserves, whereas, stock split does not affect the accumulated profits at all. Further, in bonus issues, the par value of the stock remains unchanged, whereas, it is reduced in case of stock split. However, in both the cases, the book value per share, earning per share and the market price per share declines. That is why a stock dividend is considered very much like a stock split. The distinction between the two is of technical in nature. A stock dividend is reflected in the balance sheet by way of transfer from retained earnings to equity capital whereas a split is shown as a reduction in par value of each share. Although, it is generally said that neither an investor nor the company gains anything from stock dividend or stock split, yet there may be a positive effect of informational content of bonus/ split announcement. The prices of the shares may not fall in direct proportion to the increase in the number of shares there by increasing the wealth of the shareholders. The prospects of the firm in regard to raising additional funds may also improve. Hindustan Lever Limited, a well-known company in the Indian corporate sector, recently announced stock split in

the month of February 2000 and there has been a favorable impact on the value of the shares in the market.

STOCK SPLIT

All publicly-traded companies have a set number of shares that are outstanding on the stock market. A stock split is a decision by the company's board of directors to increase the number of shares that are outstanding by issuing more shares to current shareholders. For example, in a 2-for-1 stock split, every shareholder with one stock is given an additional share. So, if a company had 10 million shares outstanding before the split, it will have 20 million shares outstanding after a 2-for-1 split.

A stock's price is also affected by a stock split. After a split, the stock price will be reduced since the number of shares outstanding has increased. In the example of a 2-for-1 split, the share price will be halved. Thus, although the number of outstanding shares and the stock price change, the market capitalization remains constant.

A stock split is usually done by companies that have seen their share price increase to levels that are either too high or are beyond the price levels of similar companies in their sector. The primary motive is to make shares seem more affordable to small investors even though the underlying value of the company has not changed.

A stock split can also result in a stock price increase following the decrease immediately after the split. Since many small investors think the stock is now more affordable and buy the stock, they end up boosting demand and drive up prices. Another reason for the price increase is that a stock split provides a signal to the market that the company's share price has been increasing and people assume this growth will continue in the future, and again, lift demand and prices.

Another version of a stock split is the reverse split. This procedure is typically used by companies with low share prices that would like to increase these prices to either gain more respectability in the market or to prevent the company from being delisted (many stock exchanges will delist stocks if they fall below a certain price per share). For example, in a reverse 5-for-1 split, 10 million outstanding shares at 50 cents each would now become two million shares outstanding at $2.50 per share. In both cases, the company is worth $50 million.

The bottom line is a stock split is used primarily by companies that have seen their share prices increase substantially and although the number of outstanding shares increases and price per share

decreases, the market capitalization (and the value of the company) does not change. As a result, stock splits help make shares more affordable to small investors and provides greater marketability and liquidity in the market.

MODULE 5

WORKING CAPITAL MANAGEMENT

Introduction:

The key difference between long term FM and short term FM is in terms of the timings of cash. While Long Term Financial Decisions like buying of capital equipment or issuing debentures involves cash flows over an extended period of time say 5 to 15 years, short-term financial decisions typically involve cash flows within the operating cycle of the firm.

Meaning:

Working capital means the funds available for day-to-day operations of an enterprise. In the words of **shubin** "Working Capital is the amount of funds necessary to cover the cost of operating the enterprise'.

CONCEPTS OF WORKING CAPTIAL

Working capital includes 2 concepts:

- Gross Working Capital Concept
- Net Working Capital Concept

Gross working Capital : The gross working capital concepts refer to the firm's total investment in current assets.

- The term **current asset** refers to those assets, which can be reconverted into cash within an accounting year. Thus, they are cash or mere cash resources of the company.
- The term **current liabilities** are those claims of outsiders, which are expected, to mature for payments within an accounting year. Following are the examples of Currents assets and Current Liabilities.

CURRENT ASSET	CURRENT LIABILITIES
Cash	Creditors
Sundry Debtors	Bills payable
Inventories	Bank over Draft
Bills Receivable	Mortgages
Pre paid Expenses	Outstanding Expenses
Short term securities	Short term Loans

Net Working Capital : It is the difference between current assets and current liabilities. The concept of networking capital enables a firm to determine the exact amount available at its disposal for operational requirements.

NET WORKING CAPITAL = CURRENT ASSETS - CURRENT LIABILITIES

Net working capital can be positive or negative.

Positive Working capital - will arise when current assets exceeds current liabilities.

Negative Working capital - will arise when current liabilities exceeds current assets.

The two concepts of WC i.e. Gross and Net are not exclusive rather they have equal significance from management viewpoint.

The GWC concept focuses attention on two aspects of current assets management:

1. Optimum investment in current assets
2. Financing of Current assets.

The consideration of the level of investment in CA should avoid two danger points i.e. excessive and inadequate investment in CA. Investment in CA should be just adequate not more not less, to the needs of the business firm.

Excessive investment in CA should be avoided because it impairs firm's profitability, as idle funds earn nothing. On the other hand, inadequate amount of working capital can threaten solvency of the firm because of its current obligations. It should be realized that the working capital needs of the firm might be fluctuating with changing business activity. This may cause excess or shortage of WC frequently. The management should be too prompt to initiate an action and correct imbalances.

Similarly, if suddenly some surplus funds arise, they should not be allowed to remain idle, but should be invested in short term securities. Thus, the financial manager should acknowledge the sources of working capital funds as well as investment avenues where idle funds may be temporarily invested.

NEED FOR WORKING CAPITAL

The basic objective of FM is to maximize the shareholders wealth. This is possible only when the company earns sufficient profit. The amount of such profit largely depends upon the magnitude of sales. However, sales do not convert into cash instantaneously. There is always a time gap between the sale of goods and receipt of cash. WC is required for this period in order to sustain the sales activity. In case adequate WC is not available for this period, the company will not be in a position to purchase RM, pay wages and other expenses required for manufacturing the goods to be sold.

OPERATING CYCLE (Working Capital Cycle)

Meaning : From the above, it is clear that the WC is required because of the time gap between the sales and their actual realization into cash. This time gap is technically termed as operating cycle of the business.

Operating cycle is the time duration required to convert sales, after the conversion of resources into inventories, in to cash.

The duration of time required to complete the following cycle of events in case of a manufacturing firm is called the **operating cycle**.

The operating cycle of the manufacturing company is as follows:

1. Conversion of cash into raw materials.
3. Conversion of raw materials into work in process.
4. Conversion of work in process into finished goods
5. Conversion of finished goods into debtors and Bills receivables through sales
6. Conversion of debtors and bill receivables into cash.

This cycle will be repeated again and again.

TYPES OF WORKING CAPITAL

- Gross Working Capital
- Net Working Capital
- Negative Working Capital
- Positive Working Capital
- Reserve Working Capital
- Temporary Working Capital
- Permanent Working Capital.
- Balance sheet Working Capital
- Cash Working Capital

Reserve Working Capital: It refers to short term financial arrangement made by the business units to meet uncertain changes or to meet uncertainties.

Permanent Working Capital: It is the minimum amount of investment in all current assets, which is required at all times to carry on minimum level of business activities. It is also known as fixed working capital. In other words, it represents the current assets required on a continuing basis over the entire year. Tandon committee has referred to this type of WC as Core Current Assets.

Temporary Working capital: It is also called as the fluctuating or variable working capital. The amount of temporary working capital keeps on changing depending upon the changes in production and sales.

