



FINANCIAL MANAGEMENT

II Semester



UNIT-I: FINANCIAL MANAGEMENT

Importance of Finance; Meaning of Business Finance; Meaning of Financial Management; Objectives of Financial Management; Scope of Financial management, Role of Financial Manager in the Changing Scenario; Method of Financial Management; Organisation of the Finance Function; Importance of Financial Management. Tools of Financial Management and Financial Forecasting, Financial Statement, Analysis and Interpretation; Practical Problems.

WHAT IS FINANCE?

- Finance may be defined as the *art and science of managing money*. It includes financial service and financial instruments.
- The main function of finance is *procurement of funds and their effective utilization* when it is needed.

DEFINITION OF FINANCE.

According to **Khan and Jain**, “Finance is the art and science of managing money”.

IMPORTANCE OF FINANCE

Finance is the essential to carry out the economic activities of the enterprise in the production of goods and services as well as their distribution to achieve its target. Thus the importance of finance is as follows;

- Finance are required for *acquiring permanent assets* for the production of goods and services.
- Finance are required to *carry out the business operations* without fail.
- Finance are required to *meet the working capital obligation* in a shorter period.
- Finance are required in *every organization for various ventures* and projects.
- Finance are required for the *growth and development* of industry, trade, business and agriculture of a nation.



MEANING OF BUSINESS FINANCE

- Business Finance means the *funds and credit employed in the business*. Finance is the foundation of a business.
- Business Finance is Cash flows between capital markets and firm's operations
 - a. Cash raised by selling financial assets in financial markets
 - b. Cash invested in firm's operations and used to purchase real assets
 - c. Cash generated from firm's operations
 - d. Cash reinvested in firms' operations
 - e. Cash returned to investors

DEFINITION OF BUSINESS FINANCE

According to B.O. Wheeler “ Business Finance includes those business activities that are concerned *with the acquisition and conservation of capital funds* in meeting the financial needs and overall objectives of a business enterprise.”

- We require business finances to *meet certain contingencies and any unexpected problems* that may arise
- Necessary for the *promotion of sales*
- A requirement to *avail any business opportunities* that may present themselves

MEANING OF FINANCIAL MANAGEMENT

Financial management mainly involves in *raising funds* and their *effective utilization* with the objective of *maximizing shareholder's wealth*.

DEFINITION OF FINANCIAL MANAGEMENT

According to S.C.Kuchal “ Financial Management deals with *procurement of funds and their effective utilization in the business*”.

Financial Management:

Financial management is concerned with *three activities*:

- i) *Anticipating financial needs* – which means estimation of funds required for investment in fixed and current asset
- ii) *Acquiring financial resources*- where and how to obtain the funds to meet the anticipated financial needs



- iii) *Allocating funds in business* – allocate the funds effectively and efficiently to maximize the shareholders wealth.

IMPORTANCE OF FINANCIAL MANAGEMENT:

(i) Financial Planning

- Financial management helps to determine the financial requirement of the business concern and leads to take financial planning of the concern.
- Financial planning is an important part of the business concern, which helps to promotion of an enterprise.

(ii) Acquisition of Funds

- Financial management involves the acquisition of required finance to the business concern.
- Acquiring needed funds play a major part of the financial management, which involve possible source of finance at minimum cost.

(iii) Proper Use of Funds

- Proper use and allocation of funds leads to improve the operational efficiency of the business concern.
- When the finance manager uses the funds properly, they can reduce the cost of capital and increase the value of the firm.

(iv) Financial Decision:

- Financial management helps to take sound financial decision in the business concern.
- Financial decision will affect the entire business operation of the concern. Because there is a direct relationship with various department functions such as marketing, production personnel, etc.

(v) Improve Profitability:

- Profitability of the concern purely depends on the effectiveness and proper utilization of funds by the business concern.



- Financial management helps to improve the profitability position of the concern with the help of strong financial control devices such as budgetary control, ratio analysis and cost volume profit analysis.

(vi) Increase the Value of the Firm:

- Financial management is very important in the field of increasing the wealth of the investors and the business concern.
- Ultimate aim of any business is to achieve the maximum profit. Higher profitability leads to maximize the wealth of the investors as well as the nation.

(vii) Promoting Savings:

- Savings are possible only when the business concern earns higher profitability and maximizing wealth.
- Effective financial management helps to promoting and mobilizing individual and corporate savings.

SCOPE OF FINANCIAL MANAGEMENT

The scope of financial management can be divided into two. They are a) Traditional approach (b) Modern approach

Traditional Approach:

Financial management emerged as a separate field of study in the early 1900's. The *traditional approach of financial management is concerned with raising of funds & using it in the business.* The scope of financial management in traditional approach is very narrow and it is related with the following aspects.

- Raising of funds from financial institutions
- Raising of funds through financial instruments - Shares and bonds from capital market
- The legal and accounting relationship between a company and its sources of funds.

Criticisms in Traditional Approach:

- The traditional approach of financial management is concerned only with raising of funds.
- It Ignores day-to- day problems



- It completely ignored internal decision making.
- It Ignores Working capital Finance
- It Ignores Allocation of capital

Modern Approach:

Modern approach was started during mid 1950s. It is otherwise called as Integrated Approach. Its scope is wider since it covers conceptual and analytical framework for financial decision making. It *covers both procurement of funds as well as their allocation*. The main contents of the new approach are:

- What is the total volume of funds an enterprise should commit?
- What specific assets should an enterprise acquire?
- How should the funds required be financed?

The above three questions are related to the three decisions of financial management:

(i) Financing Decision - Raising funds through various sources

The second important decision of the finance manger, after estimation of the total fund requirement by the finance manger want to identify *the sources from where the funds can be raised* like *share capital, debentures, term loans*.

(ii) Investment Decision:

Finance manager should concentrate on both *capital and current asset*. The finance manager will give special attention to *capital budgeting decisions*. First the funds will be spent on *fixed assets* and then certain portion will be retained for *working capital* and for other requirements.

(iii) Dividend Decision:

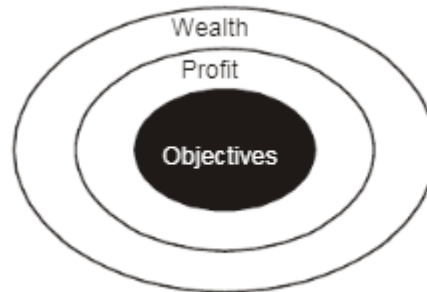
The formulation of sound dividend policy is another important decision of finance manger. He must very *clearly decide*, whether the *firm should distribute all the earned profit to its shareholders or retain certain portion and distribute the balance amount*. He should asses the *dividend payout ratio* i.e proportion of profits distributed as dividend and retention percentage.

OBJECTIVES OF FINANCIAL MANAGEMENT



Objectives of Financial Management may be broadly divided into two parts such as:

- Profit maximization
- Wealth maximization.



a) Profit Maximization

Main aim of any kind of economic activity is earning profit. A business concern is also functioning mainly for the purpose of earning profit. Profit maximization consists of the following important features.

- Profit maximization is also called as *cashing per share maximization*.
- Profit maximization means *firms maximum production from the given raw material* or effective utilization of input from the given output.
- Ultimate aim of the business concern is earning profit.
- Profit is the parameter of measuring the efficiency of the business concern.

Favorable Arguments for Profit Maximization

The following important points are in support of the profit maximization objectives of the business concern:

- Main aim is earning profit.
- Profit is the parameter of the business operation
- Profit reduces risk of the business concern.
- Profit is the main source of finance.
- Profitability meets the social needs also.

Unfavourable Arguments for Profit Maximization

The following important points are against the objectives of profit maximization:



- It leads to exploiting workers and consumers.
- It creates immoral practices such as corrupt practice, unfair trade practice, etc.
- Its objectives lead to inequalities among the stakeholders.

Drawbacks of Profit Maximization:

Profit maximization objective consists of certain drawbacks also:

- It is vague i.e. profit is not defined correctly.
- It ignores the time value of money.
- It ignores risk

b) Wealth Maximization

- Wealth maximization is one of the modern approaches, which involves latest innovations and improvements in the field of the business concern.
- The term wealth means shareholder wealth or the wealth of the persons those who are involved in the business concern.
- Wealth maximization is also known as ***value maximization or net present worth maximization***. This objective is a universally accepted concept in the field of business.
- Professor Ezra Solomon has suggested the adoption of wealth maximization in the best criterion for financial decision making. Using Ezra Solomon's Symbols and methods, the net present worth or wealth maximization can be calculated as shown below:

$$W = V - C$$

Where W = Net present worth; V = Gross present worth; C = Investment required to acquire the asset

$$V = E / K$$

Where E = Size of future benefits available to the suppliers of the input capital ;

K = The capitalization (Discount) rate reflecting the quality (Certainty / Uncertainty and timing of benefits attached to E.

According to him Net present value or wealth can be defined more clearly in the following way;



$$W = \frac{A_1}{(1+K)} + \frac{A_2}{(1+K)^2} + \dots + \frac{A_n}{(1+K)^n} - C$$

Where A_1, A_2, \dots, A_n represents the stream of cash flows expected to occur from a course of action over a period of time;

K = appropriate discount rate to measure risk & timing;

C = Initial outlay to acquire the asset.

Favourable Arguments for Wealth Maximization

- It is superior to the profit maximization.
- The main aim of the business concern under this concept is to improve the value or wealth of the shareholders.
- It considers the comparison of the value to cost associated with the business concern.
- It provides exact value of the business concern.
- It considers both time and risk of the business concern.

Unfavourable Arguments for Wealth Maximization

- Wealth maximization is nothing, it is also profit maximization, it is the indirect name of the profit maximization.
- Wealth maximization creates ownership-management controversy.
- Management alone enjoys certain benefits.
- Wealth maximization can be activated only with the help of the profitable position of the business concern

FUNCTIONS OF FINANCIAL MANAGEMENT

- Financial planning or estimating financial requirements
- Deciding capital structure
- Selecting a source of finance
- Selecting a pattern of investment



- Financial Decision
- Proper Utilization of Funds
- Proper cash management
- Increasing Profitability
- Implementing financial controls
- Proper use of surpluses
- Promoting Savings
- Maximizing Value of Firm

ROLE OF FINANCIAL MANAGER IN THE CHANGING SCENARIO

A financial manger is a person who takes care of all the important financial functions of an organization. The person in charge should maintain a far sightedness in order to ensure that the funds are utilized in the most efficient manner. His/Her actions directly affect the Profitability, growth and goodwill of the firm.

ROLE OF FINANCIAL MANAGER

a) Forecasting of Cash Flow

This is necessary for the successful day to day operations of the business so that it can discharge its obligations as and when they rise. In fact, it involves matching of cash inflows against outflows and the manager must forecast the sources and timing of inflows from customers and use them to pay the liability.

b) Acquisition Required Funds

The Financial Manager has to plan for mobilising funds from different sources so that the requisite amount of funds are made available to the business enterprise to meet its requirements for short term, medium term and long term.

c) Investment Decision

The finance manager must carefully select best investment alternatives and consider the reasonable and stable return from the investment. He must be well versed in the field of capital budgeting techniques to determine the effective utilization of investment. The finance manager must concentrate to principles of safety, liquidity and profitability while investing capital.



d) Managing the Flow of Internal Funds

Here the Manager has to keep a track of the surplus in various bank accounts of the organisation and ensure that they are properly utilised to meet the requirements of the business. This will ensure that liquidity position of the company is maintained intact with the minimum amount of external borrowings.

e) To Facilitate Cost Control

The Financial Manager is generally the first person to recognize when the costs for the supplies or production processes are exceeding the standard costs/budgeted figures. Consequently, he can make recommendations to the top management for controlling the costs.

f) To Facilitate Pricing of Product, Product Lines and Services

The Financial Manager can supply important information about cost changes and cost at varying levels of production and the profit margins needed to carry on the business successfully. In fact, financial manager provides tools of analysis of information in pricing decisions and contribute to the formulation of pricing policies jointly with the marketing manager.

g) Forecasting Profits

The Financial manager is usually responsible for collecting the relevant data to make forecasts of profit levels in future.

h) Measuring Required Return

The acceptance or rejection of an investment proposal depends on whether the expected return from the proposed investment is equal to or more than the required return. An investment project is accepted if the expected return is equal or more than the required return. Determination of required rate of return is the responsibility of the financial manager and is a part of the financing decision.

i) Managing Assets

Managers may discuss the total amount of assets needed by the firm to carry out its operations. They will determine the composition or a mix of assets that will help the firm best achieve its goals. They will identify ways to use existing assets more effectively and reduce waste and unwarranted expenses



j) Facilitate to decision making

The function of asset management focuses on the decision-making role of the financial manager. Finance personnel meet with other officers of the firm and participate in making decisions affecting the current and future utilization of the firm's resources.

k) Managing Funds

The manager is responsible for having sufficient funds for the firm to conduct its business and to pay its bills. Money must be located to finance receivables and inventories, make arrangements for the purchase of assets, and to identify the sources of long-term financing. Cash must be available to pay dividends declared by the board of directors. The management of funds has therefore, both liquidity and profitability aspects.

L) Interrelation with Other Departments

Finance manager deals with various functional departments such as marketing, production, personnel, system, research, development, etc. Finance manager should have sound knowledge not only in finance related area but also well versed in other areas. He must maintain a good relationship with all the functional departments of the business organization.

ORGANIZATION OF FINANCIAL FUNCTIONS

As finance function has far reaching significance in overall management process, structural organization for further function becomes an outcome of an important organization problem. The ultimate responsibility of carrying out the finance function lies with the top management. However, organization of finance function differs from company to company depending on their respective requirements.

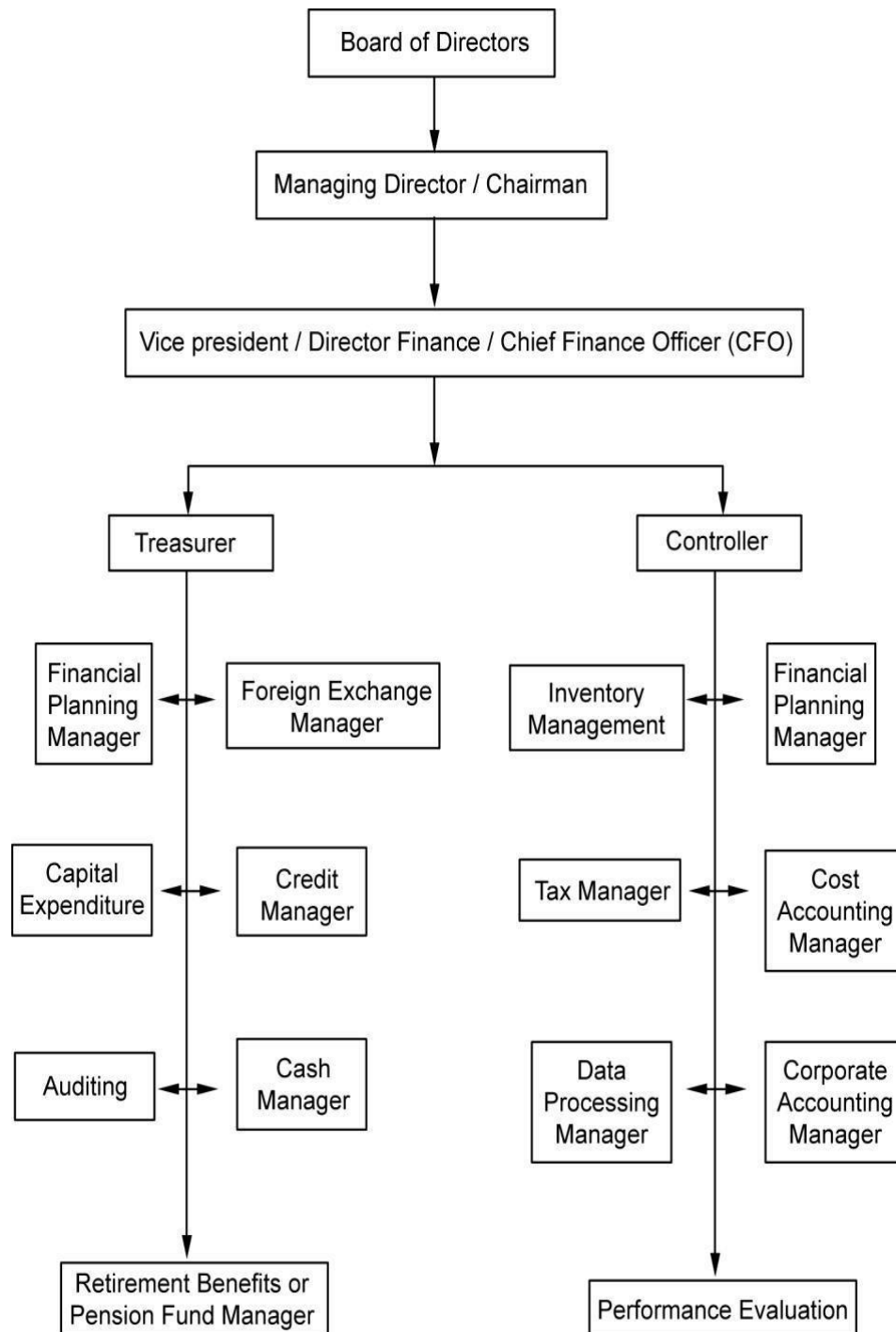
i) Board of Directors

- Finance, being an important portfolio, the finance functions is entrusted to top management.
- The Board of Directors, who are at the helm of affairs, normally constitutes Finance Committee to review and formulate financial policies.

ii) Managing Director / Chairman



- The managing director will look over the day-to-day management of the company in accordance with the instructions and orders given by the board of directors.
- The managing director is responsible for making sure that the accounts of the company and its financial affairs have been arranged in a reliable manner and putting in place adequate operational planning and financial control systems.





iii) Chief Financial Officer (CFO)

- The chief financial officer is a member of the top management and he has both line and staff responsibilities.
- He directly concerned with the financial planning and control and closely associated with formulation of policy and making decision for firm.
- He must guide others in the effective working of finance department and the treasurer and controller would operate under CFO supervision.

Treasurer:

- The function of the treasurer of an organization is to raise funds and manage funds and he has a watchdog role over all aspects of financial management, working closely with other members of the Management Committee to safeguard the organisation's finances.