In other words, it represents additional current assets required at different times during the operating year. For example, extra inventory has to be maintained to support sales during peak period. Similarly, receivables also increase and must be financed during period of high sales. Suppliers of TWC can expect its return during off-season when it is not required by the firm. Hence TWC is financed from STS

Excessive working capital

EWC means idle funds, which earn no profits for the firm. Paucity of WC not only impairs firm's profitability but also results in production interruption and inefficiencies.

Dangers of Excess working capital

- It results in unnecessary accumulation of inventories.
- It is an indicator of defective credit policy and slack collection period.
- Management complacent degenerates into make speculative profits grow.
- Excess availability of cash tempts like executives to spend more.

Inadequate working capital

IWC means no sufficient WC to operate the business. It is also bad for the company.

Dangers of inadequate working capital

- It stagnates growth.
- It becomes difficult to implement plans and achieve the firms profit objective.
- Operating inefficiency creeps.
- The rate of return on investment slumps, as fixed assets are not efficiently utilized.
- Inadequate working capital makes the firm unable to avail of attractive credit opportunities
- The firm losses its reputation when it is not is position to honor its short-term obligations.
- It directly affects the liquidity position of the business firm.

DETERMINANTS OR FACTORS INFLUENCING THE WORKING CAPITAL

A large number of factors influence working capital needs of a firm. The basic objective of working capital management is to manage the firm's current assets and current liabilities in such a way that a satisfactory level of working capital is maintained.

- Nature of Industry
- Size of Business
- Manufacturing Cycle
- Production Policy
- Volume of sales
- Terms of Purchase & Sales
- Business Cycle
- Fluctuation in the Supply of Raw materials

- Profit Margin
- Capital Structure of the Company

WORKING CAPITAL MANAGEMENT

Working Capital Management refers to all aspects of the administration of both current assets and current liabilities.

In other words it is concerned with the problems that arise in attempting to manage the current assets, Current Liabilities and Inter relationship between them.

The goal of "working capital management" is to manage the firm's current liabilities in such a way that a satisfactory level working capital is maintained. If a firm cannot maintain satisfactory level of working capital, it may become insolvent or may even be force to become bankrupt. Moreover, different components of WC are to be properly balanced. In absence such a situation, the financial position in respect of the firm's liquidity may not be satisfactory in spite of satisfactory liquidity ratio. For example if the proportion of inventory is very high in the total current assets because of slow moving or obsolete inventory, this can mot provide cushion for liquidity.

WCM policies have a great effect on firm's profitability, liquidity and structural health. A financial manager should therefore; chalk put appropriate WCMP in respect of each of the components of the WC so as to ensure higher profitability, proper liquidity and sound structural health of the organization.

In order to achieve this objective the financial manager has to perform basically following functions:

1. Estimation of the amount of WC Required
2. Sources from which these funds have to be financed

Estimation of the amount of WC Required

In order to determine the amount of WC needed by a firm, a no. of factors like production policies, nature of business, length of manufacturing process, credit policy, rapidity of turnover . Seasonal fluctuations etc. Besides these factors the financial manager should consider the following techniques for assessment of WCR.

TECHNIQUES FOR ASSESSMENT OF WORKING CCAPITAL REQUIREMENT.

- Estimation of components of WC method
- Percent of Sales method
- Operating Cycle Approach

OPERATING CYCLE APPROACH

According to this approach, the requirements of WC depend upon the operating cycle of the business. The operating cycle begins with the acquisition of RM and ends with the collection of receivables.

It may be broadly classified into the following stages. I.e.

- Raw materials and stores – Storage stage
- Work in Progress Stage
- Finished Goods Inventory Stage
- Receivables Collection Stage.

The duration of the operating cycle for the purpose of estimating WCR is equivalent to the duration of each of these stages less the credit period allowed by suppliers of the firm.

Symbolically the duration of the WCC can be put as follows:

O = R + W + F +D – C

O = Duration of the Operating Cycle

R = Raw materials and stores storage period

W = Work in Progress Period

F = Finished stock storage period

D = Debtor's collection period

C = Creditor's payment period

$$R = \frac{\text{Average stock of raw materials and stores}}{\text{Average raw materials and stores consumption per day}}$$

$$W = \frac{\text{Average Work in Process Inventory}}{\text{Average cost of Production per day}}$$

$$F = \frac{\text{Average finished stock Inventory}}{\text{Average cost of goods sold per day}}$$

$$D = \frac{\text{Average book debts}}{\text{Average credit sales per day}}$$

$$C = \frac{\text{Average trade creditors}}{\text{Average credit purchases per day}}$$

After computing the period of one operating cycle, the total number of operating cycles that can be completed during a year can be computed by dividing 365 days with no. of operating days in a cycle. The total operating expenditure in the year when divided by the no. of operating cycles in a year will give average amount of the working capital requirements.

Sources of working capital

The Working Capital required should be met both from Short Term as well as Long Term Sources Funds. It will be appropriate to meet at least 2/3 (if not whole) of the permanent WCR from LTS and only for the period needed.

The financing of WC through ST sources of funds has the benefits of lower cost and establishing close relationship with banks.

Financing of WC from LTS provides the following benefits:

1. It reduces risk since the need to repay loans at frequent intervals is eliminated.
2. It increases liquidity, since the firm has not to worry about the payment of these funds in the near future.

The finance manager has to make use of both LT and ST sources of funds in a way that the overall cost of working capital is the lowest and the funds are available on time and before the period they are really needed.

MANAGEMENT OF DIFFERENT COMPONENTS OF WORKING CAPITAL

Working Capital Management involves management of different components of working capital such as:

- Management of Cash
- Management of inventories.
- Management Accounts Receivables
- Management of Creditors etc.

A brief description follows regarding the various issues involved in the management of each of the above components of working capital.

MANAGEMENT OF CASH

Introduction

Cash is the lifeblood of every business it is the most significant liquid and valuable asset. Excessive and inadequate cash balances are the two dangerous positions of every firm. Therefore, overall control over cash management can ensure proper and smooth way of functioning of every firm.

It is the duty of the Finance Manager to provide adequate cash to the segments of the organization. He has also to ensure that no funds are blocked in idle cash since this will involve cost in terms of interest to the business. A sound cash management scheme, therefore, maintains the balance between the twin objectives of liquidity and cost.

Meaning of Cash

The term "Cash" with reference to cash management is used in two senses. In a narrower sense it includes coins, Currency notes, cheques, bank drafts held by a firm with it and the demand deposits held by it in bank. In a broader sense it also includes "near-cash assets" such as marketable securities and time deposits with banks. Such securities or deposits can immediately be sold or converted into cash if the circumstances require. The term cash management is generally used for management of both cash and near-cash assets.

MOTIVES FOR HOLDING CASH

Cash as an asset, irrespective of the firm in which it is held, it does not earn any substantial return for the business. In spite of this fact cash is held by the firm with the following motives.

1. Transaction motive
2. Precautionary motive
3. Speculative motive
4. Compensation motive

OBJECTIVES OF CASH MANAGEMENT

There are two basic objectives of cash management

1. To meet the cash disbursement needs as per the payment schedule
2. To minimize the amount locked up as cash balances.

As a matter of fact both the objectives are mutually contradictory and therefore, it is a challenging task for the finance manager to reconcile them and to have the best in this process.