Functions / Role of Treasure

The treasurer role concern with monitoring and control of various financing activities which are discussed below,

- Financial Planning
- Capital Budgeting Analysis
- Credit Analysis
- Cash and Marketable Securities Management
- Auditing
- Pension Fund Management
- Foreign exchange management

V) Controller

- Controller may be appointed under the direct supervision of CFO to assist him.
- Financial controller who has been a person of executive rank does not control the finance, but monitors whether funds are properly utilized.
- The controller's functions include providing information to formulate accounting and costing policies, preparation of financial reports, direction of internal auditing, inventory control, tax administration and performance evaluation.



Functions / Role of Controller

The core function of financial controller is executing and controlling the accounting activities and preparation and maintain of records of the following;

- Financial Accounting
- Cost Accounting
- Corporate Accountants
- Taxes Administration
- Data Processing
- Inventory Management
- Financial Performance Evaluation



UNIT-II: FINANCIAL PLANNING : Meaning of Financial Planning; Pattern of Financing; Source of Finance; Security Financing; Convertible Debentures; Internal Financing; Loan Financing; Public Deposits; Bridge Financing; Loan Syndication, & Finance Decision, Leverage; Types of Leverage; Significance of Operating Leverage, Financial Leverage and Composite Leverage; Practical Problems

FINANCIAL PLANNING

- Financial Planning is the process of estimating the capital required and determining its competition.
- It is the process of framing financial policies in relation to procurement, investment and administration of funds of an enterprise.

Objectives of Financial Planning

Financial Planning has got many objectives to look forward to:

- Determining capital requirements-** This will depend upon factors like cost of current and fixed assets, promotional expenses and long- range planning. Capital requirements have to be looked with both aspects: short- term and long- term requirements.
- Determining capital structure-** The capital structure is the composition of capital, i.e., the relative kind and proportion of capital required in the business. This includes decisions of debt- equity ratio- both short-term and long- term.
- Framing financial policies** with regards to cash control, lending, borrowings, etc.
- A finance manager **ensures that the scarce financial resources are maximally utilized in the best possible manner** at least cost in order to get maximum returns on investment.

Importance of Financial Planning

Financial Planning is process of framing objectives, policies, procedures, programmes and budgets regarding the financial activities of a concern. This ensures effective and adequate financial and investment policies. The importance can be outlined as-

1. Adequate funds have to be ensured.
2. Financial Planning helps in ensuring a reasonable balance between outflow and inflow of funds so that stability is maintained.



3. Financial Planning ensures that the suppliers of funds are easily investing in companies which exercise financial planning.
4. Financial Planning helps in making growth and expansion programmes which helps in long-run survival of the company.
5. Financial Planning reduces uncertainties with regards to changing market trends which can be faced easily through enough funds.
6. Financial Planning helps in reducing the uncertainties which can be a hindrance to growth of the company. This helps in ensuring stability and profitability in concern.

PATTERN OF FINANCING

The pattern of financing a project represents the project organisation's capital structure showing the composition of the components of finance. The possible pattern of financing a project are classified into two groups of Accounts (A) Shareholders' Fund (B) Debt.

A. Shareholders' Fund:

It includes:

1. Share Capital, to the extent paid-up, comprising of:
 - Ordinary Share Capital (Equity Share Capital).
 - Preference Share Capital
2. Share Premium:
 - It is representing money collected from the shareholders for shares, in excess of the face value of such shares.
3. Reserve and Surplus including retained profit
4. Capital Subsidy received from Central/State government.

B. Debts:

It includes:

1. Debentures including
 - In case of 'convertible debentures', the balance of such debentures till they are converted to share capital;
 - Non-convertible debentures till they are redeemed.
2. Term Loans, i.e. Long-term Debts.
3. Unsecured Loans.



4. Deferred Credits.

SOURCES OF FINANCE

Sources of finance mean the ways for mobilizing various terms of finance to the industrial concern. Sources of finance state that, how the companies are mobilizing finance for their requirements. The companies belong to the existing or the new which need sum amount of finance to meet the long-term and short-term requirements such as purchasing of fixed assets, construction of office building, purchase of raw materials and day-to-day expenses.

Sources of finance may be classified under various categories according to the following important heads:

1. Based on the Period

Sources of Finance may be classified under various categories based on the period.

Long-term sources: Finance may be mobilized by long-term or short-term. When the finance mobilized with large amount and the repayable over the period will be more than five years, it may be considered as long-term sources. Share capital, issue of debenture, long-term loans from financial institutions and commercial banks come under this kind of source of finance. Long-term source of finance needs to meet the capital expenditure of the firms such as purchase of fixed assets, land and buildings, etc.

Long-term sources of finance include:

- Equity Shares
- Preference Shares
- Debenture
- Long-term Loans
- Fixed Deposits

Short-term sources: Apart from the long-term source of finance, firms can generate finance with the help of short-term sources like loans and advances from commercial banks, moneylenders, etc. Short-term source of finance needs to meet the operational expenditure of the business concern.

Short-term source of finance include:

- Bank Credit



- Customer Advances
- Trade Credit
- Factoring
- Public Deposits
- Money Market Instruments

2. Based on Ownership

Sources of Finance may be classified under various categories based on the period:

An ownership source of finance include

- Shares capital, earnings
- Retained earnings
- Surplus and Profits

Borrowed capital include

- Debenture
- Bonds
- Public deposits
- Loans from Bank and Financial Institutions.

3. Based on Sources of Generation

Sources of Finance may be classified into various categories based on the period.

Internal source of finance includes

- Retained earnings
- Depreciation funds
- Surplus

External sources of finance may be include

- Share capital
- Debenture
- Public deposits
- Loans from Banks and Financial institutions



4. Based in Mode of Finance Security finance may be include

- Shares capital
- Debenture

Retained earnings may include

- Retained earnings
- Depreciation funds

Loan finance may include

- Long-term loans from Financial Institutions
- Short-term loans from Commercial banks.

The above classifications are based on the nature and how the finance is mobilized from various sources. But the above sources of finance can be divided into three major classifications:

- Security Finance
- Internal Finance
- Loans Finance

SECURITY FINANCE

If the finance is mobilized through issue of securities such as shares and debenture, it is called as security finance. It is also called as corporate securities. This type of finance plays a major role in the field of deciding the capital structure of the company.

Characters of Security Finance

Security finance consists of the following important characters:

1. Long-term sources of finance.
2. It is also called as corporate securities.
3. Security finance includes both shares and debentures.
4. It plays a major role in deciding the capital structure of the company.
5. Repayment of finance is very limited.
6. It is a major part of the company's total capitalization.



Types of Security Finance

Security finance may be divided into two major types:

1. Ownership securities or capital stock.
2. Creditorship securities or debt capital.

Ownership Securities

The ownership securities also called as capital stock, is commonly called as shares. Shares are the most Universal method of raising finance for the business concern. Ownership capital consists of the following types of securities.

- Equity Shares
- Preference Shares
- No par stock
- Deferred Shares

EQUITY SHARES

Equity Shares also known as ordinary shares, which means, other than preference shares. Equity shareholders are the real owners of the company. They have a control over the management of the company. Equity shareholders are eligible to get dividend if the company earns profit. Equity share capital cannot be redeemed during the lifetime of the company. The liability of the equity shareholders is the value of unpaid value of shares.

Features of Equity Shares

Equity shares consist of the following important features:

- **Maturity of the shares:** Equity shares have permanent nature of capital, which has no maturity period. It cannot be redeemed during the lifetime of the company.
- **Residual claim on income:** Equity shareholders have the right to get income left after paying fixed rate of dividend to preference shareholder. The earnings or the income available to the shareholders is equal to the profit after tax minus preference dividend.
- **Residual claims on assets:** If the company wound up, the ordinary or equity shareholders have the right to get the claims on assets. These rights are only available to the equity shareholders.



- **Right to control:** Equity shareholders are the real owners of the company. Hence, they have power to control the management of the company and they have power to take any decision regarding the business operation.
- **Voting rights:** Equity shareholders have voting rights in the meeting of the company with the help of voting right power; they can change or remove any decision of the business concern. Equity shareholders only have voting rights in the company meeting and also they can nominate proxy to participate and vote in the meeting instead of the shareholder.
- **Pre-emptive right:** Equity shareholder pre-emptive rights. The pre-emptive right is the legal right of the existing shareholders. It is attested by the company in the first opportunity to purchase additional equity shares in proportion to their current holding capacity.
- **Limited liability:** Equity shareholders are having only limited liability to the value of shares they have purchased. If the shareholders are having fully paid up shares, they have no liability. For example: If the shareholder purchased 100 shares with the face value of Rs. 10 each. He paid only Rs. 900. His liability is only Rs. 100.

Total number of shares 100

Face value of shares Rs.10

Total value of shares $100 \times 10 = 1,000$

Paid up value of shares = 900

Unpaid value/liability 100

Liability of the shareholders is only unpaid value of the share (that is Rs. 100).

Advantages of Equity Shares

Equity shares are the most common and universally used shares to mobilize finance for the company. It consists of the following advantages.

1. **Permanent sources of finance:** Equity share capital is belonging to long-term permanent nature of sources of finance, hence, it can be used for long-term or fixed capital requirement of the business concern.
2. **Voting rights:** Equity shareholders are the real owners of the company who have voting rights. This type of advantage is available only to the equity shareholders.
3. **No fixed dividend:** Equity shares do not create any obligation to pay a fixed rate of dividend. If the company earns profit, equity shareholders are eligible for profit, they



are eligible to get dividend otherwise, and they cannot claim any dividend from the company.

- 4. Less cost of capital:** Cost of capital is the major factor, which affects the value of the company. If the company wants to increase the value of the company, they have to use more share capital because, it consists of less cost of capital (K_e) while compared to other sources of finance.
- 5. Retained earnings:** When the company have more share capital, it will be suitable for retained earnings which is the less cost sources of finance while compared to other sources of finance.

Disadvantages of Equity Shares

- 1. Irredeemable:** Equity shares cannot be redeemed during the lifetime of the business concern. It is the most dangerous thing of over capitalization.
- 2. Obstacles in management:** Equity shareholder can put obstacles in management by manipulation and organizing themselves. Because, they have power to contrast any decision which are against the wealth of the shareholders.
- 3. Leads to speculation:** Equity shares dealings in share market lead to secularism during prosperous periods.
- 4. Limited income to investor:** The Investors who desire to invest in safe securities with a fixed income have no attraction for equity shares.
- 5. No trading on equity:** When the company raises capital only with the help of equity, the company cannot take the advantage of trading on equity.

PREFERENCE SHARES

The parts of corporate securities are called as preference shares. It is the shares, which have preferential right to get dividend and get back the initial investment at the time of winding up of the company. Preference shareholders are eligible to get fixed rate of dividend and they do not have voting rights.

Preference shares may be classified into the following major types:

- 1. Cumulative preference shares:** Cumulative preference shares have right to claim



dividends for those years which have no profits. If the company is unable to earn profit in any one or more years, C.P. Shares are unable to get any dividend but they have right to get the comparative dividend for the previous years if the company earned profit.

2. **Non-cumulative preference shares:** Non-cumulative preference shares have no right to enjoy the above benefits. They are eligible to get only dividend if the company earns profit during the years. Otherwise, they cannot claim any dividend.
3. **Redeemable preference shares:** When, the preference shares have a fixed maturity period it becomes redeemable preference shares. It can be redeemable during the lifetime of the company. The Company Act has provided certain restrictions on the return of the redeemable preference shares.

Irredeemable Preference Shares

Irredeemable preference shares can be redeemed only when the company goes for liquidator. There is no fixed maturity period for such kind of preference shares.

Participating Preference Shares

Participating preference shareholders have right to participate extra profits after distributing the equity shareholders.

Non-Participating Preference Shares

Non-participating preference shareholders are not having any right to participate extra profits after distributing to the equity shareholders. Fixed rate of dividend is payable to the type of shareholders.

Convertible Preference Shares

Convertible preference shareholders have right to convert their holding into equity shares after a specific period. The articles of association must authorize the right of conversion.

Non-convertible Preference Shares

These shares, cannot be converted into equity shares from preference shares.

Features of Preference Shares

The following are the important features of the preference shares:



- 1. Maturity period:** Normally preference shares have no fixed maturity period except in the case of redeemable preference shares. Preference shares can be redeemable only at the time of the company liquidation.
- 2. Residual claims on income:** Preferential shareholders have a residual claim on income. Fixed rate of dividend is payable to the preference shareholders.
- 3. Residual claims on assets:** The first preference is given to the preference shareholders at the time of liquidation. If any extra Assets are available that should be distributed to equity shareholder.
- 4. Control of Management:** Preference shareholder does not have any voting rights. Hence, they cannot have control over the management of the company.

Advantages of Preference Shares

Preference shares have the following important advantages.

- 1. Fixed dividend:** The dividend rate is fixed in the case of preference shares. It is called as fixed income security because it provides a constant rate of income to the investors.
- 2. Cumulative dividends:** Preference shares have another advantage which is called cumulative dividends. If the company does not earn any profit in any previous years, it can be cumulative with future period dividend.
- 3. Redemption:** Preference Shares can be redeemable after a specific period except in the case of irredeemable preference shares. There is a fixed maturity period for repayment of the initial investment.
- 4. Participation:** Participative preference shareholders can participate in the surplus profit after distribution to the equity shareholders.
- 5. Convertibility:** Convertibility preference shares can be converted into equity shares when the articles of association provide such conversion.

Disadvantages of Preference Shares

- 1. Expensive sources of finance:** Preference shares have high expensive source of finance while compared to equity shares.
- 2. No voting right:** Generally preference shareholders do not have any voting rights.



Hence they cannot have the control over the management of the company.

3. **Fixed dividend only:** Preference shares can get only fixed rate of dividend. They may not enjoy more profits of the company.
4. **Permanent burden:** Cumulative preference shares become a permanent burden so far as the payment of dividend is concerned. Because the company must pay the dividend for the unprofitable periods also.
5. **Taxation:** In the taxation point of view, preference shares dividend is not a deductible expense while calculating tax. But, interest is a deductible expense. Hence, it has disadvantage on the tax deduction point of view.

DEFERRED SHARES

Deferred shares also called as founder shares because these shares were normally issued to founders. The shareholders have a preferential right to get dividend before the preference shares and equity shares. According to Companies Act 1956 no public limited company or which is a subsidiary of a public company can issue deferred shares.

These shares were issued to the founder at small denomination to control over the management by the virtue of their voting rights.

NO PAR SHARES

When the shares are having no face value, it is said to be no par shares. The company issues this kind of shares which is divided into a number of specific shares without any specific denomination. The value of shares can be measured by dividing the real net worth of the company with the total number of shares.

$$\text{Value of no. per share} = \frac{\text{The real net worth}}{\text{Total no. of shares}}$$

CREDITORSHIP SECURITIES

Creditorship Securities also known as debt finance which means the finance is mobilized from the creditors. Debenture and Bonds are the two major parts of the Creditorship Securities.



Debentures

A Debenture is a document issued by the company. It is a certificate issued by the company under its seal acknowledging a debt.

According to the Companies Act 1956, “debenture includes debenture stock, bonds and any other securities of a company whether constituting a charge of the assets of the company or not.”

Types of Debentures

Debentures may be divided into the following major types:

- 1. Unsecured debentures:** Unsecured debentures are not given any security on assets of the company. It is also called simple or naked debentures. This type of debentures are treated as unsecured creditors at the time of winding up of the company.
- 2. Secured debentures:** Secured debentures are given security on assets of the company. It is also called as mortgaged debentures because these debentures are given against any mortgage of the assets of the company.
- 3. Redeemable debentures:** These debentures are to be redeemed on the expiry of a certain period. The interest is paid periodically and the initial investment is returned after the fixed maturity period.
- 4. Irredeemable debentures:** These kind of debentures cannot be redeemed during the life time of the business concern.
- 5. Convertible debentures:** Convertible debentures are the debentures whose holders have the option to get them converted wholly or partly into shares. These debentures are usually converted into equity shares. Conversion of the debentures may be:
 - Non-convertible debentures
 - Fully convertible debentures
 - Partly convertible debentures
- 6. Other types:** Debentures can also be classified into the following types. Some of the common types of the debentures are as follows:
 1. Collateral Debenture



2. Guaranteed Debenture
3. First Debenture
4. Zero Coupon Bond
5. Zero Interest Bond/Debenture

Features of Debentures

1. **Maturity period:** Debentures consist of long-term fixed maturity period. Normally, debentures consist of 10–20 years maturity period and are repayable with the principle investment at the end of the maturity period.
2. **Residual claims in income:** Debenture holders are eligible to get fixed rate of interest at every end of the accounting period. Debenture holders have priority of claim in income of the company over equity and preference shareholders.
3. **Residual claims on asset:** Debenture holders have priority of claims on Assets of the company over equity and preference shareholders. The Debenture holders may have either specific charge on the Assets or floating charge of the assets of the company. Specific charge of Debenture holders are treated as secured creditors and floating charge of Debenture holders are treated as unsecured creditors.
4. **No voting rights:** Debenture holders are considered as creditors of the company. Hence they have no voting rights. Debenture holders cannot have the control over the performance of the business concern.
5. **Fixed rate of interest:** Debentures yield fixed rate of interest till the maturity period. Hence the business will not affect the yield of the debenture.

Advantages of Debenture

Debenture is one of the major parts of the long-term sources of finance which consists the following important advantages:

1. **Long-term sources:** Debenture is one of the long-term sources of finance to the company. Normally the maturity period is longer than the other sources of finance.
2. **Fixed rate of interest:** Fixed rate of interest is payable to debenture holders, hence it is most suitable of the companies earn higher profit. Generally, the rate of interest is lower than the other sources of long-term finance.



3. **Trade on equity:** A company can trade on equity by mixing debentures in its capital structure and thereby increase its earning per share. When the company apply the trade on equity concept, cost of capital will reduce and value of the company will increase.
4. **Income tax deduction:** Interest payable to debentures can be deducted from the total profit of the company. So it helps to reduce the tax burden of the company.
5. **Protection:** Various provisions of the debenture trust deed and the guidelines issued by the SEBI protect the interest of debenture holders.