1. **Meeting cash disbursement -** The first basic objective of cash management is to meet the payments schedule. In other words, the firm should have sufficient cash to meet the various requirement of the firm at different periods of times. The business has to make payment for purchase of raw materials, wages, taxes, purchase of plant etc. the business activity may come to a grinding halt if the payment schedule is not maintained. Cash has, therefore been aptly described as the "oil to lubricate the ever turning wheels of the business, without it the process grinds to a stop".
2. **Minimizing funds locked up as cash balances** - The second basic objective of cash management is to minimize the amount locked up as cash balances. In the process of minimizing the cash balances, the Finance Manager is confronted with two conflicting aspects. A higher cash balance ensures proper payment with all its advantages. But this will result in a large balance of cash remaining idle. Low level of cash balance may result in failure of the firm to meet the payment schedule. The finance manager should, therefore, try to have an optimum amount of cash of balance keeping the above facts in view.

IMPORTANCE OF CASH MANAGEMENT

a. Cash Management assumes more importance than other current assets because cash is the most significant and the least productive assets that the firm holds. It is significant because it is used to pay firms obligations. However, cash is unproductive and as such, the aim of CM is to maintain adequate cash position to keep the firm sufficiently liquid and to use excess cash in some profitable way.

b. Management of cash is also important because it is difficult to predict cash flows accurately and that there is no perfect coincidence between inflows and outflows of cash. Thus, during some periods, cash out flows exceeds cash inflows, because payments for taxes, dividends, excise duty, seasonal inventory built-up etc. At other times cash inflows will be more than cash payments, because there may be large cash sales and debtors may be realized in large sums promptly.

CASH MANAGEMENT BASIC PROBLEMS

CM involves the following basic problems

1. Controlling the level of cash
2. Controlling inflows of cash
3. Controlling out flows of cash
4. Optimum investment of surplus cash.

I. Controlling Level of Cash:

One of the basic objectives of CM is to minimize the level of cash balance with the firm. This objective is sought to be achieved by means of the following

- Preparing cash budgets.

- Providing for unpredictable discrepancies.

Consideration of short cost.

- Availability of other sources of funds.

The term short cost refers to the cost incurred as a result of shortage of cash. Such cost may take any of the following forms:

a. The failure of the firm to meet its obligations in time may result in legal action by the firm's creditors against the firm.
b. Borrowings may have to be resorted to the high rates of interest. The firm may also be required to pay penalties to the banks for not meeting the obligations in time.

II. Controlling Inflows of Cash:

The finance manager has to device appropriate technique which helps not only in prevention of fraudulent diversion of cash receipts but also in speeding up of collection of cash. To a great extent proper system of internal check up will minimize the possibility of cash defalcations. Speeder collection of cash can be made possible by adoption of following techniques, which have been found to be quite useful and effective in the USA.

III. Control over Cash Outflows:

An effective control over cash outflows or disbursements also helps a firm in conserving cash and reducing financial requirements. However, there is a basic difference between the underlying objectives of exercising control over cash inflows and cash outflows. In case of the former the objective is the maximum acceleration of collection while in the case of latter, it is to slow down the disbursement as much as possible, the combination of fast collections and slow disbursements will result in maximums availability of funds.

IV. Investing Surplus Cash:

Following are the two basic problems regarding the investment of surplus cash.

a. Determination of the amount of surplus cash.
b. Determination of the channels of investment.

1. Determination of the amount of surplus cash - Surplus cash is the cash in excess of the firm's normal cash requirements while determining the amount of surplus cash, the finance manager ahs to take into account the minimum cash balance that the firm must keep to avoid risk or cost of running out funds, such minimum level may be termed as 'safety level for cash'

Determining safety level for cash - The financial manager determines the safety level of cash separately both for normal periods and peak periods. In both the cases, he has to decide about the following 2 factors.

a. **Desired days of cash- it** means the no of days for which cash balance should be sufficient to cover payments.
b. **Average daily cash outflows-** This means the average amount of disbursement, which will have to be made daily.

Having determined them safety level of cash can be calculated as follows.

During normal periods

Safety level of cash = Desired days of cash During Peak periods X Average daily cash outflows

Safety level of cash = Desired days of cash @ the busiest period X Average of highest daily cash outflows

2. Determination of channels of investment

The finance manager can determine the amount of surplus cash by comparing the actual amount of cash available with the safety or minimum level of cash such surplus cash may be either of a temporary or a permanent nature temporary cash surplus consists of funds which are available for investment on a short term basis since they are required to meet regular obligation such as those of taxes dividends etc. permanent cash surplus consists of funds which are kept by the firm to avail of some unforeseen profitable opportunity of expansion or acquisition or some assets. Such funds are therefore available for investment for a period ranging from six month to a year.

Criteria for investment

In most of the companies there are usually no formula or written instruction for investing the surplus cash. It is left to the discretion and judgment of the finance manager. While exercising such discretion or judgment he usually takes into consideration the following factors

- Security
- Liquidity
- Yield
- Maturity

CASH MANAGEMENT MODELS

Several types of CMM have recently been designed to help in determining Optimum Cash Balance. These models are interesting and are beginning to be used in practice. Two of such are being given below:

1.Baumol Model

2.Miller Orr Model.

BAUMOL MODEL

This model was suggested by William Baumol. It is similar to one used for determination of EOQ. According to this model, optimum cash level is that level of cash where the carrying cost and transaction costs are minimum.

Carrying costs – this refers to the cost of holding cash, namely the interest foregone on marketable securities.

Transaction costs - this refers to the cost involved in getting the marketable securities converted in cash. This happens when the firm falls short of cash and has to sell the securities resulting in clerical, brokerage, registration and others.

There is an inverse relationship the two costs. When one increases, the other decreases. Hence, optimum cash level will be at that point where these two costs are equal.

Equation: $$C = \sqrt{\frac{2U \times P}{S}}$$

Where C = Optimum cash balance

U = Annual (monthly) cash disbursement

P = Fixed costs per transaction

S = Opportunity cost of one rupee per annum

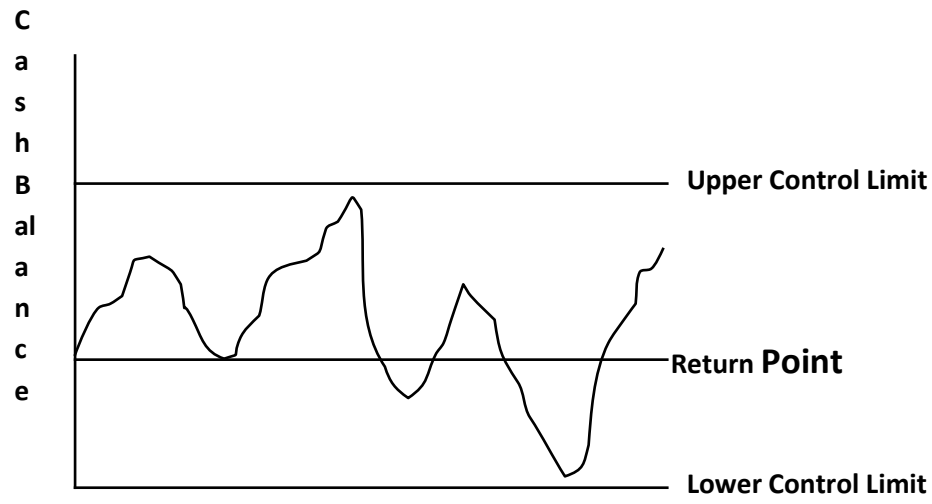
Limitations

1. Cash payments are assumed to be steady over the period of time specified. When the cash payment becomes lumpy, it may be appropriate to reduce the period for which calculations are made so that expenditures during the period are relatively steady.
2. Cash payments are seldom predictable. Hence the model may not give 100% correct results.

MILLER ORR MODEL:

Boumol Model is not suitable in these circumstances when the demand for cash is not steady and cannot be known in advance. Miller Orr Model helps in determining the optimum level of cash in such circumstances. It deals with cash management problem under the assumption of stochastic or random cash flows by laying down control limits for cash balances. These limits consists of an upper limit (h), Lower Limit (O), and return point (Z).