Disadvantages of Debenture

Debenture finance consists of the following major disadvantages:

1. **Fixed rate of interest:** Debenture consists of fixed rate of interest payable to securities. Even though the company is unable to earn profit, they have to pay the fixed rate of interest to debenture holders, hence, it is not suitable to those company earnings which fluctuate considerably.
2. **No voting rights:** Debenture holders do not have any voting rights. Hence, they cannot have the control over the management of the company.
3. **Creditors of the company:** Debenture holders are merely creditors and not the owners of the company. They do not have any claim in the surplus profits of the company.
4. **High risk:** Every additional issue of debentures becomes more risky and costly on account of higher expectation of debenture holders. This enhanced financial risk increases the cost of equity capital and the cost of raising finance through debentures which is also high because of high stamp duty.
5. **Restrictions of further issues:** The company cannot raise further finance through debentures as the debentures are under the part of security of the assets already mortgaged to debenture holders.

INTERNAL FINANCE

A company can mobilize finance through external and internal sources. A new company may not raise internal sources of finance and they can raise finance only external sources such as



shares, debentures and loans but an existing company can raise both internal and external sources of finance for their financial requirements. Internal finance is also one of the important sources of finance and it consists of cost of capital while compared to other sources of finance.

Internal source of finance may be broadly classified into two categories:

- A. Depreciation Funds
- B. Retained earnings

Depreciation Funds

Depreciation funds are the major part of internal sources of finance, which is used to meet the working capital requirements of the business concern. Depreciation means decrease in the value of asset due to wear and tear, lapse of time, obsolescence, exhaustion and accident. Generally depreciation is charged against fixed assets of the company at fixed rate for every year. The purpose of depreciation is replacement of the assets after the expired period. It is one kind of provision of fund, which is needed to reduce the tax burden and overall profitability of the company.

Retained Earnings

Retained earnings are another method of internal sources of finance. Actually is not a method of raising finance, but it is called as accumulation of profits by a company for its expansion and diversification activities.

Retained earnings are called under different names such as; self finance, inter finance, and plugging back of profits. According to the Companies Act 1956 certain percentage, as prescribed by the central government (not exceeding 10%) of the net profits after tax of a financial year have to be compulsorily transferred to reserve by a company before declaring dividends for the year.

Under the retained earnings sources of finance, a part of the total profits is transferred to various reserves such as general reserve, replacement fund, reserve for repairs and renewals, reserve funds and secret reserves, etc.

Advantages of Retained Earnings

Retained earnings consist of the following important advantages:



1. **Useful for expansion and diversification:** Retained earnings are most useful to expansion and diversification of the business activities.
2. **Economical sources of finance:** Retained earnings are one of the least costly sources of finance since it does not involve any floatation cost as in the case of raising of funds by issuing different types of securities.
3. **No fixed obligation:** If the companies use equity finance they have to pay dividend and if the companies use debt finance, they have to pay interest. But if the company uses retained earnings as sources of finance, they need not pay any fixed obligation regarding the payment of dividend or interest.
4. **Flexible sources:** Retained earnings allow the financial structure to remain completely flexible. The company need not raise loans for further requirements, if it has retained earnings.
5. **Increase the share value:** When the company uses the retained earnings as the sources of finance for their financial requirements, the cost of capital is very cheaper than the other sources of finance; Hence the value of the share will increase.
6. **Avoid excessive tax:** Retained earnings provide opportunities for evasion of excessive tax in a company when it has small number of shareholders.
7. **Increase earning capacity:** Retained earnings consist of least cost of capital and also it is most suitable to those companies which go for diversification and expansion.

Disadvantages of Retained Earnings

Retained earnings also have certain disadvantages:

1. **Misuses:** The management by manipulating the value of the shares in the stock market can misuse the retained earnings.
2. **Leads to monopolies:** Excessive use of retained earnings leads to monopolistic attitude of the company.
3. **Over capitalization:** Retained earnings lead to over capitalization, because if the company uses more and more retained earnings, it leads to insufficient source of finance.
4. **Tax evasion:** Retained earnings lead to tax evasion. Since, the company reduces tax



burden through the retained earnings.

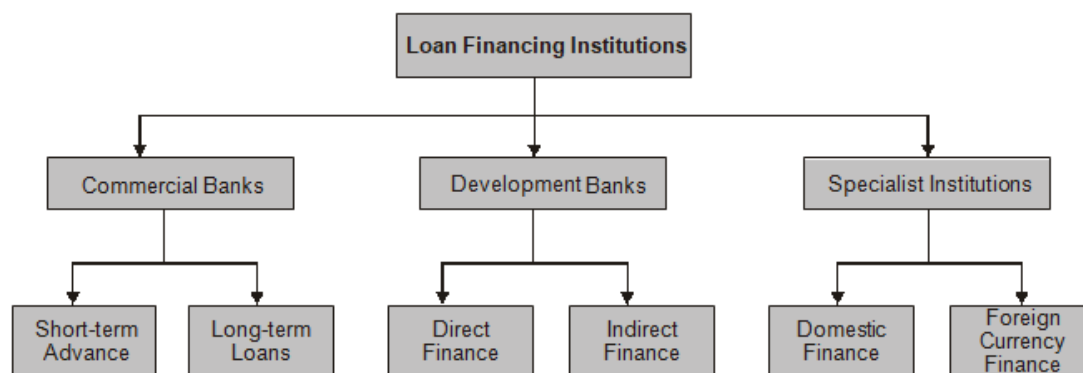
- 5. Dissatisfaction:** If the company uses retained earnings as sources of finance, the shareholder can't get more dividends. So, the shareholder does not like to use the retained earnings as source of finance in all situations.

LOAN FINANCING

Loan financing is the important mode of finance raised by the company. Loan finance may be divided into two types:

- Long-Term Sources
- Short-Term Sources

Loan finance can be raised through the following important institutions.



Financial Institutions

With the effect of the industrial revaluation, the government established nation wide and state wise financial industries to provide long-term financial assistance to industrial concerns in the country. Financial institutions play a key role in the field of industrial development and they are meeting the financial requirements of the business concern. IFCI, ICICI, IDBI, SFC, EXIM Bank, ECGC are the famous financial institutions in the country.

Commercial Banks

Commercial Banks normally provide short-term finance which is repayable within a year. The major finance of commercial banks is as follows:



Short-term advance: Commercial banks provide advance to their customers with or without securities. It is one of the most common and widely used short-term sources of finance, which are needed to meet the working capital requirement of the company.

It is a cheap source of finance, which is in the form of pledge, mortgage, hypothecation and bills discounted and rediscounted.

Short-term Loans

Commercial banks also provide loans to the business concern to meet the short-term financial requirements. When a bank makes an advance in lump sum against some security it is termed as loan. Loan may be in the following form:

- (a) **Cash credit:** A cash credit is an arrangement by which a bank allows his customer to borrow money up to certain limit against the security of the commodity.
- (b) **Overdraft:** Overdraft is an arrangement 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 without any securities.

Development Banks

Development banks were established mainly for the purpose of promotion and development the industrial sector in the country. Presently, large number of development banks are functioning with multidimensional activities. Development banks are also called as financial institutions or statutory financial institutions or statutory non-banking institutions. Development banks provide two important types of finance:

- (a) Direct Finance
- (b) Indirect Finance/Refinance

Some of the important development banks are discussed in Chapter 11.

Presently the commercial banks are providing all kinds of financial services including development-banking services. And also nowadays development banks and specialised financial institutions are providing all kinds of financial services including commercial banking services. Diversified and global financial services are unavoidable to the present day economics. Hence, we can classify the financial institutions only by the structure and set up and not by the services provided by them.



PUBLIC DEPOSITS

- Public deposits refer to the unsecured deposits invited by companies from the public mainly to finance working capital needs. A company wishing to invite public deposits makes an advertisement in the newspapers.
- A company can invite public deposits for a period of six months to three years. Therefore, public deposits are primarily a source of short-term finance. However, the deposits can be renewed from time-to-time. Renewal facility enables companies to use public deposits as medium-term finance.
- Public deposits of a company cannot exceed 25 per cent of its share capital and free reserves. As these deposits are unsecured, the company having public deposits is required to set aside 10 per cent of deposits maturing by the end of the year. The amount so set aside can be used only for paying such deposits.
- Thus, public deposits refer to the deposits received by a company from the public as unsecured debt. Companies prefer public deposits because these deposits are cheaper than bank loans. The public prefers to deposit money with well-established companies because the rate of interest on public deposits is higher than on bank deposits.

Features of Public Deposits:

1. Total public deposits cannot exceed 25 per cent of the paid up capital and free reserves of the company.
2. It is an uncertain source of financing.
3. There are legal restrictions on the acceptance and renewal of public deposits.

Merits of Public Deposits:

1. Simplicity:



Public deposits are a very convenient source of business finance. No cumbersome legal formalities are involved. The company raising deposits has to simply give an advertisement and issue a receipt to each depositor.

2. Economy:

Interest paid on public deposits is lower than that paid on debentures and bank loans. Moreover, no underwriting commission, brokerage, etc. has to be paid. Interest paid on public deposits is tax deductible which reduces tax liability. Therefore, public deposits are a cheaper source of finance.

3. No Charge on Assets:

Public deposits are unsecured and, therefore, do not create any charge or mortgage on the company's assets. The company can raise loans in future against the security of its assets.

4. Flexibility:

Public deposits can be raised during the season to buy raw materials in bulk and for other short-term needs. They can be returned when the need is over. Therefore, public deposits introduce flexibility in the company's financial structure.

5. Trading on Equity:

Interest on public deposits is paid at a fixed rate. This enables a company to declare higher rates of dividend to equity shareholders during periods of good earnings.

6. No Dilution of Control:

There is no dilution of shareholders' control because the depositors have no voting rights.

7. Wide Contacts:

Public deposits enable a company to build up contacts with a wider public. These contacts prove helpful in the sale of shares and debentures in future.

Demerits of Public Deposits:

1. Uncertainty:

Public deposits are an uncertain and unreliable source of finance. The depositors may not respond when economic conditions are uncertain. Moreover, they may withdraw their deposits whenever they feel shaky about the financial health of the company.

2. Limited Funds:

A limited amount of funds can be raised through public deposits due to legal restrictions.



3. Temporary Finance:

The maturity period of public deposits is short. The company cannot depend upon public deposits for meeting long-term financial needs.

4. Speculation:

As public deposits can be raised easily and quickly, a company may be tempted to raise more funds than it can profitably use. It may keep idle money to meet future contingencies. The management of the company may indulge in over-trading and speculation which exercise harmful effects on the business.

5. Hindrance to Growth of Capital Market:

Public deposits hamper the growth of a healthy capital market in the country. Widespread use of public deposits creates a shortage of industrial securities.

6. Limited Appeal:

Public deposits do not appeal as a mode of investment to bold investors who want capital gains. Conservative investors may also not like these deposits in the absence of proper security.

7. Unsuitable for New Concerns:

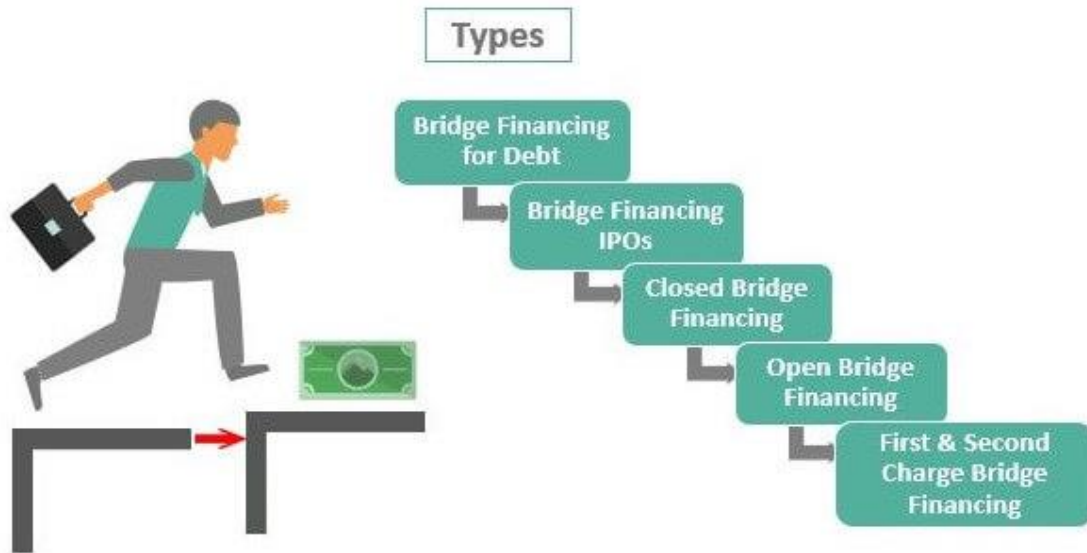
New companies lacking in sound credit standing cannot depend upon public deposits. Investors do not like to deposit money with such companies.

BRIDGE FINANCING

Bridge financing is defined as financing that helps procure short-term loans to cater to immediate business requirements until long-term financing is secured. Bridge loans or finance are procured to cater to the business's working capital needs or solidify any short-term business requirements. As a result, they have high finance costs or rates of interest.

Types of Bridge Financing

Bridge Financing



1 – Bridge Financing for Debt

One can arrange the bridge financing in the form of high-interest debt for a short-term time frame. However, such loans increase the financial crisis and woes of the business.

2 – Bridge Financing IPOs

One can use the bridge financing before initiating the initial public offering. Such loans may cover the floatation costs arising from the initial public offering. The floatation costs are costs borne by the business for undertaking the services of underwriting to initiate the process of IPOs.

3 – Closed Bridge Financing

This bridge financing arrangement ensures that the period for servicing the loans is fixed between the lender and the borrower. These types of arrangements ensure that loans are serviced on time. This type of arrangement is bound through a legal contract.

4 – Open Bridge Financing

In this variant of bridge financing, the period for servicing the loans is not fixed. Therefore, this arrangement cannot guarantee the timely servicing of loans.



5 – First & Second Charge Bridge Financing

In this loan arrangement, the lender demands a first or second charge corresponding to the collateral basis on which the business procures the bridge loans. If the lender orders the first charge, then the lender would have the first right towards the collateral in the event of defaults made by the client. If the lender demands the second charge, the lender would have the second right toward the collateral if the business defaults.

Advantages

- These loans are processed very quickly and instantly.
- They can help improve those with a bad credit profile if the entity serves timely loan payments throughout the loan tenure.
- It helps in quick finance pursuing auctions and immediate business needs.
- The terms and conditions of bridge loans depend on the lenders' flexibility.
- It enables the borrower to manage its payment cycles.

Disadvantages

- Bridge loans carry a high-interest rate and are very expensive.
- Since the loans are costly, they pose a high **default risk** from the borrowers' end.
- The lenders charge high fees for late payments.
- The balance keeps **compounding** with the finance rate for each unpaid loan.
- The borrower may be unable to exit such loans as he may fail to get loans from traditional lenders.

Conclusion

Bridge financing is the method of arranging finance to bridge short-term business requirements. These are normally employed to finance the business's working capital needs or acquire **tangible assets**. Bridge financing is also used for IPOs and financing of good deals. It ensures that the borrowing entity does not miss out on good, lucrative, and comprehensive business deals.



FINANCE DECISION:

LEVERAGE:

Introduction:

James Horne has defined leverage as, “the employment of an asset or fund for which the firm pays a fixed cost or fixed return.

TYPES OF LEVERAGES

There are three commonly used measures of leverage in financial analysis. These are:

Operating Leverage: It is the relationship between Sales and EBIT and it is indicated as business risk.

Financial Leverage: It is the relationship between EBIT and EPS and it is indicates as financial risk.

Combined Leverage: It is the relationship between Sales and EPS and it is indicated as total risk.

Chart Showing Operating Leverage, Financial Leverage and Combined leverage

Profitability Statement			
Sales	xxx	} Operating Leverage	} Degree of Combined Leverage
Less: Variable Cost	(xxx)		
Contribution	xxx		
Less: Fixed Cost	(xxx)		
Operating Profit/ EBIT	xxx		
Less: Interest	(xxx)	} Financial Leverage	
Earnings Before Tax (EBT)	xxx		
Less: Tax	(xxx)		
Profit After Tax (PAT)	xxx		
Less: Pref. Dividend (if any)	(xxx)		
Net Earnings available to equity shareholders/ PAT	xxx		
No. Equity shares (N)			
Earnings per Share (EPS) = (PAT ÷ N)			



OPERATING LEVERAGE:

- Operating leverage may be defined as the firm's ability to use operating cost to magnify the relationship between Sales and EBIT.
- It reflects the impact of change in sales on the level of operating profits of the firm.
- It is indicated as business risk.
- Operating leverage is a function of three factors:
 - (i) Amount of fixed cost,
 - (ii) Variable contribution margin, and
 - (iii) Volume of sales.

Operating leverage can be calculated with the help of the following formula:

$$\begin{aligned}\text{Operating Leverage (OL)} &= \frac{\text{Contribution}}{\text{EBIT}} \text{ or } \frac{C}{\text{EBIT}} \text{ or} \\ &= \frac{\text{Revenue} - \text{Variable cost}}{\text{Revenue} - \text{Variable cost} - \text{Fixed cost}} \\ \text{EBIT} &= \text{Earnings Before Interest and Tax}\end{aligned}$$

Degree of operating leverage (DOL)

- The degree of operating leverage may be defined as percentage change in the profits resulting from a percentage change in the sales.
- It can be calculated with the help of the following formula:

$$\text{Degree of operating Leverage (DOL)} = \frac{\text{Percentage change in profits or EBIT}}{\text{Percentage change in sales}}$$

Uses of Operating leverage:

- It helps to identify the position of fixed cost and variable cost.
- It measures the relationship between the sales and revenue of the company during a particular period.
- It helps to understand the level of fixed cost which is invested in the



operating expenses of business activities.

- Operating leverage describes the overall position of the fixed operating cost.