When cash balance reaches the upper limit, a transfer of cash equal to "h- z" is affected to marketable securities. When it touches the lower limit, a transfer equal to Z –O from marketable securities to cash is made. No transaction between cash and marketable securities to cash is made during the period when the cash balance stays between these high and low limits. The model is illustrated in form of the following chart.



The above chart shows that when cash balance reaches the upper limit, an amount equal to h-z is invested in the marketable securities and cash balance comes down to z level. When cash balance touches lower limit, marketable securities of the value of Z- O are sold and the cash balance again goes up to Z level.

The upper and lower limits are set on the basis of opportunity cost of holding cash, degree of likely fluctuation in cash balances and fixed costs associated with a securities transaction.

The optimal value of Z, the return point for the securities can be determined by the following equation:

$$Z = 3\sqrt{\frac{3b}{4i}}$$

Where

b= fixed cost associated with a security transaction

= Variance of daily net cash flows

I = interest rate per day on marketable security

The optimal value of h is simply 3Z

With these control limits set, the Miller Orr Model of cash management minimizes the total costs (fixed and opportunity) of cash management. Since the method assumes that cash flows are random, the average cash balance cannot exactly be determined in advance. However, it is approximately 3, which will be higher than that suggested by Baumol's EOQ model.

The Miller Orr Model assumes the transfer cost as independent of the amount of transfer and the direction. It also assumes that the net cash flows are completely stochastic. These assumptions may not be true on many occasions.

In general, it may be said that the cash model gives the financial manager a benchmark for judging the optimum cash balance. It does not have to be used as a precise rule governing his behavior. The model merely suggests what would be the optimal balance under a set of assumptions. The actual balance may be more or less if the assumptions do not hold good entirely.

MANAGEMENT OF INVENTORIES

Introduction:

Inventories constitute the most significant part of current assets of majority of large companies. Inventories often constitute a major elements of the total working capital and hence it has been correctly observes, " Good inventory management is good financial management".

Inventory Management covers a larger number of issues including fixation of minimum and maximum levels, determining the size of the inventory to carry, deciding about the issue price policy, setting up receipts and inspection procedure, determine the economic order quantity, providing proper storage facilities, keeping check on obsolesce and setting up effective information with regard to the inventories.

MEANING OF INVENTORY

Inventories are goods held for eventual sale by a firm. Inventories are thus one of the major elements, which help the firm in obtaining the desired level of sales.

KINDS OF INVENTORIES

Inventories can be classified into three categories.

i. Raw materials - These are goods, which have not yet been committed to production in a manufacturing firm. They may consist of basic raw materials or finished components.

ii. Work-in-process - This includes those materials, which have been committed to production process but have not yet been completed.

iii. Finished goods - These are completed products awaiting for sale. They are the final output of the production process in a manufacturing firm. In case of wholesalers and retailers, they are generally referred to as merchandise inventory.

The levels of the above three kinds of inventories differ depending upon the nature of the business. For example, a manufacturer will have levels of all the three kind of inventories. While a retailer or a wholesaler will have a high level of inventories of finished goods but will have no inventories of raw materials or work-in-process. Moreover, depending upon the nature of the business, inventories may be durable or non-durable, valuable or inexpensive, perishable or non-perishable etc.

BENEFITS OF HOLDING INVENTORIES

Holding of inventories helps a firm in separating the processes of purchasing, producing and selling. In case a firm does not hold sufficient stock of raw materials, finished goods etc., the purchasing would take place only when the firm receives the order from a customer. It may result in delay in executing the order because of difficulties in obtaining/procuring raw materials, finished goods, etc. Thus, inventories provide cushion so that the purchasing, production and sales functions can proceed at optimum speed.

The specific benefits of holding inventories can be put as follows:

1. Avoiding losses of sales - If a firm maintains adequate inventories it can avoid losses on account of losing the customers for non-supply of goods in time.

2. Reducing ordering cost - The variable cost associated with individual order, e.g., typing checking, approving and mailing the order, etc., can be reduced if a firm places a few large orders rather than numerous small orders.

3. Achieving efficient production runs - Maintenance of large inventories helps a firm in reducing the set-up costs associated with each production run. For example, if the set-up cost is Rs 200 and the run produces 200 units, the cost per unit comes to re 1. In case, the run produces 2000 units, the set-up costs will stand reduced to Re 0.10 per unit. Thus, inventories assist the firm in making sufficient high runs resulting in lowering down the set-up costs. Moreover, adequate inventories project against shortage that may delay or halt production.

RISKS AND COSTS ASSOCIATED WITH INVENTORIES

Holding of inventories exposes the firm to a number of risks and costs.

Risk of holding inventories can be put as follows:

(i) Price decline - This may be due to increase in the market supply of the product, introduction of a new competitive product, price cutting by the competitors, etc.

(ii) Product deterioration - This may be due to holding a product for too long a period or improper storage conditions.

(iii) Obsolescence - This may be due to change in customer's taste, new production technique, improvements in the product design, specifications, etc.

The cost of holding inventories are as follows:

(i) Materials cost -This includes the cost of purchasing the goods, transportation and handling charges less any discount allowed by the supplier of goods.

(ii) Ordering cost - This includes the variable cost associated with placing an order for the goods. The fewer the orders, the lower will be the supplier of goods.

(iii) Carrying cost - This includes the variable cost associated with placing an order for the goods. The fewer the orders, spoilage costs, cost of funds tied up in inventories, etc.

MANAGEMENT OF INVENTORY

Inventories often constitute a major element of the total working capital and hence it has been correctly observed, "Good inventory management is good financial management".

Inventory management covers a large number of issues including fixation of minimum and maximum levels; determining the size of the inventory to be carried; deciding about the economic order quantity; providing proper storage facilities, keeping check on obsolescence and setting up effective

information system with regard to the inventories. However, management of inventories involves two basic problems:

a. Maintaining a sufficiently large size of inventory for efficient and smooth production and sales operations.
b. Maintaining a minimum inventories to minimize the direct-indirect costs associated with holding inventories to maximize then profitability.

Inventories should neither be excessive nor inadequate. If inventories were kept at high level, higher interest and storage costs would be incurred. On the other hand, a low level of inventories may result in frequent interruption in the production schedule resulting in underutilization of capacity and lower sales.

OBJECTIVE OF INVENSTORY MANAGEMENT:

The objective of inventory management is therefore to determine and maintain the optimum level of investment in inventories, which help in achieving the following **Objectives;**

a. Ensuring a continuous supply of materials of production department facilitating uninterrupted production.
b. Maintaining sufficient stock of raw material in periods of short supply.
c. Maintaining sufficient stock of finished goods for smooth sales operations.
d. Minimizing the carrying costs.
e. Keeping investment in inventories at the optimum level.

TECHNIQUES OF INVENTORY MANAGEMENT

Effective inventory management requires an effective control over inventories. Inventory control refers to a system, which ensures supply of required quantity and quality of inventories as the required time and at the same time prevents unnecessary investment in inventories. The techniques of inventory control/inventory management are as follows:

1. DETERMINATION ECONOMIC ORDER QUANTITY [EOQ]

Determination of quantity for which the order should be placed is one of the important problems concerned with efficient inventory management. "Economic order quantity refers to the size of order which gives maximum economy in purchasing any item of raw-materials and finished product. It is fixed mainly after taking into accounts following costs.