2. FINANCIAL LEVERAGE:

- Financial leverage can be defined as a firm’s ability to use fixed financial charges to magnify the effects of changes in EBIT on the firm’s EPS.
- It is indicated as financial risk.
- Financial leverage represents the relationship between the company’s earnings before interest and taxes (EBIT) or operating profit and the earning available to equity shareholders.

$$\text{Financial Leverage (FL)} = \frac{\text{Earnings before interest and tax(EBIT)}}{\text{Earnings before tax(EBT)}}$$

Where, EBIT = Sales - (Variable cost+ Fixed cost) , EBT= EBIT - Interest

Degree of Financial leverage (DFL)

Degree of financial leverage is the ratio of the percentage change in earnings per share(EPS) to the percentage change in earnings before interest and taxes (EBIT).

$$\text{Degree of Financial Leverage (DFL)} = \frac{\text{Percentage change in earnings per share (EPS)}}{\text{Percentage change in Earnings before interest and tax (EBIT)}}$$

Financial Leverage as ‘Trading on Equity’

- Financial leverage indicates the use of funds with fixed cost like long term debts and preference share capital along with equity share capital which is known as trading on equity.
- When the quantity of fixed cost fund is relatively high in comparison to equity capital it is said that the firm is “trading on equity”.



Uses of Financial leverage:

- It helps to examine the relationship between EBIT and EPS.
- It measures the percentage of change in taxable income to the percentage change in EBIT.
- It locates the correct profitable financial decision regarding capital structure of the company.

3. COMBINED LEVERAGE OR COMPOSITE LEVERAGE (CL)

Combined leverage maybe defined as the potential use of fixed costs, both operating and financial, **which magnifies the effect of sales volume change on the earning per share of the firm**

$$\begin{aligned}
 \text{Combined Leverage (CL)} &= \text{Operating Leverage (OL)} \times \text{Financial Leverage (FL)} \\
 &= \frac{C}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{EBT}} \\
 &= \frac{C}{\text{EBT}}
 \end{aligned}$$

Degree of Combined Leverage

Degree of combined leverage (DCL) is the ratio of percentage change in earning per share to the percentage change in sales. It indicates the effect the sales changes will have on EPS.

$$\begin{aligned}
 \text{DCL} &= \text{DOL} \times \text{DFL} \\
 &= \frac{\% \text{ Change in EBIT}}{\% \text{ Change in Sales}} \times \frac{\% \text{ Change in EPS}}{\% \text{ Change in EBIT}} \\
 &= \frac{\% \text{ Change in EPS}}{\% \text{ Change in Sales}}
 \end{aligned}$$



DISTINGUISH BETWEEN OPERATING LEVERAGE AND FINANCIAL LEVERAGE

Operating Leverage/Financial Leverage

Operating Leverage	Financial Leverage
1. Operating leverage is associated with investment activities of the company.	1. Financial leverage is associated with financing activities of the company.
2. Operating leverage consists of fixed operating expenses of the company.	2. Financial leverage consists of operating profit of the company.
3. It represents the ability to use fixed operating cost.	3. It represents the relationship between EBIT and EPS.
4. Operating leverage can be calculated by $OL = \frac{C}{OP}$	4. Financial leverage can be calculated by $FL = \frac{OP}{PBT}$
5. A percentage change in the profits resulting from a percentage change in the sales is called as degree of operating leverage.	5. A percentage change in taxable profit is the result of percentage change in EBIT.
6. Trading on equity is not possible while the company is operating leverage.	6. Trading on equity is possible only when the company uses financial leverage.
7. Operating leverage depends upon fixed cost and variable cost.	7. Financial leverage depends upon the operating profits.
8. Tax rate and interest rate will not affect the operating leverage.	8. Financial leverage will change due to tax rate and interest rate.

Problems:

Illustration:

A Company produces and sells 10,000 shirts. The selling price per shirt is ₹ 500. Variable cost is ₹ 200 per shirt and fixed operating cost is ₹ 25,00,000.

- CALCULATE operating leverage.
- If sales are up by 10%, then COMPUTE the impact on EBIT?

Solution:

Particulars	RS.
Sales Revenue (10,000 × 500)	50,00,000
Less: Variable Cost (10,000 × 200)	20,00,000
Contribution	30,00,000



Less: Fixed Cost	25,00,000
EBIT	5,00,000

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}} = \frac{\text{₹ 30 lakhs}}{\text{₹ 5 lakhs}} = 6 \text{ times}$$

(b) Operating Leverage (OL) = $\frac{\% \text{Change in EBIT}}{\% \text{Change in Sales}}$

$$6 = \frac{X / 5,00,000}{5,00,000 / 50,00,000}$$

$$X = ₹3,00,000$$

$$\therefore \Delta \text{EBIT} = ₹3,00,000 / 5,00,000 = 60\%$$

Illustration 2:

CALCULATE the operating leverage for each of the four firms A, B, C and D from the following price and cost data:

	Firms			
	A (₹)	B (₹)	C (₹)	D (₹)
Sale price per unit	20	32	50	70
Variable cost per unit	6	16	20	50
Fixed operating cost	60,000	40,000	1,00,000	Nil

What calculations can you draw with respect to levels of fixed cost and the degree of operating leverage result? Explain. Assume number of units sold is 5,000.



Solution:

	Firms			
	A	B	C	D
Sales (units)	5,000	5,000	5,000	5,000
Sales revenue (Units × price) (₹)	1,00,000	1,60,000	2,50,000	3,50,000
Less: Variable cost	(30,000)	(80,000)	(1,00,000)	(2,50,000)
(Units × variable cost per unit) (₹)				
Less: Fixed operating costs (₹)	(60,000)	(40,000)	(1,00,000)	Nil
EBIT	10,000	40,000	50,000	1,00,000

$$DOL = \frac{\text{sales (S) - Variable costs (VC)}}{EBIT}$$

$$DOL_{(A)} = \frac{₹ 1,00,000 - ₹ 30,000}{₹ 10,000} = 7$$

$$DOL_{(B)} = \frac{₹ 1,60,000 - ₹ 80,000}{₹ 40,000} = 2$$

$$DOL_{(C)} = \frac{₹ 2,50,000 - ₹ 1,00,000}{₹ 50,000} = 3$$

$$DOL_{(D)} = \frac{₹ 3,50,000 - ₹ 2,50,000}{₹ 1,00,000} = 1$$

Illustration 3:

A firm's details are as under:

Sales (@100 per unit) - 24, 00,000; Variable Cost – 50% ; Fixed Cost - 10,00,000

It has borrowed ` 10,00,000 @ 10% p.a. and its equity share capital is `10,00,000 (` 100 each)

Calculate:

(a) Operating Leverage b) Financial Leverage c) Combined Leverage d) Return on Investment

e) If the sales increases by ` 6,00,000; what will the new EBIT?

Solution:

Particulars	Amount
Sales	24,00,000
Less: Variable cost	12,00,000



Contribution	12,00,000
<i>Less:</i> Fixed cost	10,00,000
EBIT	2,00,000
<i>Less:</i> Interest	1,00,000
EBT	1,00,000
<i>Less:</i> Tax (50%)	50,000
EAT	50,000
<i>No. of equity shares</i>	10,000
EPS	5

(a) Operating Leverage = $\frac{12,00,000}{2,00,000} = 6$ times

(b) Financial Leverage = $\frac{2,00,000}{1,00,000} = 2$ times

(c) Combined Leverage = OL × FL = 6 × 2 = 12 times.

(d) R.O.I = $\frac{50,000}{10,00,000} \times 100 = 5\%$

Here ROI is calculated as ROE i.e. $\frac{\text{EAT - Pref.Dividend}}{\text{Equity shareholders' fund}}$

(e) Operating Leverage = 6

$$6 = \frac{\Delta \text{EBIT}}{0.25}$$

$$\Delta \text{EBIT} = \frac{6 \times 1}{4} = 1.5$$

Increase in EBIT = ₹ 2,00,000 × 1.5 = ₹ 3,00,000

New EBIT = 5,00,000



Illustration 4:

CALCULATE the operating leverage, financial leverage and combined leverage from the following data under Situation I and II and Financial Plan A and B:

Installed Capacity	4,000 units
Actual Production and Sales	75% of the Capacity
Selling Price	Rs. 30 Per Unit
Variable Cost	Rs. 15 Per Unit

Fixed Cost:

Under Situation I	₹ 15,000
Under Situation-II	₹ 20,000

Capital Structure:

Particulars	Financial Plan	
	A	B
Equity	10,000	15,000
Debt (Rate of Interest at 20%)	10,000	5,000
	20,000	20,000

Solution:

Operating Leverage:	Situation-I	Situation-II
	₹	₹
Sales (S)	90,000	90,000
3000 units @ ₹ 30/- per unit		
Less: Variable Cost (VC) @ ₹ 15 per unit	45,000	45,000
Contribution (C)	45,000	45,000
Less: Fixed Cost (FC)	15,000	20,000
Operating Profit (OP)	30,000	25,000
(EBIT)		



(i)... Operating Leverage

$$\frac{C}{OP} = \frac{₹ 45,000}{30,000} = 1.5 \quad \frac{₹ 45,000}{25,000} = 1.8$$

(ii) Financial Leverages

	A ₹	B ₹
Situation I		
Operating Profit (EBIT)	30,000	30,000
Less: Interest on debt	2,000	1,000
PBT	28,000	29,000

$$\text{Financial Leverage} = \frac{OP}{PBT} = \frac{₹ 30,000}{28,000} = 1.07 \quad \frac{₹ 30,000}{29,000} = 1.034$$

	A (₹)	B (₹)
Situation-II		
Operating Profit (OP)	25,000	25,000
(EBIT)		
Less: Interest on debt	2,000	1,000
PBT	23,000	24,000

$$\text{Financial Leverage} = \frac{OP}{PBT} = \frac{₹ 25,000}{23,000} = 1.09 \quad \frac{₹ 25,000}{24,000} = 1.04$$

Combined Leverage

	A	B
Situation-I		
FL x OL	(1.5×1.07) = 1.61times	1.5 × 1.034 = 1.55 times
Situation-II		
FL x OL	1.8 × 1.09 = 1.96 times	1.8 × 1.04 = 1.872 times

UNIT-III: CAPITAL STRUCTURE : Meaning of Capital Structure; Capital Structure and Financial Structure; Pattern of Capital Structure; Optimum Capital Structure; Capital Structure Theories, Determination of Capital Structure; Financial Break Even Point and EPS Analysis, Capital Gearing and Trading on Equity, Cost of Capital, Importance of Cost of Capital; Classification of Cost of Capital; Determination of Cost of Capital, Capital Assets Pricing Model (CAPM) and Weighted Average Cost of Capital (WACC), Practical Problems

Meaning of Capital Structure

Capital structure is a combination of various kinds of securities (equity shares, Preference shares, bonds and debentures) issued by the company.

Definition:

According to E.F. Brigham, capital structure is defined as the *percentage share of each type of capital used by the firm* – debt, preference shares, equity shares and retained earnings.

Importance of cost of capital .

- Determination of capital budgeting decisions
- To assist capital structure decisions
- To assist project expansion
- To evaluate the financial performance
- Basis for taking other financial decisions

Capital Structure and Financial Structure

Financial Structure

- The term Financial Structure represents the way in which a firm's assets are financed. It means the composition of the entire liabilities side of the Balance Sheet.
- It includes long term as well as short term source of funds.

Capital Structure

- Capital structure describes the relationship between the various long term forms of financing such as debentures, preference share capital, and equity share capital.
- It is the permanent financing of the company represented by shareholders funds and long term loans.
- Capital structure is a part of financial structure.

Pattern of Capital structure:

Capital structure pattern varies from company to company and the availability of finance. Normally the following forms of capital structure are popular in practice.

- Equity shares only.
- Equity and preference shares only.
- Equity and Debentures only.
- Equity shares, preference shares and debentures

Objectives of capital structure

Decision of capital structure aims at the following two important objectives:

1. Maximize the value of the firm.
2. Minimize the overall cost of capital.

Features / characteristics of capital structure**1. Flexibility:**

- The consideration of flexibility gives the finance manager the ability to alter the firm's capital structure to meet new market demands
- It should also be possible for the company to provide funds whenever needed to finance its profitable activities.

2. Profitability:

A sound capital structure should permit the maximum use of leverage at a minimum cost so as to provide better profitability and thus maximizing earnings per share.

3. Solvency:

- The capital structure should not lead the company to a point it risks being insolvent.
- Too much debt threatens a company's solvency so any debt taken should be manageable

4. Conservatism:

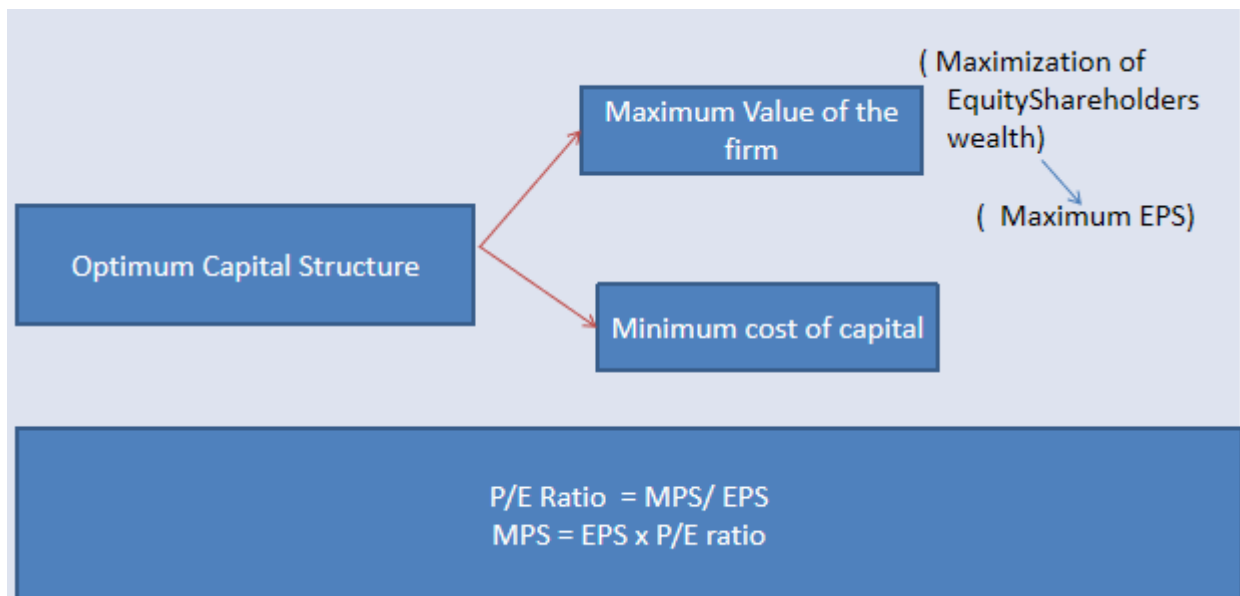
- No company should exceed its debt capacity. As already explained that the interest is to be paid on debt and the principal sum is also to be paid.
- These payments depend on future cash flows. If future cash flows are not sufficient then the cash insolvency can lead to legal insolvency.

5. Control:

- The capital structure should not lead to loss of control in the company.
- So, caution should be taken not to give too much away that owners lose their controlling stake.

OPTIMUM CAPITAL STRUCTURE

It is an ideal combination of borrowed funds and owned funds that has to be achieved the maximization of market value per share and minimization of cost of capital when the real cost of different sources of funds is the same. Optimum capital structure = Maximise MPS and Minimise K_e .



Objective of financial management is to maximize wealth. Therefore one should chose a capital structure which maximizes wealth. For this purpose following analysis should be done:

- **EBIT-EPS-MPS Analysis:** chose a capital structure which maximizes market price per share. For that start with same EBIT for all capital structures and calculate EPS. Thereafter either multiply EPS by price earning ration or divide it by cost of equity to arrive at MPS.
- **Indifference Point Analysis:** In above analysis we have considered value at a given EBIT only. What will happen if EBIT changes? Will it change your decision also? To answer this question you can do indifference point analysis.
- **Financial Break Even point Analysis:** With change in capital structure, financial risk also changes. Though this risk has already been considered in PE ratio or in cost of

equity in point one above, but one may calculate and consider it separately also by calculating financial BEP

TRADING ON EQUITY

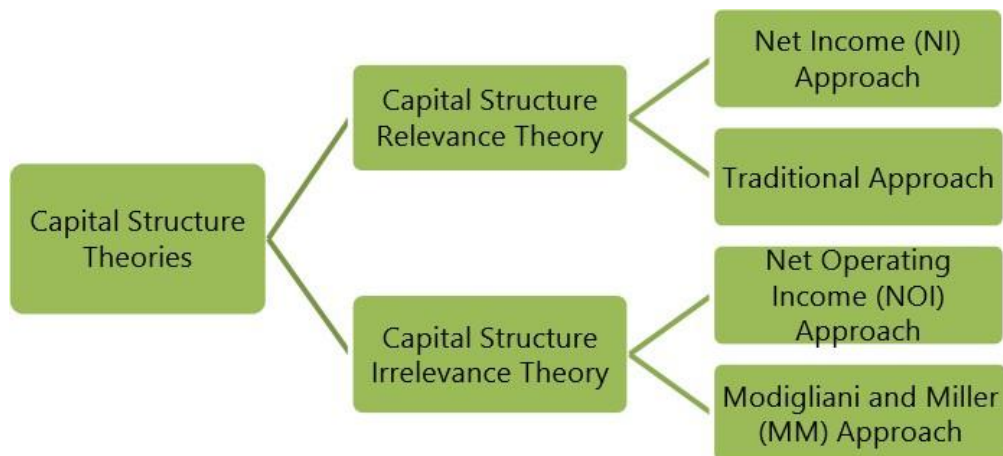
Trading on Equity is a financial process that involves taking more debt to boost the return of the shareholders. Trading on Equity occurs when a company takes new debt, in the form of bonds, preferred stock, or loans etc. It is also called as financial leverage.

CAPITAL GEARING

Capital gearing is the relationship between equity capital and long term debt.

$C.G = \frac{\text{Funds bearing fixed interest or fixed dividend}}{\text{equity shareholders' funds}}$

CAPITAL STRUCTURE THEORIES.