1. Ordering costs - It is the cost of placing an order and securing the supplies. It varies from time-to-time depending upon number order placed and number of items ordered. The more frequently the orders are placed and fever the quantities purchase form each order, the greater will be ordering cost and vice versa.

2. Carrying cost - It is the cost of keeping items in stock. It includes interest on investment obsolesces losses, storekeeping cost, insurance, premium etc. *The former cost may be referred as "Cost of*

Acquiring" while the latter as "Cost of Holding Inventory". A balance is therefore struck between opposing factors an economic ordering quantity is determined at level for which aggregate cost is minimum.

Formula

$$EOQ = \sqrt{\frac{2AB}{C}} \quad \text{or}$$

$$\sqrt{\frac{2AO}{C}}$$

Where, EOQ- Economic Order Quantity

A- Annual usage of inventory

B- Buying Cost per order

C- Carrying Cost per unit O-Ordering Cost

2. DETERMINATION OF OPTIMUM PRODUCTION QUANTITY

The EOQ model can be extended to production runs to determine the Optimum Production Quantity. The two costs involved in this process are:

1. Set up cost and
2. Inventory carrying cost

The Set up cost is of the nature of FC and is to incurred at the time of commencement of each production run. Larger the size of the production run, lower will be the set up cost per unit. However , the carrying cost will increase with increase in the size of the production run. Thus, there is an inverse relationship the setup costs and inventory carrying costs.

The optimum production size is at that level where the total of the set up cost and the inventory carrying cost is minimum. In other words, at this level the two costs will be equal.

Equation

$$E = \sqrt{\frac{2U * P}{S}}$$

Where

D- Optimum Production Quantity

U- Annual (monthly) out put

P- Buying Cost per order

R- Cost of carrying inventory per unit per annum

O- Ordering Cost

3. DETERMINATION OF REORDER LEVEL

Having determined the EOQ or OPQ, it is imp to decide when to order for the new stock. This problem is solved by determining the reorder level.

Reorder level is the level of inventory at which the firm should place the order to replenish the inventory. In case, the order is placed at this level, the new goods will arrive before the firm runs out of goods to sell.

In order to determine reorder level, information is required about two things,

a. The lead time and

b. The usage rate

Lead Time : The lead time refers to the time normally taken to receive the delivery of inventory after the order has been placed . In case there is no uncertainty about the usage rate and lead-time, the order level can be determined by simply applying the following equation:

Reorder Level = Average Usage * Lead Time

Safety stock: It is the minimum buffer stock as a cushion against possible increase in usage or delay in delivery time. The level of safety stock can be calculated by applying the following equation:

Safety Stock = Average Usage * Period of safety stock

Equation for determining the reorder level when safety stock is maintained will be as follows

Reorder Level = Lead Time * Average Usage + Safety Stock

4. ABC ANALYSIS

ABC analysis is the technique of exercising selective control over inventory items. The technique is based on the assumption that a firm should not exercise the same degree of control on those items which are more costly as compared to those items which are less costly . according to this approach , the inventory items are divided into 3 categories – A, B and C.

Category A may include more costly items, while category B may consists of less costly items and category C of the least costly items. Thus, ABC analysis concentrates on importance and exception (CIE). This approach is also known as " Proportional Value Analysis" (PAV), since the items are classified in importance of their relative value.

Though no definite procedure can be laid down for classifying the inventories in A, B, C categories as this will depend upon a large number of factors, such as nature and verities of items, specific requirements of the business etc. yet the following method is generally adopted.

1. The quantity of each material expected to be used in a period is estimated.
2. The value of the each of the above items of materials is found out by multiplying the quantity of each item with the price.
3. The items are then rearranged in the descending order of their value irrespective their quantities.

4. It will be found that a small number of first few items may amount to a large % of the total value of the items. The management then will have to take a decision as to the % of total value or the total number of items, which have to be covered by A, B and C categories.

Inventory surveys in general have shown the following trends regarding the components of inventories manufacturing organizations.

Category	% of total value	% of total quantity
A	70	10
B	25	35
C	5	55

While exercising control over stores, items of category A should be given the utmost attention. Their levels of stock should be strictly controlled. In case of items of category B, ordinary stores routine should be observed but the rules regarding levels of stock may not be so strictly adhered too as those in category A.

Items of category C may be considered as Free issue items and even normal accounting procedure may be dispersed with. However, stock should be kept under some observation so that fresh supplies may be obtained in time. Order for these materials may also be given in bulk to economize on ordering and handling costs.

Advantages

1. It ensures closure control on costly items in which a large amount of capital had been invested.
2. It helps in developing a scientific method of controlling inventories, clerical costs are reduced and stock is maintained at optimum level.
3. It helps in achieving the main objective of inventory control at minimum cost. The stock turnover rate can be maintained at comparatively higher level through scientific control of inventories.

Limitation

The system analysis the item according to their value and not according to their importance in the production process. It may, therefore, sometimes create difficult problems.

5. INVENTORY TURNOVER RATIOS

Inventory turnover rations are also calculated to minimize the investment in investment in inventories. Turnover ratio can be calculated regarding each item of inventory on the basis of the following formula:

$$\text{IT R} = \frac{\text{Cost of goods consumed/sold during the period}}{\text{Average inventory held during the period}}$$

For example, if the cost of raw material consumed during January 1990 is Rs10000 and the average inventory held during the month is Rs 2000, the inventory turnover ratio comes to 5.

Inventory turnover ratios regarding different items on inventory may be compared with the ratios of the earlier years as well as with cash. Such a comparison may reveal the following four types of inventories:

1. **Slow moving inventories -** These are inventories, which have a low turnover ratio. An attempt should be made to keep these inventories at the lowest level.
2. **Dormant inventories -** Inventories, which have at present no demand, are classified as dormant inventories. A decision should be taken by the financial manager in consultation with the chief buyer, the storekeeper, the production controller and the cost accountant whether to retain these inventories because of good chance of future demand or to cut losses by scrapping them while they have some market value.
3. **Obsolete inventories -** These are inventories, which are no longer in demand because of their becoming out of date. They should be immediately discarded or scrapped.
4. **Fast moving inventories -** These are inventories, which are very much in demand. Special care should be taken in respect of these items of inventories so that the production or the sales do not suffer on account of their shortage.

Aging Schedule of Inventory

Classification of the inventories according to age also helps in identifying inventories, which are moving slowly into production or sales. This requires identifying the date of purchase or manufacture of each item of the inventory and classifying them as shown in the next table.

Aging Schedule of Inventory

Age Classification (Days)	Date of purchase / Manufacture	Amount	% total
0 – 15	Dec 16	8,000	20
16 – 30	Dec 12	4,000	10
31 – 45	Nov 26	2,000	5
46 – 60	Nov 10	20,000	50
61 and above	Oct 25	60,000	15
		94,000	100

The above table shows that 50% of the inventory is of the age group of 46-60 days, while 15% is older than 60 days. In case steps are not taken to clear the inventories, it is possible that more than 50% inventories may suffer deterioration in its value or may even become obsolete.

6. JUST IN TIME

Every manufacturing company has to maintain three classes of inventories - raw materials, work-in-process and finished goods. These inventories are designed to act as buffers so that operations can proceed smoothly even if the suppliers are late with department is unable to operate for a short period because of breakdown of any other reasons. However, carrying of inventories results in costs in terms of storages, blocking of capital investment, insurance, etc. such costs can be reduced / minimized by keeping the inventories at the lowest possible level. JIT system basically aims to achieve this objective.