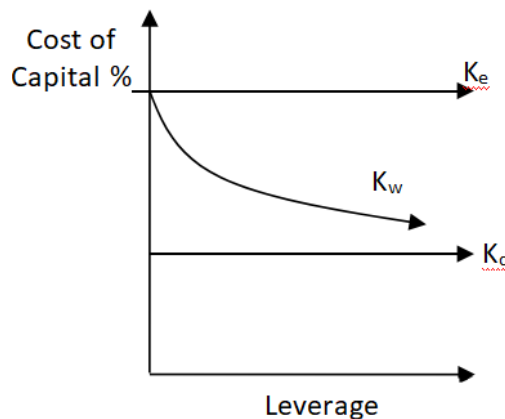
The Major Assumptions of Capital Structure

The following assumptions are made to understand this relationship.

- ◆ There are only two kinds of funds used by a firm i.e. debt and equity.
- ◆ The total assets of the firm are given. The degree of average can be changed by selling debt to purchase shares or selling shares to retire debt.
- ◆ Taxes are not considered.
- ◆ The payout ratio is 100%.
- ◆ The firm's total financing remains constant.
- ◆ Business risk is constant over time.
- ◆ The firm has perpetual life.

Capital structure relevance theories:**1. Net Income (NI) Approach**

- According to this approach, capital structure decision is **relevant** to the value of the firm.
- An increase in financial leverage will lead to decline in the weighted average cost of capital (WACC), while the value of the firm as well as market price of ordinary share will increase.
- Conversely, a decrease in the leverage will cause an increase in the overall cost of capital and a consequent decline in the value as well as market price of equity shares.



From the above diagram, K_e and K_d are assumed not to change with leverage. As debt increases, it causes weighted average cost of capital (WACC) to decrease. The value of the firm on the basis of Net Income Approach can be ascertained as follows:

$$\text{Value of Firm (V)} = S + D$$

Where, V = Value of the firm ; S Market value of equity ; D = Market value of debt

$$\text{Market value of equity (S)} = \frac{NI}{K_e}$$

Where, NI= Earnings available for equity shareholders ; K_e = Equity Capitalisation rate

- Under, NI approach, the value of the firm will be maximum at a point where weighted average cost of capital (WACC) is minimum.

- Thus, the theory suggests total or maximum possible debt financing for minimising the cost of capital.
- The overall cost of capital under this approach is:

$$\text{Overall cost of capital} = \frac{\text{EBIT}}{\text{Value of the firm}}$$

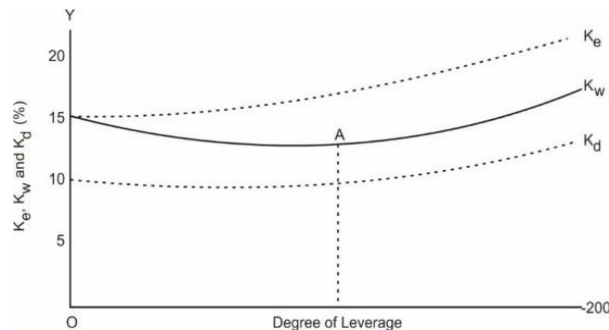
- Thus according to this approach, the firm can increase its total value by decreasing its overall cost of capital through increasing the degree of leverage.
- The significant conclusion of this approach is that it pleads for the firm to employ as much debt as possible to maximise its value.

2. Traditional Approach

This approach favours that as a result of financial leverage up to some point, cost of capital comes down and value of firm increases. However, beyond that point, reverse trends emerge. The principle implication of this approach is that the cost of capital is dependent on the capital structure and there is an optimal capital structure which minimises cost of capital.

Under this approach:

1. The rate of interest on debt remains constant for a certain period and thereafter with an increase in leverage, it increases.
2. The expected rate by equity shareholders remains constant or increase gradually. After that, the equity shareholders start perceiving a financial risk and then from the optimal point and the expected rate increases speedily.
3. As a result of the activity of rate of interest and expected rate of return, the WACC first decreases and then increases. The lowest point on the curve is optimal capital structure.



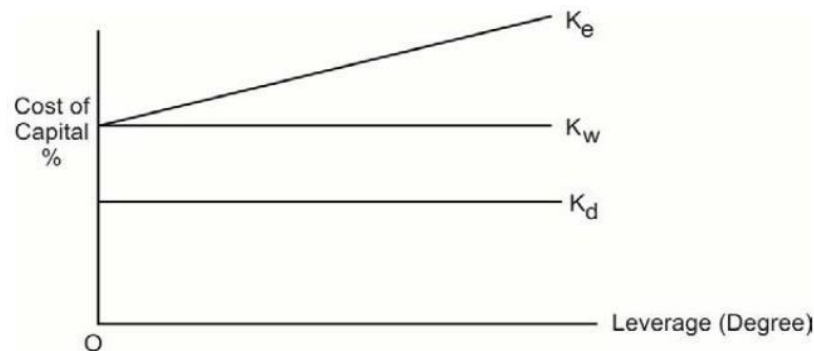
- Optimum capital structure occurs at the point where value of the firm is highest and the cost of capital is the lowest.

- According to net operating income approach, capital structure decisions are totally irrelevant. Modigliani-Miller supports the net operating income approach but provides behavioural justification. The traditional approach strikes a balance between these extremes.

Capital structure Irrelevance theories:

1. Net operating income (NOI) approach

- NOI means earnings before interest and tax (EBIT). According to this approach, capital structure decisions of the firm are **irrelevant**.
- Any change in the leverage will not lead to any change in the total value of the firm and the market price of shares, as the overall cost of capital is independent of the degree of leverage. As a result, the division between debt and equity is irrelevant.



The above diagram shows that K_w (Overall capitalisation rate) and K_d (debt – capitalisation rate) are constant and K_e (Cost of equity) increases with leverage.

Assumptions of Net Operating Income Approach

Net Operating Income approach is based on the following important assumptions;

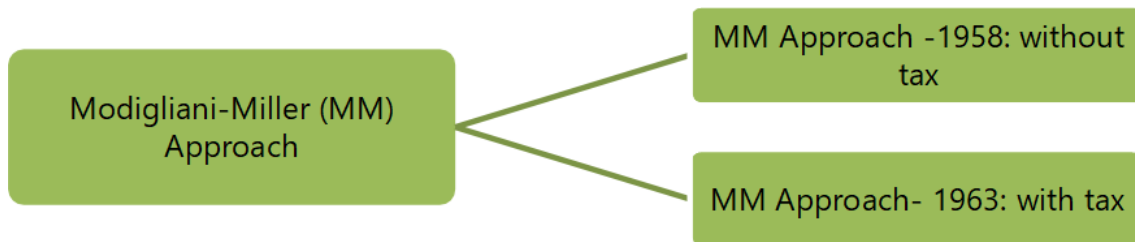
- The overall cost of capital remains constant;
- There are no corporate taxes;
- The market capitalizes the value of the firm as a whole;

The Argument in favor of Net Operating Income Approach

- The market value of the firm depends upon the net operating profit or EBIT and the overall cost of Capital.
- The financing mix or the capital structure is irrelevant and does not affect the value of the firm.
- The use of more and more debt in capital structure increase the risk of the shareholders and thus results in the increase in cost of equity capital i.e. K_e . The increase in K_e is such as to completely offset the benefits of employing cheaper debts.

2. MODIGLIANI – MILLER (MM) APPROACH

- The NOI approach is definitional or conceptual and lacks behavioural significance. It does not provide operational justification for irrelevance of capital structure.
- Modigliani-Miller approach provides behavioural justification for constant overall cost of capital and therefore, total value of the firm.



MM Approach – 1958: without tax:

This approach describes, in a perfect capital market where there is no transaction cost and no taxes, the value and cost of capital of a company remain unchanged irrespective of change in the capital structure. The approach is based on further additional assumptions like:

- ◆ Capital markets are perfect. All information is freely available and there are no transaction costs.
- ◆ All investors are rational.
- ◆ Firms can be grouped into ‘Equivalent risk classes’ on the basis of their business risk.
- ◆ Non-existence of corporate taxes.

Based on the above assumptions, Modigliani-Miller derived the following three propositions:

- (i) Total market value of a firm is equal to its expected net operating income divided by the discount rate appropriate to its risk class decided by the market.

$$\text{Value of levered firm } (V_g) = \text{Value of unlevered firm } (V_u)$$

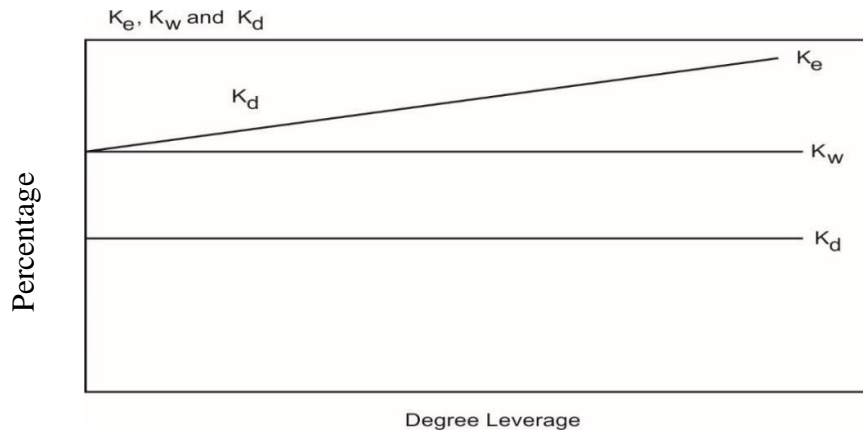
$$\text{Value of a firm} = \frac{\text{Net Operating Income (NOI)}}{K_0}$$

- (ii) A firm having debt in capital structure has higher cost of equity than an unlevered firm. The cost of equity will include risk premium for the financial risk. The cost of equity in a

levered firm is determined as under:

$$K_e = K_o + (K_o - K_d) \frac{\text{Debt}}{\text{Equity}}$$

(iii) The structure of the capital (financial leverage) does not affect the overall cost of capital. The cost of capital is only affected by the business risk.



It is evident from the above diagram that the average cost of the capital (K_o) is a constant and not affected by leverage.

Limitation of this approach:

The shortcoming of this approach is that the arbitrage process as suggested by Modigliani-Miller will fail to work because of imperfections in capital market, existence of transaction cost and presence of corporate income taxes.

MM Approach- 1963: with tax

In 1963, MM model was amended by incorporating tax, they recognised that the value of the firm will increase, or cost of capital will decrease where corporate taxes exist. As a result, there will be some difference in the earnings of equity and debt- holders in levered and unlevered firm and value of levered firm will be greater than the value of unlevered firm by an amount equal to amount of debt multiplied by corporate tax rate.

MM has developed the formulae for computation of cost of capital (K_o), cost of equity (K_e) for the levered firm.

(i) Value of a levered company = Value of an unlevered company + Tax benefit

Or,
$$V_g = V_u + TB$$

(ii) Cost of equity in a levered company (K_{eg}) = $K_{eu} + (K_{eu} - K_d) \frac{\text{Debt}}{\text{Debit} + \text{Equity}}$

(iii) WACC in a levered company (K_{og}) = $K_{eu}(1-tL)$

Where, K_{eg} = Cost of equity in a levered company ; K_{eu} = Cost of equity in an unlevered company

K_d = Cost of debt t = Tax rate

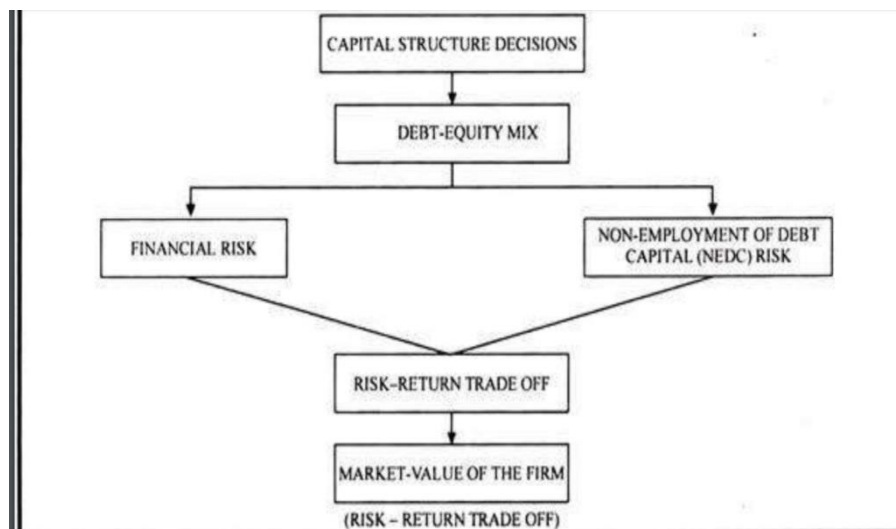
K_{og} = WACC of a levered company ; K_{eu} = Cost of equity in an unlevered company;

t = Tax rate; L = Debt / Debt+Equity

PROCESS (OR) FRAME WORK OF CAPITAL STRUCTURE DECISIONS.

Capital Structure:

- Optimal capital structure refers to the combination of debt and equity in total capital that maximizes the value of the company.
- An optimal capital structure is designated as one at which the average cost of capital is the lowest which produces an income that leads to maximization of the market value of the securities at that income.



- Capital structure at which the weighted average cost of capital is minimum and which maximizes value of the firm.

I. Financial risk:

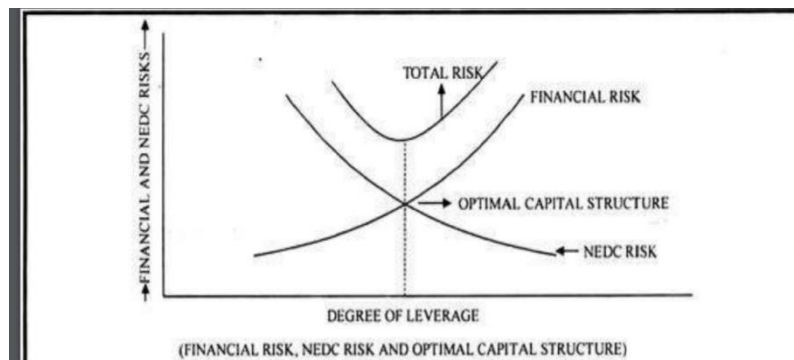
- The financial risk arises on account of the use of debt or fixed interest bearing securities

in its capital. A company with no debt financing has no financial risk. The extent of financial risk depends on the leverage of the firm's capital structure.

- A firm using debt in its capital has to pay fixed interest charges and the lack of ability to pay fixed interest increases the risk of liquidation. The financial risk also implies the variability of earnings available to equity shareholders.

II. Non-Employment of Debt Capital (NEDC) Risk:

- If a firm does not use debt in its capital structure, it has to face the risk arising out of non-employment of debt capital.
- The NEDC risk has an inverse relationship with the ratio of debt in its total capital. Higher the debt-equity ratio or the leverage, lower is the NEDC risk and vice-versa.
- A firm that does not use debt cannot make use of financial leverage to increase its earnings per share; it may also lose control by issue of more and more equity; the cost of flotation of equity may also be higher as compared to costs of raising debt. □
- Thus a firm reaches a balance (trade – off) between the financial risk and risk of non-employment of debt capital to increase its market value.



The finance manager, in trying to achieve the optimal capital structure has to determine the minimum overall total risk and maximize the possible return to achieve the objective of higher market value of the firm. The figure above depicts the financial risk, the NEDC risk and the optimal capital structure

RISK RETURN TRADE OFF

- Higher risk is associated with greater probability of higher return and lower risk with a greater probability of smaller return.
- This trade off which an investor faces between risk and return while considering investment decisions is called the risk return trade off.

MARKET VALUE OF THE FIRM

- Market value is the value of a company according to the stock market.
- Market value is calculated by multiplying a company's shares outstanding by its current market price.

Determinants of capital structure decision.**i) Nature of the Business**

- Use of fixed interest/dividend bearing finance depends upon the nature of the business.
- If the business consists of long period of operation, it will apply for equity than debt, and it will reduce the cost of capital.

ii) Size of the Company

- It also affects the capital structure of a firm. If the firm belongs to large scale, it can manage the financial requirements with the help of internal sources.
- But if it is small size, they will go for external finance. It consists of high cost of capital.

iii) Growth and stability of sales:

- The capital structure of a firm is highly influenced by the growth and stability of its sale.
- If the sales of a firm are expected to remain fairly stable, it can raise a higher level of debt. Greater the rate of growth of sales, greater can be the use of debt in the financing of firm. On the other hand, if the sales of a firm are highly fluctuating or declining, it should not employ, as far as possible, debt financing in its capital structure.

iv) Control

- Whenever additional funds are required, the management of the firm wants to raise the funds without any loss of control over the firm.
- A public issue of equity may reduce the managements' holding in the company and make it exposed to takeover

v) Financial leverage of Trading on Equity:

- The use of long-term fixed interest bearing debt and preference share capital along with equity share capital is called financial leverage or trading on equity.
- The use of long-term debt increases the earnings per share if the firm yields a return higher than the cost of debt.
- Therefore, it needs caution to plan the capital structure of a firm.

vi) Risk Consideration

The use of debt increases the financial risk and business risk. Financial risk refers to a

position when a company is unable to meet its fixed financial charges and business risk depends upon higher fixed operating costs, which result in higher business risk and vice-versa.

vii) Cost of Capital

- Cost of capital constitutes the major part for deciding the capital structure of a firm. The capital structure should also provide for the minimum cost of capital.
- When the cost of capital increases, value of the firm will also decrease. Hence the firm must take careful steps to reduce the cost of capital.

viii) Flexibility

- Capital structure of the firm should be flexible. i.e. it should be capable of being adjusted according to the needs of changing conditions.
- Redeemable preference share capital and convertible debentures may be preferred on account of flexibility.

ix) Capital Market Conditions

- In the lifetime of the company, the market price of the shares has got an important influence
- During the depression period, the company's capital structure generally consists of debentures and loans.

x) Government Policy

- Promoter contribution is fixed by the company Act. It restricts to mobilize large, long term funds from external sources.
- Hence the company must consider government policy regarding the capital structure.

xi) Choice of investors:

- The company's policy generally is to have different categories of investors for securities.
- Therefore, a capital structure should give enough choice to all kind of investors to invest.
- Bold and adventurous investors generally go for equity shares and loans and debentures are generally raised keeping into mind conscious investors.

xii) Corporate Tax Rule

- High rate of corporate taxes on profits compels the companies to prefer debt financing, because interest is allowed to deduct while computing taxable profits.
- Since interest is a deductible expense, cost of debt is affected by the tax rate. optimum capital structure.