JIT inventory System, as its name suggest, means all inventories whether of raw materials, work-in-process and finished goods are received in time. In other words, raw materials are received just in time to go into production, manufactured part are completed just in time to be assembled into products, and products are completed 'just in time' to be shipped to customers. In a JIT environment the flow of goods is controlled by what is described as "pull approach" to the manufacture of products.

The 'pull approach' means at the final assembly stage, a signal is sent to the preceding workstation as to the exact quantum of parts and materials that will be needed over the next few hours' for the assembly of products, and only that quantum of parts and materials is provided. The same signal is sent back through each preceding workstation so that a smooth flow of parts and materials is maintained with no inventory build-up at any point.

The "pull approach" described above is different from "push approach" as used in case of conventional inventory system. In the latter case, inventories of parts and materials are built up and 'pushed forward' to the next workstation. This results in locking of funds and stockpiling of parts, which may not be used for days or even weeks together.

Requirements of JIT system

The following are the key requirements for the successful operation of JIT inventory system:

- The company must have only a few suppliers.
- Suppliers must be bound under long-term contracts and willing to make frequent deliveries in small lots.
- The company must develop a system of total quality control (TQC). TQC means that no defects can be allowed over its parts and materials.
- Poor quality of goods or parts cannot be accepted since JIT inventory system operates with no work-in-process inventory.
- Workers must be multi-skilled in JIT environment. This is because in case of JIT system machine and equipments are arranged in small cells where several tasks can be performed in relation to a product. The workers assigned to these cells are expected to operate all the equipments, which are there in the cells.

Benefits of JIT system

The following are the benefits of JIT system:

a. Inventories of all types can be reduced significantly. This results in saving of costs.
b. Storage space used for inventories can be made available for other more productive uses.
c. Total quality control results in production of quality products.
d. The productivity of the worker is increased and machine set-up time is decreased.
e. This, all results in smooth flow of goods between workstations, decrease in total production time and maximization of the profits of the company.

TECHNIQUES OF INVENTORY MANAGEMENT

Effective inventory management requires an effective control over inventories. Inventory control refers to a system, which ensures supply of required quantity and quality of inventories as the required time and at the same time prevents unnecessary investment in inventories. The techniques of inventory control/inventory management are as follows:

The following are the important tools and techniques of inventory management and control:

1. Determination of Stock Levels.
2. Determination of Safety Stocks.
3. Selecting a proper System of Ordering for Inventory.
4. Determination of Economic Order Quantity.
5. A.B.C.Analysis. (Always Better Control)
6. V E D Analysis (Vital, Essential and Desirable)
7. Inventory Turnover Ratios
8. Aging Schedule of Inventory
9. Classification and Codification of Inventories.
10. Preparation of Inventory Reports
11. Lead Time
12. Perpetual Inventory System
13. JIT Control System.

VALUATION OF INVENTORIES

The value of the materials has a direct bearing on the income of a concern, so it is necessary that a method of pricing materials should be such that it gives a realistic value of stocks. The traditional method of valuing materials cost price or market price is no longer the only method.

Different methods of pricing materials give different values of closing materials and it leaves a scope for window dressing. If management is interested to show more profits then it can chose such method which will show more stock or vice versa.

The following methods for pricing material issues are generally used:

1. First in First out method (FIFO)
2. Last in First out (LIFO)
3. Average price method
    a. Simple average price method
    b. Weighted average price method
4. Base Stock method
5. Standard Price method
6. Market price method

MANAGEMENT OF ACCOUNTS RECEIVABLES

Introduction

Accounts receivables (popularly known as debtors) constitute a significant portion of the total current assets of the business next after inventories. They are a direct consequence of "trade credit" which has become an essential marketing tool in the modern business.

When the firm sells goods for cash, payments are received immediately and therefore no receivables are created. However, when a firm sells goods or services on credit, the payments are postponed to future dates and receivables are created. Usually, the credit sales are made on open account, which means that no formal acknowledgements of debt obligations are taken from the buyers. The only documents evidencing the same are a purchase order, shipping invoice, or even billing statement. The policy of open account sales facilitates business transactions and reduces to a great extent the paper work required in connection with credit sales.

MEANING OF RECEIVABLES

Receivables are assets representing amounts owed to the firm as a result of sale of goods in the ordinary course of business. They therefore represent the claims of a firm against its customers and are carried to the assets side of the balance sheet under title such as accounts receivables, trade receivables or book debts etc. they are as stated earlier, the result of extension of credit facility to the customers. The objective of such a facility is to allow the customers a reasonable period of time in which they can pay for goods purchased by them.

MEANING OF RECEIVABLES MANAGEMENT

Receivables are a direct result of credit sale. Credit sale is resorted by a firm to push up its sales which ultimately result in pushing up the profits earned by the firm. At the same time, selling goods on credit results in blocking of funds in accounts receivable. Additional funds are, therefore, required for the operation needs of the business, which involve extra costs in terms of interest. Moreover, increase in receivables also increases chances of bad debts.

The finance manager has to follow a policy which uses cash flows as economically as possible in extending receivables without adversely affecting the chances of increasing sales and making more profits. Management of accounts receivable may, therefore be defined as "the process making decisions relating to the investment of funds in those asset which will result in maximizing the overall return on the investment of the firm".

Purpose of Receivables

Receivables are created because of credit sales. Hence, the purpose of receivables is directly connected with the objective of making credit sales. The object of credit sales as follows.

1. Achieving growth in sales.
2. Increasing profit.
3. Meeting competition.

The overall objective of committing funds to accounts receivables is to generate a large flow of operating revenues and hence profit than what be achieved in the absence of such commitment.

COST OF MAINTAINING RECEIVABLES

The major categories of cast associated with the extension of credit and accounts receivables are:

1. Collection Cost.
2. Capital Cost.
3. Delinquency Cost, and
4. Default Cost.

1. **Collection Cost** - The costs are administrative costs incurred in collecting the receivables from the customer to whom credit sales are given.

Collection costs are:

a) Additional expenses on the creation and maintenance of credit department with staff, accounting records, stationary, postage and other related item.

b) Expenses involved in acquiring credit information either through outside specialist agencies or by the staff of the firm itself. These expenses would not be incurred if the firm does not sell on credit.

2. **Delinquency cost -** This cost arises out of the failure of the customers to meet their obligation when payment on credit sales becomes due after the expiry of the credit period. Such costs are called Delinquency Cost.

I. Blocking-up of funds for an extended period

II. Cost associated with steps that have to be imitated to collect the over dues, such as, reminders and other collection efforts, legal charges where necessary, and so on.

3. **Capital Cost -** The increased level of accounts receivables is an investment in assets. They have to be financed thereby involving cost. There is a time lag between the sale of goods to, and payment

by, the customer. Meanwhile, the firm has to pay employees and suppliers of raw materials there by implying that the firm should arrange for additional funds, to meet its own obligations while waiting for payment from its customers. The cost on the use of additional capital to support credit sales, which alternatively could be profitably employed elsewhere, is therefore, a part of the cost of extending receivables.

4. Default Cost - Finally, the firm may not be able to recover the over dues because of the inability of the customers. Such debts and have to be written off, as they cannot be realized. Such costs are known as default costs associated with credit sales and accounts receivables.

FACTORS AFFECTING SIZE OF RECEIVABLES

1. Level of Sales - This is the most important factor in determining the size of account receivable. Generally, in the same industry, a firm having a large volume of sales will be having a larger level of receivables as compared to a firm with a small volume of sales.

   Sales level can also be used for forecasting change in accounts receivables. For example, if the firm predicts that there will be an increase of 20% in its credit sales for the next period, it can be expected that there will also be a 20% increase in the level of receivable.