FINANCIAL BREAK EVEN POINT AND EPS ANALYSIS**EBIT – EPS Analysis / EBIT - EPS Indifference point.**

- Indifferent point/level is that EBIT level at which the Earnings Per Share (EPS) is the same for two alternative financial plans.
- The indifferent point can be defined as "the level of EBIT beyond which the benefits of financial leverage begin to operate with respect to Earnings Per share (EPS)".
- If the EBIT exceeds the indifference point level of EBIT, the use of fixed-cost source of funds would be beneficial from the EPS viewpoint. In this case, financial leverage would be favorable.
- In the reverse scenario, if the expected level of EBIT is less than the indifference point, the advantage of EPS would be available from the use of equity capital and not debt capital.
- The indifference point could be found out through the following analyses:
 - (i) Algebraic approach
 - (ii) Graphic approach

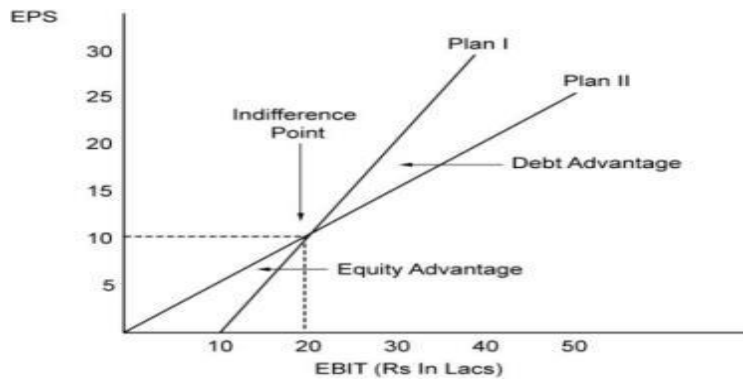
i) Algebraic Approach

To explain this, we may use the following equation:

$$\text{EPS} = \frac{(\text{EBIT} - I)(1 - t) - D}{N}$$

1. Putting two different values of I, D and N in the above equation, we can find two equation representing EPS in terms of EBIT under two proposed mixes.
2. Equating these two equations, and solving for EBIT, we can find the indifference point.
3. The linear relationship developed between EBIT and EPS using above equation for two capital mixes can be plotted on a graph paper in the form of two straight lines.
4. In the following figure, the indifference point is shown at point G.

ii) Graphic Approach



Graphical Presentation of Indifference Point

Interpretation of Graph

- (a) The horizontal intercepts identify the Financial Break Even levels of EBIT for each plan.
- (b) The point at which EPS lines of both plans intersect is called Indifference Point. Its horizontal intercept gives the level of EBIT at that point. The vertical intercept gives the value of EPS at that point.
- (c) Below the indifference point, one plan will have EPS over the other. Above that point, automatically the other plan will have higher EPS over the former.

Interpretation of the Indifference Point

Interpretation of the Indifference Point

Situation	Option	Reason
EBIT below Indifference Point	Option with lower debt (Interest Burden)	When rate of earnings and operating profits (EBIT) are low, more interest and debt burden is not advisable. A high DOL should be properly managed by low Financial Leverage
EBIT equal to Indifference Point	Any alternative can be chosen.	Same EPS due to indifference point
EBIT above Indifference Point	Option with higher debt (Interest Burden)	When EBIT is high, financial leverage works till the EPS is maximised. Low DOL should be coupled with high DFL, to maximize gain of Equity Shareholders.

COST OF CAPITAL:**Introduction**

Cost of capital is the rate of return that a firm must earn on its project investments to maintain its market value and attract funds. Cost of capital is the required rate of return on its investments which belongs to equity, debt and retained earnings.

Definitions of Cost of Capital

Soloman Ezra: “Cost of Capital is the minimum required rate of earnings or the cut- off rate of capital expenditure”

Components of cost of capital

- The risk less cost of the particular type of financing
- The business risk premium
- The financial risk premium

IMPORTANCE (OR) SIGNIFICANCE OF COST OF CAPITAL**i) Determination of Capital Budgeting Decision:**

Capital budget decision largely depends on the cost of capital of each source. According to net present value method, present value of cash inflow must be more than the present value of cash outflow. Hence, cost of capital is used to capital budgeting decision.

ii) To assist capital structure decision:

Capital structure is the mix or proportion of the different kinds of long term securities. A firm uses particular type of sources if the cost of capital is suitable. Hence, cost of capital helps to take decision regarding structure.

iii) To evaluate the Financial Performance:

Cost of capital is one of the important determining which affects the capital budgeting, capital structure and value of the firm. Hence, it helps to evaluate the financial performance of the firm.

iv) Basis for taking other Financial Decisions:

Apart from the above points, cost of capital is also used in some other areas such as, market value of share, earning capacity of securities etc. hence it plays a major part in the financial management.

iii) To assist Project Expansion:

As and when every organization enter into expansion programme of the existing project it would like to determine the financial possibilities of the proposed project. The cost of capital assists the financial manager to take care correct decision about the project. If marginal return on investment

exceeds the cost of financing the project should be accepted on the other hand it should be rejected.

CLASSIFICATION OF COST OF CAPITAL

Cost of capital can be classified as follows:

(a) Historical Cost and Future Cost

i) **Historical costs** are book costs relating to the past, historical cost represents cost incurred in the past in acquiring funds. In financial decisions future cost of capital is relatively more relevant and significant.

ii) **Future costs** are estimated costs act as guide for estimation of future costs. Future cost of capital refers to the expected cost of funds to be raised to finance a project. While evaluating viability of a project, the finance manager compares expected earnings from the project with expected cost of funds to finance the project.

(b) Specific Costs and Composite Costs

i) **Specific cost** is the cost of a specific source of capital, the cost of each sources of capital such as equity, debt, retained earnings and loans is called as specific cost of capital. It is very useful to determine the each and every specific source of capital.

ii) **The composite or combined cost of capital** is the combination of all sources of capital. It is also called as overall cost of capital. It is used to understand the total cost associated with the total finance of the firm. Composite cost also known as the weighted average cost of capital.

(c) Explicit and Implicit Cost

i) **Explicit cost** of any source of finance is the discount rate which equates the present value of cash inflows with the present value of cash outflows. Explicit cost is the rate that the firm pays to procure financing.

ii) **Implicit cost** also known as the opportunity cost, implicit cost is the rate of return associated with the best investment opportunity for the firm and its shareholders that will be forgone if the projects presently under consideration by the firm were accepted.

(d) Average Cost and Marginal Cost

i) **Average cost of capital** is the weighted average cost of each component of capital employed by the company. It considers weighted average cost of all kinds of financing such as equity, debt, retained earnings etc.

ii) **Marginal cost** refers to the average cost of capital of new or additional funds required by a firm. It

is the marginal cost which should be taken into consideration in investment decisions. In financial decisions the marginal cost concept is most significant.

DETERMINATION OF COST OF CAPITAL / FACTORS AFFECTING THE COST OF CAPITAL OF A FIRM

i) Risk Free Interest Rate

The risk free interest rate, if is the interest rate on the risk free and default- free securities. Theoretically speaking, the risk free interest rate depends upon the supply and demand consideration in financial market for long term funds.

ii) Real Interest Rate

The real interest rate is the interest rate payable to the lender for supplying the funds or in other words, for surrendering the funds for a particular period.

iii) Purchasing Power Risk Premium

The purchasing power risk premium is added to find out the risk free interest rate. Higher the expected rate of inflation, greater would be the purchasing power risk premium and consequently higher would be the risk free interest rate.

iv) Business Risk

Another factor affecting the cost of capital is the risk associated with the firms promise to pay interest and dividends to its investors. The business risk is related to the response of the firms Earnings before Interest and Taxes, EBIT, to change in sales revenue. Every project has its effect on the business risk of the firm. This premium is added for the business risk compensation is also known as Business Risk Premium.

v) Financial Risk

The financial risk is a type of risk which can affect the cost of capital of the firm. The particular composition and mixing of different sources of finance, known as the financial plan or the capital structure, can affect the return available to the investors. The financial risk is affected by the capital structure or the financial plan of the firm. Higher the proportion of fixed cost securities in the overall capital structure, greater would be the financial risk.

iv) General Economic Conditions

These include the demand for and supply of capital within the economy, and the level of expected inflation. These are reflected in the riskless rate of return and are common to most of the companies.

vii) Market Conditions

The security may not be readily marketable when the investor wants to sell; or even if a continuous demand for the security does exist, the price may vary significantly. This is company specific.

viii) A Firm's Operating and Financing Decisions

Risk also results from the decisions made within the company. This risk is generally divided into two classes: Business risk is the variability in returns on assets and is affected by the company's investment decisions. Financial risk is the increased variability in returns to the common stockholders as a result of using debt and preferred stock.

ix) Amount of Financing Required

As management approaches the market for large amounts of capital relative to the firm's size, the investors' required rate of return may rise. Suppliers of capital become hesitant to grant relatively large amounts of funds without evidence of management's capability to absorb this capital into the business.

x) Other Consideration

The investors may also like to add a premium with reference to other factors. One such factor may be the liquidity or marketability of the investment. Higher the liquidity available with an investment, lower would be the premium demanded by the investor. If the investment is not easily marketable, then the investors may add a premium for this also and consequently demand a higher rate of return.

PROBLEMS INVOLVED IN DETERMINATION OF COST OF CAPITAL

It is not an early task to determine the cost of capital of a firm. While determining the cost of capital of a firm, the fund's manager is confronted with a large number of problems both conceptual and practical.

i) Calculation of Cost of Equity

The cost of equity capital is the minimum rate of return that a company must earn on that portion of its capital employed, which is financed by equity capital so that the market price of the shares of the company remains unchanged. Computation of cost of equity capital depends upon the expected rate of return by its investors. But the quantification of expectations of equity shareholders is a very difficult task.

ii) Decide of Cost of Retained Earnings

Retained earnings have the opportunity cost of dividends forgone by the shareholders. Since different shareholders may have different opportunities for reinvesting dividends, it is very difficult to

compute cost of retained earnings

iii) Provision of Depreciation Funds

The provision for depreciation raised through sources will depend on the approach adopted for computing the depreciation. As there are different views, the funds manager has to face a difficult task in subscribing and selecting an appropriate approach of depreciation.

iv) Marginal Vs Average Cost of Capital

For decision – making purposes, it is the future cost of capital and not historical cost of capital which is relevant. It therefore creates another problem whether to consider marginal cost of capital, i.e., cost of additional funds or the average cost of capital.

v) Problem of Weights

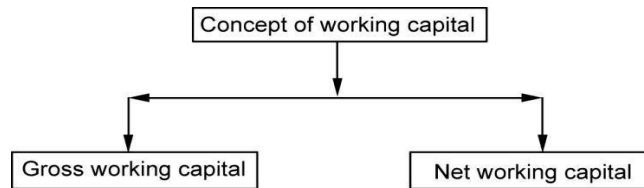
The assignment of weights of each type of funds is a complex issue. If a financial executive wants to ascertain the average cost of capital then the problem of weights also arises. The finance manager has to make a choice between the book value of each source of funds and the market value of each source of funds.

UNIT IV

Concept of Working Capital Management; Need for Working Capital; Types of Working Capital; Management of Working Capital, Projection of Working Capital, Conservative Asset Policy, Aggressive Asset Policy, Risk Return Trade Off, Source of Working Capital; Management of Cash, Tools of Cash Management, Cash budget, Playing on Float, Lock Box System; Management of Inventory, Tools of Inventory Management, ABC Analysis, VED Analysis, EOQ Analysis, Perpetual Inventory System, Different Stock Level and Management of Receivable and Factoring Management; Practical Problems

Concept of working capital**Definition:**

According to the definition of J.S.Mill, “The sum of the current asset is the working capital of a business”.

**i) Gross working capital**

The gross working capital is the capital invested in total current assets of the business concern.

$$\text{GWC} = \text{CA}$$

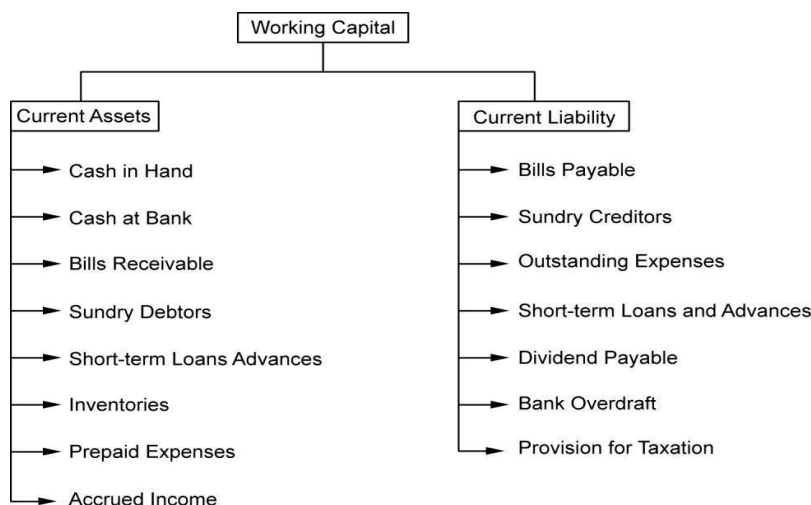
ii) Net working capital

Net Working Capital is the excess of current assets over the current liability of the concern during a particular period.

$$\text{NWC} = \text{CA} - \text{CL}$$

COMPONENT OF WORKING CAPITAL

Working capital constitutes various current assets and current liabilities. This can be illustrated by the following chart.

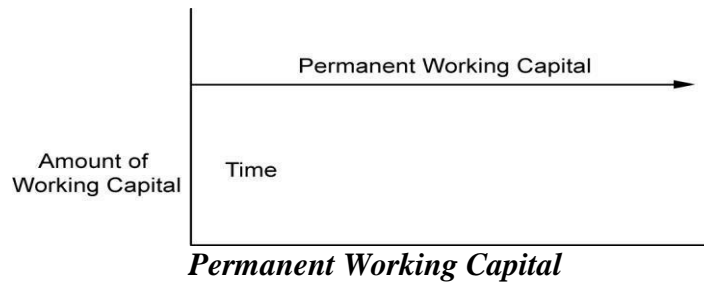
**TYPE OF WORKING CAPITAL**

Working Capital may be classified into three important types on the basis of time.

- Permanent Working Capital
- Temporary Working Capital
- Semi Variable Working Capital

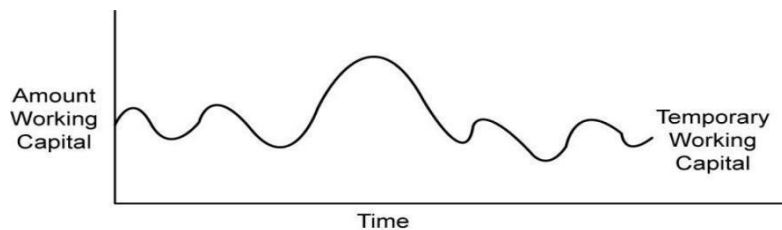
1. Permanent Working Capital

- It is also known as Fixed Working Capital.
- The level of Permanent Capital depends upon the nature of the business.
- Permanent or Fixed Working Capital will not change irrespective of time or volume of sales.



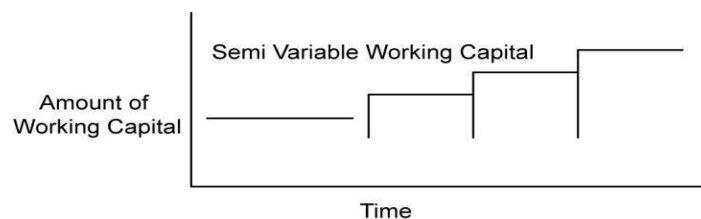
2. Temporary Working Capital

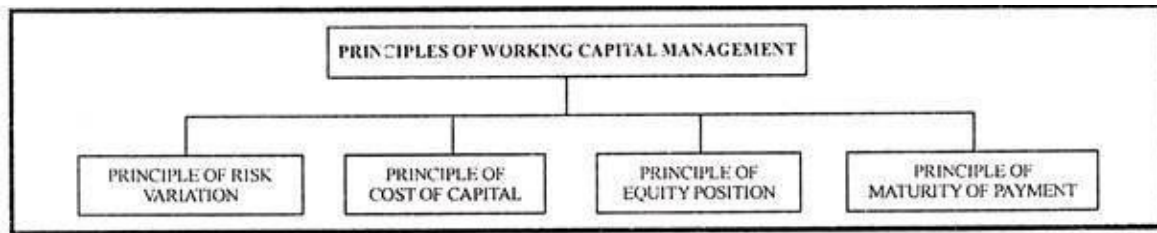
- It is also known as variable working capital.
- It is the amount of capital which is required to meet the Seasonal demands and some special purposes.
- It can be further classified into Seasonal Working Capital and Special Working Capital.



3. Semi Variable Working Capital

Certain amount of Working Capital is in the field level up to a certain stage and after that it will increase depending upon the change of sales or time.



Principles of Working capital:**1. Principle of Risk Variation (Current Assets Policies):**

- There is direct relationship between risk and profitability.
- If the firm makes large investment in current asset → increase liquidity → reduce risk → decrease the opportunity for gain for the firm.

2. Principle of Cost of Capital:

- The different sources of working capital finance have different cost of capital.
- Generally there is Negative relationship between the risk and cost of capital, which means more the risk less will be the cost and less the risk more will be the cost.
- So there should be balance between the two.

3. Principle of Equity Position:

- According to, this principle every investment in the current assets should contribute to the net worth of the firm.
- The position of current assets can be well judged by the two ratios; current assets to total asset and current asset to total sales.

4. Principle of Maturity of Payment:

- According to this principle the firm should make an every effort regarding the maturity of payment.
- In case the period to pay back the liabilities is short than it becomes difficult for the firm to meet its obligations in time.

NEEDS OF WORKING CAPITAL**1) Purchase of raw materials and spares:**

Every business concern maintains certain amount as Working Capital to purchase raw materials, components, spares, etc as it is basic part of manufacturing process.

2) Payment of wages and salary:

Business concern should maintain adequate amount of working capital to make the payment of wages and salaries to the employees.

3) Day-to-day expenses:

A business concern should maintain certain amount as working capital to meet various expenditures regarding the operations at daily basis like fuel, power, office expenses, etc.

4) Provide credit obligations:

A business concern should maintain some amount as working capital to provide credit facilities to the customer and meet the short-term obligation.

Factors Determining Working Capital Requirements / Factors influencing Working Capital Requirements**1) Nature of business:**

- Working Capital of the business concerns largely depend upon the nature of the business.
- If the business concerns follow rigid credit policy and sell goods only for cash, they can maintain lesser amount of Working Capital. If not huge amount is required.

2) Length of Manufacturing Cycle :

- Amount of working capital depends upon the length of the Production cycle.
- If the production cycle length is small, they need to maintain Lesser amount of working capital, if the production cycle large they need to maintain Large amount of working capital.

3) Business cycle:

- Business fluctuations lead to cyclical and seasonal changes in the business condition and it will affect the requirements of the Working Capital.
- In the booming conditions, the Working Capital requirement is larger and in depression condition, Working Capital requirement is low.

4) Credit policy:

- Credit policy of sales and purchase also affect the Working Capital requirements of the business concern.
- If the company maintains liberal credit policy to collect the payments from its customers, they have to maintain more Working Capital.

5) Growth and expansion:

- During the growth and expansion of the business concern, Working Capital requirements are higher, because it needs some additional Working Capital and incurs some extra expenses at the initial stages.

6) Profit level:

If the business concern consists of high level of earning capacity, they can generate more Working Capital, with the help of cash from operations.

7) Dividend policy:

- According to new provisions of SEBI all the companies must compulsorily declare and pay the dividend to its shareholders.
- Whenever the dividend is declared and the same has to be paid immediately, it requires huge amount of working capital.

8) Conditions of supplies:

Industries require regular supply of raw material for continuous

production. If the supplier supplies raw material on regular basis only small amount working capital is required, if the Supplier is irregular then huge amount of working capital is required to ensure the regular flow of production.

9) **Market condition :**

- The level of competition prevailing in the market will affect the amount of working capital required.
- Whenever the organization faces severe competition , it is need of huge amount of working capital.

10) **Terms of Purchase and sales:**

- If organization allows liberal credit policies to its customers, huge amount of working capital is required as more amount is locked up on sundry debtors and bills receivable.
- If the firm follows stringent credit policies it may require small amount of working capital.

11) **Manufacturing cost:**

- Manufacturing cost makes more impact on working capital required.
- Labour intensive industries require more amount of working capital at the same time industries having automatic machines requires less amount of working capital.

12) **Taxes:**

- Taxes are often paid in advance. This also blocks a part of working capital.
- Depending on the tax environment of the industry, working capital needs are also affected.

13) **Size of Business:**

- More amount of working capital is required if the size of business concern is large and the scale of operation is also high and vice versa.
- Sometimes, small concerns need more working capital due to high overhead charges and inefficient in use of available resources.

14) **Seasonal Variation:**

- Some raw materials are available only in season. But, the need of raw material is throughout the year. Hence, the company is forced to buy the raw materials in bulk and store them for one year. If so, more amount of working capital is required.

Computation / Techniques / Methods of estimating working capital requirement.

(a) Cash forecasting method:

- This method is otherwise called as Cash cycle method or conventional method.
- In this method, cash inflows and outflows are matched with each other.
- The working capital is to be determined on the basis of closing cash balance. The closing cash balance is arrived after considered receipts and payments of cash made during that period.

(b) Percent of sales method

- The existing relationship between sales and working capital is identified for one or two years.

- The relationship between sales and working capital and its various components may be expressed in three ways:
 - a) as number of days of sales;
 - b) as turnover;
 - c) as percentage of sales.
- This method is suitable for short period and this method is not suitable for public limited companies and Multinational Corporation.

(c) Operating cycle

- In a manufacturing organization the operating cycle starts from the purchase of raw material and ends with the conversion of cash.
- It indicates, time required to convert the cash into raw material, raw material to working in progress, work in progress to finished goods, finished goods to debtors and debtors back to cash.
- This continuous process is called operating cycle.

Formula for computation of operating cycle:

$$T = (r-c) + w + f + d$$

Where, t = the total period of the operating cycle in number of days.

r = Raw material and stores storage period.

c = Creditors payment period.

w = Work in process period

f = Finished stock storage period

d = Debtors collection period.

d) Balance Sheet method:

- A balance sheet is prepared by adjusting the anticipated transactions for the ensuring year in the opening balances.
- The closing balances of all accounts are arrived other than cash and bank balances. The accountant has confirmed that all the assets and liabilities are balanced and recorded in the balance sheet.
- Lastly, closing cash and bank balances are arrived to find the working capital.

e) Regression Analysis Method

- Under this method, an average relationship between sales and working capital (current assets) and its various components has been established for the past years.
- Regression analysis can be carried out through the graphic portrayals or through mathematical formula.
- The working capital can be forecasted with this regression analysis method even for the complex situations. It is particularly suitable for long term forecasting.

Importance / Advantages of working capital.

Working capital is the lifeblood and nerve center of a business. No business can run successfully without and adequate amount of working capital. The main advantage of maintaining adequate amount of working capital is as follow:

1. **Solvency of the business:** Adequate amount of working capital helps in maintaining solvency of business by providing uninterrupted flow of production.

2. **Goodwill:** sufficient amount of working capital enables business concern to make the prompt payment and helps in creating and maintaining goodwill.
3. **Easy Loans:** a concern having adequate amount of working capital, high solvency and credit standing can arrange loans from banks.
4. **Cash Discounts:** Adequate amount of working capital also enables a concern to avail cash discounts on the purchases and hence it reduces the costs.
5. **Exploitation of favorable market condition:** Adequate amount of working capital enables a concern to exploit favorable market conditions such as purchasing its requirement in bulk when the prices are lower and by holding its inventories for higher prices.
6. **Ability to face the crises:** Adequate amount of working capital enables a concern to face the business crises in emergencies such as depression because during such periods, generally there is much pressure on working capital.
7. **Quick and regular return on investments:** Adequate amount of working capital enables a concern pay quick and regular dividends to its investors as there may not be much pressure to plough back profits.
8. **Regular supply of raw material:** Adequate amount of working capital ensures regular supply of raw material and continuous production.

Disadvantages / Problems of Inadequate working capital:

- Difficult to meet short term liability.
- High cost of finance
- Some times it may lead to under utilization of production facilities.
- It will affect the credit worthiness and reputation of the firm in long period of time.

ACCOUNTS RECEIVABLE MANAGEMENT:**MEANING**

The term receivable is defined as debt owed to the concern by customers arising from sale of goods or services in the ordinary course of business. It arises only due to credit sales to customers, hence, it is also known as Account Receivables or Bills.

COST ASSOCIATED WITH ACCOUNTS RECEIVABLE

The costs associated with the extension of credit and accounts receivables are identified as follows:

1. Collection Cost

This cost incurred in collecting the receivables from the customers to whom credit sales have been made.

2. Capital Cost

This is the cost on the use of additional capital to support credit sales which alternatively could have been employed elsewhere.

3. Administrative Cost

This is an additional administrative cost for maintaining account receivable in the form of salaries to the staff kept for maintaining accounting records relating to customers, cost of investigation etc.

4. Default Cost

Default costs are the over dues that cannot be recovered. Business concern may not be able to recover the over dues because of the inability of the customers.

FACTORS CONSIDERING THE RECEIVABLE SIZE

1. Sales Level

Sales level is one of the important factors which determines the size of receivable of the firm. If the firm wants to increase the sales level, they have to liberalise their credit policy and terms and conditions. When the firms maintain more sales, there will be a possibility of large size of receivable.

2. Credit Policy

Credit policy is the determination of credit standards and analysis. It may vary from firm to firm or even some times product to product in the same industry. Liberal credit policy leads to increase the sales volume and also increases the size of receivable. Stringent credit policy reduces the size of the receivable.

3. Credit Terms

Credit terms specify the repayment terms required of credit receivables, depend upon the credit terms, size of the receivables may increase or decrease. Hence, credit term is one of the factors which affects the size of receivable.

4. Credit Period

It is the time for which trade credit is extended to customer in the case of credit sales. Normally it is expressed in terms of „Net days“.

5. Cash Discount

Cash discount is the incentive to the customers to make early payment of the due date. A special discount will be provided to the customer for his payment before the due date.

6. Management of Receivable

It is also one of the factors which affects the size of receivable in the firm. When the management involves systematic approaches to the receivable, the firm can reduce the size of receivable.

MECHANICS AND TYPES OF FACTORING.**Factoring:**

Factoring means arrangement between a factor and his client which includes at least two of the services to be provided by the factor i.e Finance, Maintenance of accounts , collection of debt, protection against credit risk.

Functions of factoring services:**a) Maintenance of sales ledger:**

The factor maintains the clients sales ledger, collection schedules, collection procedure, discount allowed details both cash and quantity.

b) Credit Protection:

Assumption of credit protection is done by factoring institutions by assuming the risk of default in payment by customers because factor takes the responsibility of book debts.

c) Credit Administration:

The main work of factoring is to collect the book debts properly. Factor has to maintain customer wise record of payment , so that any change in payment can be easily identified.

d) Financing Trade Debts:

The factor purchase the book debts of his client at certain price and the debts are assigned in favour of the factor who is ready to grant advances to the extent of 80% assigned book debts.

e) Providing Business information:

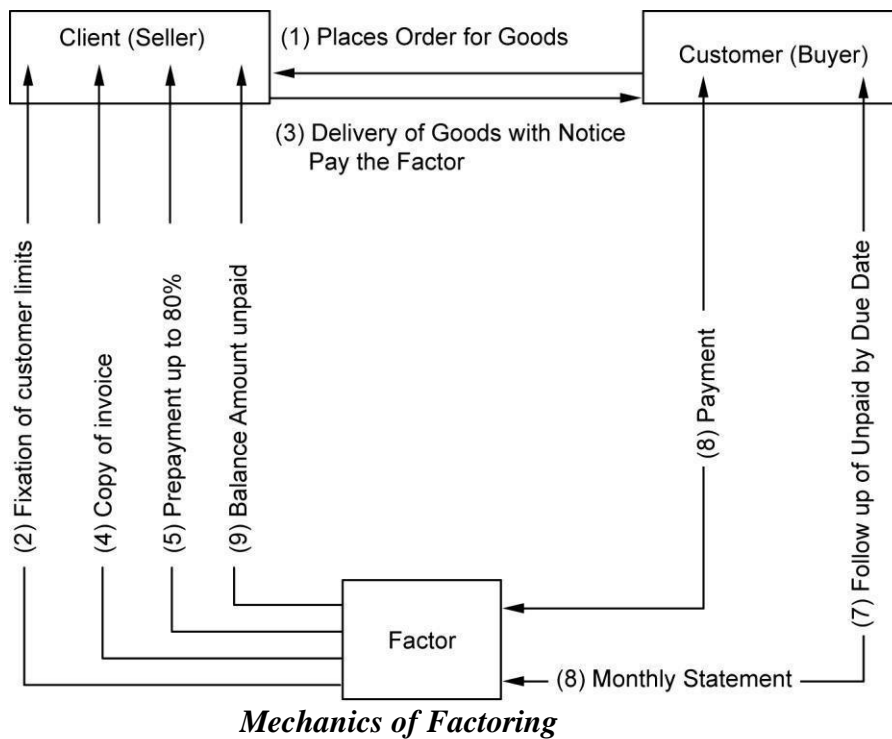
Factoring institution provides various advisory services such as financial and fiscal policy , export market conditions,etc..

Mechanics of Factoring

The following are the steps for factoring:

- The customer places an order with the seller (client).
- The factor and the seller enter into a factoring agreement about the various terms of factoring.
- Sale contract is entered into with the buyer and the goods are delivered. The invoice with the notice to pay the factor is sent along with.
- The copy of invoice covering the above sale to the factor, who maintains the sale ledger.
- The factor prepays 80% of the invoice value.
- The monthly statement are sent by the factor to the buyer.
- Follow up action is initiated if there are any unpaid invoices.
- The buyer settles the invoices on the expiry of the credit period allowed.

- The balance 20% less the cost of factoring is paid by the factor to the client.



TYPES OF FACTORING

a) Full Factoring

- This is also known as “Without Recourse Factoring “.
- It is the most comprehensive type of facility offering all types of services namely finance sales ledger administration, collection, debt protection and customer information.

b. Recourse Factoring

- The Factoring provides all types of facilities except debt protection.
- This type of service is offered in India. Under Recourse Factoring, the client’s liability to Factor is not discharged until the customer pays in full.

c. Maturity Factoring

- It is also known as “Collection Factoring “.
- Under this arrangement, except providing finance, all other basic characteristics of Factoring are present.
- The payment is effected to the client at the end of collection period or the day of collecting accounts.

d .Advance Factoring

Under this arrangement, the Factor provides advance at an agreed rate of interest to the client on uncollected and non-due receivables. This is only a pre-payment and not an advance.

e. Bulk Factoring

It is a modified version of Invoice discounting wherein notification of assignment of debts is given to the customers. However, the client is subject to full recourse and he carries out his own administration and collection.

F. Agency Factoring

Under this arrangement, the facilities of finance and protection against bad debts are provided by the Factor whereas the sales ledger administration and collection of debts are carried out by the client.

g. International Factoring:

This is also known as cross border factoring. An export factoring house deal not only for usual factor services but also deals with export sales, and provide financial services, collection services and also under taking the legal formalities connected with export sales.

BENEFITS OF FACTORING

1. Better working capital management

Since there is instant cash and 80-90% of issued invoices are prepaid within 24 hours the problem of additional working capital required to match sales growth does not arise at all.

2. Management of receivables

Sales ledger management and debt collection is done by the factoring company.

3. Improved growth

Firm borrows based on sales activity so firm can automatically set up to finance the growth of the company.

4. Flexibility with financing

Factoring reveals and often replaces the traditional bank overdraft. In addition to all the credit management services, a factoring facility grows with the business and does not need renegotiating every time an increase is required.

5. Better risk management

In case of non - recourse factoring, the risk of default is born by the factor firm and the selling firm does not assume any risk in connection with collection of money from the customers.

INVENTORY MANAGEMENT:

The ultimate aim of inventory management is to assume adequate supply of material as and when required by production department and also minimize huge amount of funds invested in inventories.

Kinds of Inventories

- Raw Material
- Work in Progress
- Consumables
- Finished Goods
- Spares

Objectives of Inventory Management

The major objectives of the inventory management are as follows:

- (a) To efficient and smooth production process.
- (b) To maintain optimum inventory to maximize the profitability.
- (c) To meet the seasonal demand of the products.
- (d) To avoid price increase in future.
- (e) To ensure the level and site of inventories required.
- (f) To plan when to purchase and where to purchase
- (g) To avoid both over stock and under stock of inventory.

Methods of Inventory Valuation:

- a) First in first out method (FIFO)
- b) Last in first out (LIFO)
- c) Average price method
- d) Base stock method
- e) Highest in first out method
- f) Current standard price method
- g) Replacement price method
- h) Specific price method

Inventory Management Tools & Techniques:**i) Determination of Stock Level**

Stock level is the level of stock which is maintained by the business concern at all times. Therefore, the business concern must maintain optimum level of stock to smooth running of the business process. Different level of stock can be determined based on the volume of the stock.

Minimum Level

The business concern must maintain minimum level of stock at all times. If the stocks are less than the minimum level, then the work will stop due to shortage of material.

Re-order Level

Re-ordering level is fixed between minimum level and maximum level.

Re-order level = maximum consumption × maximum Re-order period.

Maximum Level

It is the maximum limit of the quantity of inventories, the business concern must maintain. If the quantity exceeds maximum level limit then it will be overstocking.

Maximum level = Re-order level + Re-order quantity – (Minimum consumption × Minimum delivery period)

Danger Level

It is the level below the minimum level. It leads to stoppage of the production process.

Danger level = Average consumption × Maximum re-order period for emergency

purchase

ii) Economic Order Quantity (EOQ)

- EOQ is the quantity of material that should be purchased by the organisation at minimum cost.
- Determining an optimum level involves two types of cost such as ordering cost and carrying cost.
 - Ordering cost: It is the cost which can be incurred for placing an order and securing supplies.
 - Carrying Cost: It is the cost which can be incurred for holding inventories.
- $EOQ = \sqrt{2AO/C}$

iii) FNSD Analysis:

- Inventories are classified according to the period of their holding and also this method helps to identify the movement of the inventories. Hence, it is also called as, FNSD analysis. where, F = Fast moving inventories ; N = Normal moving inventories ; S = Slow moving inventories ; D = Dead moving inventories
- This analysis is mainly calculated for the purpose of taking disposal decision of the inventories.

iv) VED Analysis

- This technique is ideally suited for spare parts in the inventory management like ABC analysis. Inventories are classified into three categories on the basis of usage of the inventories
- V = Vital item of inventories ; E = Essential item of inventories ; D = Desirable item of inventories

V) HML Analysis

Under this analysis, inventories are classified into three categories on the basis of the value of the inventories.

H = High value of inventories

M = Medium value of inventories

L = Low value of inventories

vi) ABC Analysis:

- ABC analysis is otherwise known as 'Always better control'. It is one of the techniques used for exercising selective control over inventory items.
- Under this approach inventory items are classified into three parts A, B, C. category A includes most costly items, category B includes less costly items, category C includes least costly items.
- The inventories are classified according to their importance and relative value.

vii) Inventory Turnover ratio:

This method is used to find out whether inventories have been used efficiently or not. The aim of this method is to minimize the investment in inventories.

viii) Just In Time (JIT):

Just in time (JIT) inventory is a strategy to increase efficiency and decrease waste by receiving goods only as they are needed in the production process, thereby reducing inventory costs.

ix) Inventory reports

Preparation of periodical inventory reports provides information regarding the order level, quantity to be procured and all other information related to inventories. On the basis of these reports, Management takes necessary decision regarding inventory control and Management in the business concern.