2. Credit Policies -The term credit policy refers to the decision variables that influence the amount of trade credit i.e. the investment in receivables. These variables include the quantity of trade accounts to be accepted, the length of the credit period to be extended, the cash discount to be given and any special terms to be offered depending upon particular circumstances of the firm and the customer.

   A firm's credit policy, as a matter of fact, determines the amount of risk the firm is willing to undertake in its sales activities. If the firm has a lenient/ liberal credit policy, it will experience a higher level of receivables as compared to a firm with a more rigid or stringent credit policy. This is because of the two reasons:

   a. A lenient credit policy encourages even the financially strong customers to make delays in payment resulting in increasing the size of the account receivables.
   b. Lenient credit policy will result in greater default in payments by financially weak customers thus resulting in increasing the size of the receivables.

3.Terms of trade credit - The size of the receivables is also affected by terms of trade offered by the firm. Two important components of the credit terms are :

   a. Credit period.
   b. Cash discount.

Credit period: The term credit period refers to the time duration for which the credit is extended to the customers. It is generally expressed in terms of a "net date". For example, if a firm's credit terms are " net 15", it means the customers are expected to pay within 15 days from the date of credit sales.

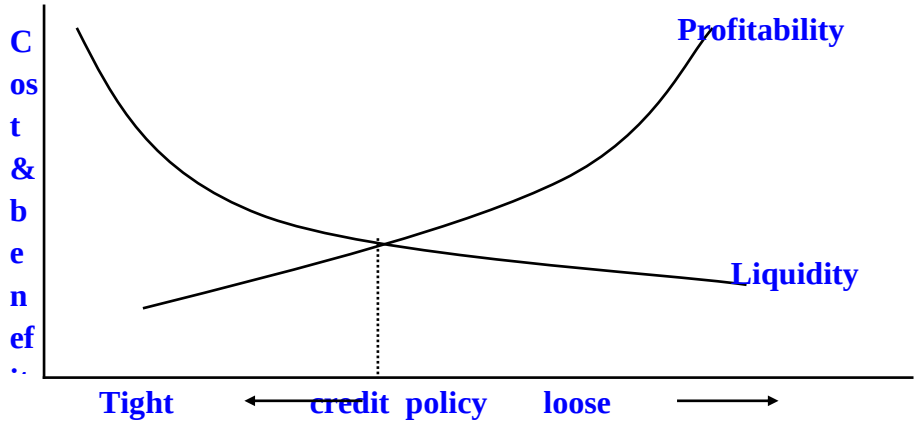
Cash Discount: Most firms offer cash discount to their customers for encouraging them to pay their dues before the expiry of the credit period.

The term cash discount indicates the rate of discount as well as the period for which the discount has been offered. For example, if the terms of cash discount are changed from "net 30" to "2/10 net 30", it means the credit period is of 30 days but in case customers pays in 10 days, he would get 2% discount on the amount due by him.

OPTIMUM SIZE OF RECEIVABLES

The optimum investment in receivables will be at a level where there is a tradeoff between costs and profitability of the firm. When the firm resorts to a liberal credit policy, the profitability of the firm increases on the account of higher sales. However, such a policy results in increased investment in accounts receivables, increased chances of a bad debt and more collection costs. The total investments in the receivables increases and thus the problem of liquidity is created.

On the other hand, a stringent credit policy reduces the profitability but increases the liquidity of the firm. Thus, optimum credit policy occurs at a point where there is "trade off" between liquidity and profitability as shown in the chart:



Study of Credit Policy –

Credit policy adopted by the firm should be optimum – neither too liberal nor too stringent. In order to determine the nature of credit policy followed by a firm, the following techniques may be adopted:

1. Computation of average age of receivables:

Computation of average age of receivables involves the computation of average collection period. The period so computed should be compared with the period for the industry as a whole or with that prevailing in similar firms.

Limitation:

The technique of average age of receivables should be used with caution. It may give misleading results in case there are fluctuations in sales pattern.

2. Aging schedule of receivables: on the pattern of aging schedule of inventories, the aging schedule of the receivables can also be prepared. The objective of preparing such an aging schedule is to have a closer look over the quality of individual accounts. This requires the ascertaining of the sales made to and payments received from customers by checking the receivables ledger. The schedule may be prepared in the following form:

Aging Schedule of receivables

Age Classes (Days)	As on Dec 31, 2015			As on Dec 31, 2015	
	Month of Sale	Balance of Receivables	% of Total	Balance of Receivables	% of Total
1 – 30	Dec	25,000	22.7	10,350	11.9
31 – 60	Nov	62,500	56.8	18,550	21.4
61 – 90	Oct	12,000	10.9	46,400	53.4
91 – 120	Sept	10,000	9.1	8,850	10.2
121 and More	Earlier	500	0.5	2,700	3.1
	Total	1,10,000	100	86,850	100

The above schedule indicates as compared to the year, 1990, in 1991 there is slackness in the debt collection machinery. In 1990, 56.8% of the total accounts receivable were in the age group of 31 to 60 days. In 1991, this % has gone down to 21.4. Similarly, in 1990 only 10.9% of the total receivables were in the age group of 61 to 90 days. In 1991, this % has gone up to 53.4 indicating that more than 50% of accounts receivables are in this age group.

The finance manger may get such schedules prepared at shorter intervals of say a quarter or six months instead of a year. An inter firm comparison of the aging schedule of debtors can also be made if the data regarding the competitive firms are available.

POLICIES FOR MANAGING RECEIVABLES

A firm should establish receivables policies after carefully considering both benefits and costs of different policies. These policies relate to:

1. Credit Standards
2. Credit Terms
3. Collection Procedures.

1. Credit Standards: The term credit standards represent the basic criteria for extension of credit to customers. The level of sales & receivables are likely to be high if the credit standards are relatively loose, as compared to a situation when they are relatively tight.

The firm's credit standards are generally determined by the five C's i.e. character, capacity, capital, collateral and conditions. Character denotes the integrity of the customer, i.e. his willingness to pay for the goods purchased. Capacity denotes his ability to manage the business. Capital denotes his financial soundness. Collateral refers to the assets which the customer can offer by way of security. Conditions refers to the impact of general economic trends on the firm or to special developments in certain areas of economy that may affect the customer's ability to meet his obligations.

Information about the five C's can be collected both from internal as well as external sources. Internal sources include the firm's previous experience with the customer supplemented by its own well-developed information system. External resources include customer references, trade associations and credit rating organizations.

An individual firm can translate its credit information in to risk classes or groups according to the probability of loss associated with each class. On the basis of this information, the firm can decide whether it will be advisable for it to extend credit to a particular class of customer.

2.Credit Terms - It refers to the terms under which a firm sells goods on credit to its customers. The two components of credit terms are

a. Credit Period b. Cash Discount.

a. Credit Period: Extending the credit period stimulates sales but increases the cost on account of more tying up of funds in receivables. Similarly, shortening the credit period reduces the profit on the account of reduced sales, but also reduces the cost of tying up of funds in receivables. Determining the optimum credit period, therefore, involves locating the period where the marginal profits on increased sales are exactly offset by the cost of carrying the higher amount of accounts receivables.

b. Cash Discount: The effect of allowing cash discount can also be analyzed on the same pattern as that of the credit period. Attractive cash discount terms reduce the average collection period resulting in reduced investment in accounts receivables. Thus there is a savings in capital costs. On the other hand , cash discount itself is a loss to the firm. Optimal discount is established at the point where the cost and benefit are exactly offsetting.

3. Collection Procedure:- A stringent collection procedure is expensive for the firm because of high out of pocket costs and loss of good will of the firm among its customers. However, it minimizes the loss on the account of bad debts as well as increases savings in terms of lower capital costs on the account of reduction in the size of receivables. A balance is to strike between the costs and benefits of different collection procedures or policies.

WORKING CAPITAL POLICIES

Working capital policy refers to the firm's policies regarding

- Target levels for each category of an asset.
- How current assets will be financed.

Three approaches to WCP

- Conservative - Use permanent capital for permanent assets and temporary assets.
- Moderate - Match the maturity of the assets with the maturity of the financing.
- Aggressive - Use short-term financing to finance permanent assets.

Let's view the characteristics of each policy.

1. CONSERVATIVE WORKING CAPITAL POLICY:

- High level of investment in current assets.
- Support any level of sales and production.
- High liquidity level.
- Avoid short-term financing to reduce risk, but decreases the potential for maximum value creation because of the high cost of long-term debt and equity financing.
- Borrowing long-term is considered less risky than borrowing short-term.
- This approach involves the use of long-term debt and equity to finance all long-term fixed assets and permanent assets, in addition to some part of temporary current assets.
- The firm has a large amount of net working capital. It is a relatively low-risk position.
- The safety of conservative approach has a cost.
- Long-term financing is generally more expensive than short-term financing.

2. AGGRESSIVE WORKING CAPITAL POLICY;

- Low level of investment.
- More short-term financing is used to finance current assets.
- Support low level of production & sales.
- Borrowing short-term is considered more risky than borrowing long-term.
- Firm risk increases, due to the risk of fluctuating interest rates, but the potential for higher returns increases because of the generally low-cost financing.
- This approach involves the use of short-term debt to finance at least the firm's temporary assets, some or all of its permanent current assets, and possibly some of its long-term fixed assets. (Heavy reliance on short term debt).
- The firm has very little net working capital. It is more risky.
- May be a negative net working capital. It is very risky

3. Hedging / Matching / MODERATE WORKING CAPITAL POLICY

- This approach tries to balance risk and return concerns.
- Temporary current assets that are only going to be on the balance sheet for a short time should be financed with short-term debt, current liabilities. And, permanent current assets and long-term fixed assets that are going to be on the balance sheet for a long time should be financed from long-term debt and equity sources.
- The firm has a moderate amount of net working capital. It is a relatively amount of risk balanced by a relatively moderate amount of expected return.
- In the real world, each firm must decide on its balance of financing sources and its approach to working capital management based on its particular industry and the firm's risk and return strategy.

OPTIMAL LEVEL OF CURRENT ASSETS

- A firm's optimal level of current assets is reached when the optimal level of cash, inventory, accounts receivable, and other current assets is achieved.
- Cash: firms try to keep just enough cash on hand to conduct day-to-day business, while investing extra amounts in short-term marketable securities.
- Inventory: firms seek the level that reduces lost sales due to lack of inventory, while at the same time holding down bad debt and collection expenses through sound credit policies.

PROJECTING THE ALL THREE POLICIES

	Liquidity	Risk	Profitability
Conservative	High	Low	Low
Matching	Moderate	Moderate	Moderate
Aggressive	Low	High	High

The chart tells us two things:

- Profitability varies inversely with liquidity; increased liquidity can be achieved at the expense of (decreased) profitability.
- Profitability & risk have same direction; in order to have greater profitability, we need to take greater risk.
- Conclusion: Optimal level of each current asset will depend on the management's attitude towards risk & return.

COMPUTATION OF WORKING CAPITAL MANAGEMNT

The Two components of working capital are current assets and current liabilities. They have a bearing on the cash operating cycle. In order to calculate the working capital needs, what is required is the holding period of various types of inventories, the credit collection period and credit payment period.

Working capital also depends on the budgeted level of activity in terms of production / sales. The calculation of WC is based on the assumption that the production / sales is carried on evenly throughout the year and all costs accrue similarly.

As the WC requirements are related to the costs excluding depreciation and not to the sales price, WC is computed with reference to cash cost.

The cash cost approach is comprehensive and superior to the operating cycle approach based on holding period of debtors and inventories and payment period of creditors

ESTIMATION OF CURRENT ASSETS

Raw Material Inventory

The investment in raw materials inventory is estimated as follows:

$$= \frac{\text{Budgeted Production (in units) X Cost of Raw materials Per unit X Average Inventory Holding period (months/ days)}}{\text{12 months/ 365 Days}}$$

Work in Progress Inventory

The relevant costs to determine WIP inventory are the proportionate share of raw materials and conversion cost (labour and manufacturing overhead costs excluding depreciation).

In case, full unit of raw materials is required in the beginning, the unit cost of WIP would be higher, that is, the cost of full unit plus 50% of conversion cost, compared to the raw material requirement throughout the production cycle: w/p is normally equivalent to 50% of total cost of production.

Symbolically

$$= \frac{\text{Budgeted Production (in units) X Estimated WIP Cost Per unit X Average time Span of WIP Inventory (months/ days)}}{\text{12 months/ 365 Days}}$$

Finished goods inventory

$$= \frac{\text{Budgeted Production (in units) x Cost of goods Produced per unit (excluding depreciation) x Finished Goods holding period (months/ days)}}{\text{12 months/ 365 Days}}$$

Debtors

The WC tied up in debtors should be estimated in relation to total cost price (excluding depreciation) investment in debtors is estimated as follows:

$$= \frac{\text{Budgeted Credit sales (in units) X Cost of sales Per unit excluding Dep X Average debt collection period (months/ days)}}{\text{12 months/ 365 Days}}$$

ESTIMATION OF CURRENT LIABILITIES

The WC needs of business firms are lower to the extent that such needs are met through the current liabilities (other than bank credit) arising in the ordinary course of business. The important current liabilities in this context are trade creditors, wages and overheads.

Trade Creditors:

$$= \frac{\text{Budgeted Yearly Production (in units) x Raw material requirement Per unit x Credit period allowed by creditors (months/ days)}}{\text{12 months/ 365 Days}}$$

DIRECT WAGES:

The average credit period for the payment of wages approximates to half a month in the case of monthly wage payment. The first day's monthly wages are paid on the 30 the day of the month, extending the credit for 29 days, the second day's wages are, again paid on 30th, extending the credit for 28 days, and so on. An average credit period approximates to half a month.

$$= \frac{\text{Budgeted Yearly Production (in units) x Direct labour cost Per unitx Average time log in payment of wages (months/ days)}}{\text{12 months/ 365 Days}}$$

OVERHEADS (OTHER THAN DEPRECIATION AND AMORTISATION)

$$\frac{\text{Budgeted Yearly Production (in units) x Overhead Cost Per Unit x Average time log in payment of Overheads (months/ days)}}{\text{12 months/ 365 Days}}$$

The amount overheads may be separately calculated for different type's overheads. In the case of selling overheads, the relevant item would be sales volume instead of production volume.

DETERMINATION OF WORKING CAPITAL

Particulars		Amount
I ESTIMATION OF CURRENT ASSETS:		
✸ Minimum desired cash and bank balances		XXX
✸ Inventories		
1. Raw materials	XXX	
2. WIP	XXX	
3. Finished Goods	XXX	XXX
✸ Debtors		XXX
Total Current Assets		XXX
II. ESTIMATION OF CURRENT LIABILITIES:		
✸ Creditors	XXX	
✸ Wages	XXX	
✸ Overheads	XXX	
Total Current Liabilities		XXX
III. NET WORKING CAPITAL (I - II)		XXX
Add Margin for contingency		XXX
IV. NET WORKING CAPITAL REQUIRED		XXX