CASH MANAGEMENT AND ITS TECHNIQUES:**Cash management**

Cash management deals with Cash Planning, Managing Cash flows and determining optimum cash balance

Motives for holding cash**1. Transaction motive**

It is a motive for holding cash or near cash to meet routine cash requirements to finance transaction in the normal course of business. Cash is needed to make purchases of raw materials, pay expenses, taxes, dividends etc.

2. Precautionary motive

It is the motive for holding cash or near cash as a cushion to meet unexpected contingencies. Cash is needed to meet the unexpected situation like floods, strikes, war etc.

3. Speculative motive

It is the motive for holding cash to for investing in profitable opportunities.

CASH MANAGEMENT TECHNIQUES

Managing cash flow constitutes two important parts:

- A. Speedy Cash Collections techniques.
- B. Slowing Disbursements techniques.

A. Speedy Cash Collections techniques:**1. Prompt Payment by Customers**

- Business concern should encourage the customer to pay promptly with the help of offering discounts, special offer etc.
- It helps to reduce the delaying payment of customers and the firm can avoid delays from the customers.

- The firms may use some of the techniques for prompt payments like billing devices, self address cover with stamp etc.

2. Early Conversion of Payments into Cash

- Business concern should take careful action regarding the quick conversion of the payment into cash.
- For this purpose, the firms may use some of the techniques like postal float, processing float, bank float and deposit float.

3. Concentration Banking

- It is a collection procedure in which payments are made to regionally dispersed collection centers, and deposited in local banks for quick clearing.
- It is a system of decentralized billing and multiple collection points.

4. Lock Box System

- It is an innovative collection procedure in which customers put their cheques to a nearby post box which is hired by the organisation for the purpose of collecting cheques from their customers only.
- Under the lock box system, business concerns hire a post office lock box at important collection centers where the customers remit payments.

B. Slowing Disbursement collection technique:

1. Avoiding the early payment of cash

The firm should pay its payable only on the last day of the payment. If the firm avoids early payment of cash, the firm can retain the cash with it and that can be used for other purposes.

2. Centralized disbursement system

Decentralized collection system will provide the speedy cash collections. Hence centralized disbursement of cash system takes time for collection from our accounts as well as we can pay on the date.

CASH MANAGEMENT MODELS PROPOSED BY BAUMOL AND MILLER ORR WITH THEIR MERITS AND DEMERITS.

Cash Management Models

A number of mathematical models have been developed to determine the optimal cash balance. Two of such models are as follows;

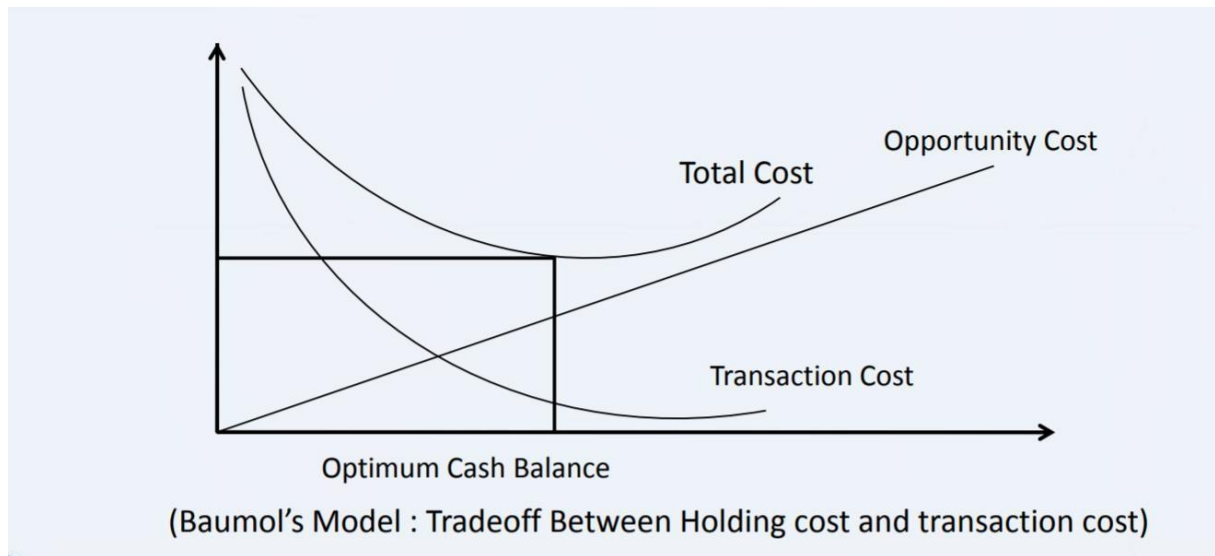
- William J. Baumol's inventory model
- Miller and Orr's Stochastic model

a. William J. Baumol's Model:

- Trades off between opportunity cost or carrying cost or holding cost & the transaction cost.

As such firm attempts to minimize the sum of the holding cash & the cost of converting marketable securities in to cash.

- Helps in determining a firm's optimum cash balance under certainty



Assumptions

- Cash needs of the firm is known with certainty
- Cash Disbursement over a period of time is known with certainty
- Opportunity cost of holding cash is known and remains constant
- Transaction cost of converting securities into cash is known and remains constant

Algebraic representation of William J. Baumol's Inventory model

$$C = \sqrt{2AxF / O}$$

C = Optimum Balance

A = Annual Cash Distribution

F = Fixed Cost Per Transaction

O = Opportunity Cost Of Holding

Merits of Baumol model:

- Facilitates the finance manager to minimize Carrying cost and Maintain Cash
- Helpful in determining optimum level of Cash holding
- Indicates idle cash Balance Gainful employment
- Applicable only in a situation of certainty in other words this model is deterministic model

Limitations of the Baumol model:

1. It does not allow cash flows to fluctuate.
2. Overdraft is not considered.
3. There are uncertainties in the pattern of future cash flows.

b. Miller and Orr Model

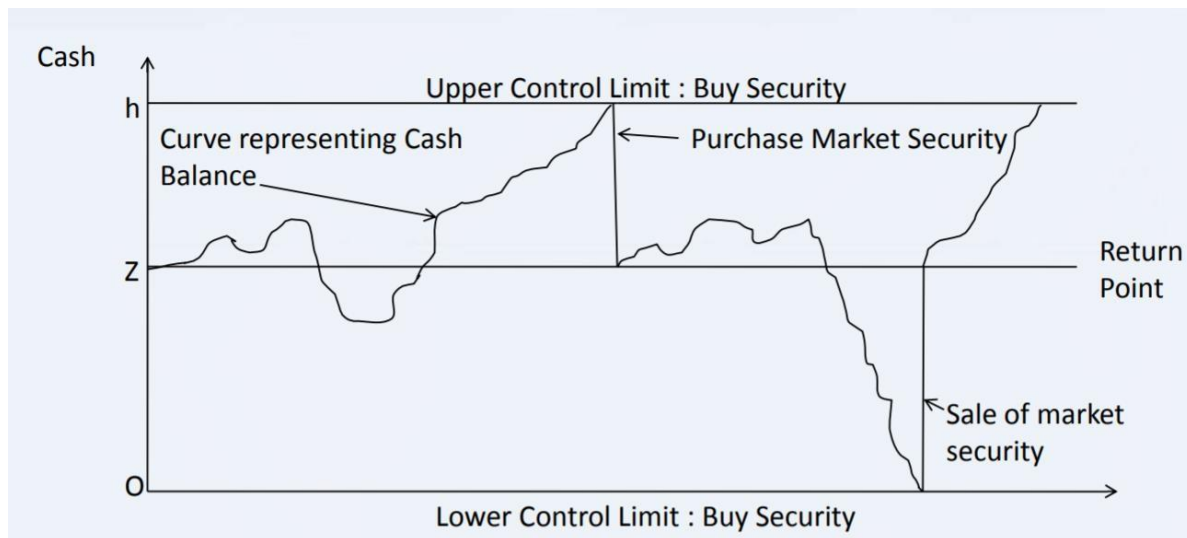
The Miller and Orr model of cash management is one of the various cash management models in operation. It is an important cash management model as well. It helps the present day companies to manage their cash while taking into consideration the fluctuations in daily cash flow.

Description :

As per the Miller and Orr model of cash management the companies let their cash balance move within two limits

a) Upper Control limit

b) Lower Control Limit



Explanation For the Diagram

- Along with a return point when the cash balance touches the upper Control limit (h), the marketable security is purchased to the extent till it reaches normal cash balance (Z)
- In the same manner when the cash balance touches lower limit (o), the firm Will Sell the Marketable security to the extent till it reaches normal cash Balance (Z)

Computation of Miller – Orr Model of Cash Management

$$\text{Spread (Z)} = \frac{(3/4 * \text{Transaction cost} * \text{Variance of Cash Flow})^{1/3}}{\text{Interest Rate}}$$

$$\text{Return Point} = \text{Lower limit} + \frac{\text{Spread (Z)}}{3}$$

$$\text{Variance of Cash Flow} = (\text{Standard Deviation})^2 \text{ or } (\sigma)^2$$

Application

- Finding out the approximate prices at which the salable securities could be sold or bought
- Deciding the minimum possible levels of desired cash balance
- Checking the rate of interest
- Calculating the SD (Standard Deviation) of regular cash flows

Evaluation of the Model

- This Stochastic model can be employed even in extreme uncertainty
- When the cash flow fluctuate violently in short period it will give optimal result
- Finance Manager can apply this model in highly unpredictable situation

Benefits

- Allows for net cash flow in a random fashion.
- transfer can take place at any time and are instantaneous with a fixed transfer cost.
- Produce control limit can be used as basis for balance management

Limitations

- May prove difficult to calculate.
- Monitoring needs to be calculated for the organizations benefits becomes a tedious Work.

Basic problems in cash management.**1. Problem in collecting receivables:**

Amount receivables are just paper profit, and it is not useful to your business until you've actually collected and put the money back into the business. The challenge will be collecting all those receivables, and collecting them on time.

2. Business is saddled with bad debts:

When you are trying to collect the receivables the other parties have filed for bankruptcy then receivables then become bad debts. Bad debts are typically written off as an expense. But the more bad debts you have, the smaller the amount of cash that you can use for your business.

3. Weak sales:

Your sales are the heart of your cash flow. The persistent lack of sales can affect how your cash coming in to your business and liquidity. It is important to analyze why sales are weak and what opportunities can be done to reverse the trend. There are a number of factors that may result in weak sales, such as product lineup, labor costs and even overcapacity.

4. Huge overhead costs.

Another common cause of cash flow problem is when the business spends too much on overhead. Overhead costs include all costs of providing goods and services other than direct labor and direct material.

5. Weak gross margins:

Cash flow problems result if prices are too low, direct costs are too high, or a combination of both problems.

6. Seasonality of sales:

The seasonality of your sales significantly impacts the cash flow of your business. If you sell more in the winter season than other months, for example, then your sales during the winter must be big enough to carry your business through the lean times.

WORKING CAPITAL FINANCE**Working Capital Finance:**

- Funds available for a period of one year or less are called short term finance. In India short term funds are used to finance working capital.
- The significant ways of working capital financing are
 1. TRADE CREDIT
 2. BANK FINANCE.
 3. COMMERCIAL PAPER.

1. TRADE CREDIT:

- It refers to the credit that a customer gets from suppliers in normal course of trade. This deferral of payments is a short term financing which is called trade credit.
- It is a major source of finance for firms. In India, it contributes to about 1/3 rd of the total short term financing.
- Particularly, small firms are heavily dependent on trade credit as a source of finance since they find it difficult to raise funds from banks or other sources.
- Trade Credit is also called Spontaneous Source of Financing.

Credit Terms:

- This refers to the conditions under which the supplier sells on credit to the buyer, and the buyer is required to repay the credit.
- A typical way of expressing credit terms is for example : 3/15 net 45. This means 3% discount is available if payment is made within 15 days and if this discount is not availed payment is to be made on or before 45 days

BENEFITS OF TRADE CREDIT:

1.Easy availability: Unlike other sources of finance, trade credit is relatively easy to obtain.(Except in cases of financially very unsound parties).

2.Flexibility: Trade credit grows with the growth is the firm's sales. The growth in sales causes growth in the purchases of goods and services, which is automatically financed by trade credit.

3.Informality: Trade credit is an informal, spontaneous source of finance. It does not require any special negotiations or formal agreements. It does not have the restrictions which are usually part of negotiated sources of finance.

OTHER SOURCES OF SPONTANEOUS FINANCE OF WORKING CAPITAL**ACCRUED EXPENSES:**

Is a liability that a firm has to pay for the services which it has already received. Thus, they represent a spontaneous, interest free source of financing. (Eg. Wages, Salaries, Taxes, Interest etc.)

Deferred Income:

It represents funds received by the firm for goods or services which it has agreed to supply in the future.(Eg. Advance Payments).

2.BANK FINANCE OF WORKING CAPITAL

- Banks are the main institutional source of working capital finance in India.
- The amount approved by the bank for the firm's working capital is called the CREDIT LIMIT.
- Credit limit is the maximum funds which a firms can obtain from the bank for use as working capital.
- The bank considers the firm's sales, production plans and desirable level of current assets in determining its working capital requirement or the credit limit.
- Actually, the banks do not lend 100% of the credit limit. They deduct the Margin money from the loan to keep as security.

FORMS OF BANK FINANCE**a) Overdraft:**

Under this facility, the borrower is allowed to withdraw funds in excess of the balance in his current amount , up to a certain specified limit, during stipulated period .

b) Cash Credit

Cash credit is a short-term source of finance. Under cash credit, the bank offers its customer to take a loan up to a certain limit. Cash credit is also known as bank overdraft.

Features of Cash Credit:

1. This loan is given to meet the working capital requirements of a company.
2. It is given against a collateral security.
3. Interest is charged only on the amount of loan taken by the customer and not on the amount of credit sanctioned.

Advantages of Cash Credit:

1. It is an important source of working capital financing.
2. Cash credit can be obtained very easily and quickly.
3. Interest is charged only on the utilized amount.

Disadvantages of Cash Credit:

1. The rate of interest charged by loan on cash credit is very high.
2. Such loan is granted by bank on the basis of company's turnover, its financial status, value of inventory, etc. So it is difficult for new and financially weak companies to obtain cash credit.
3. For banks, cash credit disturbs their credit planning.

C) Purchase or discounting of bills :

- A borrower can obtain credit from banks against its bills.
- The bank purchases and discounts the bills of the borrower.
- The borrower is paid the discounted amount immediately.
- The bank collects the full amount on maturity of the bill.

d)Letter of Credit:

- Particularly the foreign suppliers, insist that the buyer should ensure that his bank will make the payment if he fails to fulfill its obligation.
- This is ensured through a letter of credit agreement.
- The bank opens an L/C in favour of a customer to facilitate his purchase of goods.

e)Working Capital Loan:

- A borrower may sometimes require funds in excess of the sanctioned credit limits to meet unforeseen contingencies.
- Banks provide such accommodation through a "demand loan account" . The borrower is expected to pay high rates of interest in such exceptional cases.

SECURITY OF BANK FINANCE:**a) Hypothecation:**

- Under this the borrower is provided working capital finance against the security of movable property (stock, debtors).
- The borrower does not transfer the property to the bank physically.
- Thus hypothecation is a charge against property where neither ownership nor the possession is passed on to the creditor.
- Banks generally grant credit against hypothecation only to first class customers with high integrity.

b) Pledge:

- Under this arrangement the borrower, is required to physically transfer the possession of the property offered as security to the bank to obtain credit.
- (e.g. Share certificates, FD certificates, Insurance policy documents, etc.)

c) Mortgage :

- Mortgage is the transfer of a legal or equitable interest in a specific immovable property for the payment of a debt .

d) Lien :

- Lien means right of the lender to retain property belonging to the borrower till he repays the credit.

REGULATIONS OF BANK FINANCE:

- Banks follow certain norms in granting working capital finance to firms. These norms are greatly influenced by the recommendations of various committees appointed by the RBI.
- Banks followed the norms suggested by the “Tandon Committee”.
- Further recommendations were made by the “Chore Committee” to strengthen the procedures and norms.

The Tandon Committee Regulations:**1. Operating Plan :**

The borrowers should prepare operating plans and on that basis indicate the amount of working capital finance requirement.

2. Production based financing:

The bankers should finance only the genuine production needs of borrower. The borrower should maintain reasonable levels of inventory and receivables.

3. Partial bank financing:

The bank should not finance the total requirement of the borrower. Only a

reasonable part of it should be financed by the bank.

4. Reasonable level of Current Assets:

The committee further recommends that the borrower should be allowed to maintain current assets specifically debtors and inventories only up to a reasonable level. Flabby, profit making or excessive inventory should not be permitted under any circumstance. However, the bank also visualized the abnormal circumstances such as strikes, power cuts etc. and allowed flexibility to the bankers.

5. Maximum permissible bank finance (MBFC):

The committee suggested the following three methods of determining the MBFC.

1. The borrower will contribute 25% of the working capital gap, the remaining 75% will be financed from bank borrowings. $W. C. Gap = CA - CL$ excluding bank borrowings. (Some analysts define the net working capital in the same manner)
2. The borrower will contribute 25% of the total current assets. The remaining of the working capital gap will be financed by the bank.
3. The borrower will contribute 100% of the core assets and 25% of the balance of current assets. The remaining of the working capital gap will be financed.

The Chore Committee Regulations:

a) Reduced dependence on Bank Credit :

The borrowers should contribute more funds to finance their working capital requirements. The idea was to place all borrowers in the 2nd method suggested by the Tandon Committee. In case of difficulties the resort could be taken to WCTL.

b) Credit limits to be separated in to “Peak level” and “Non Peak Level” limits:

Credit limits should be assessed and separated in to “Peak level” and “Normal level” for borrowers with credit limits more than 10 lacs. Borrowers should, in advance, inform the requirement of peak level limits. Moreover, any deviation in utilization beyond 10% tolerance, should be treated as an irregularity. Additional interest of 1% should be charged on ad hoc borrowings.

c) Existing lending system to continue:

The existing system had three types of lending. (a) Cash credit (b) WCTL, (C) Bill discounting. Cash credit system should be replaced by the other two wherever possible. Cash credit accounts of large borrowers to be scrutinized, at least once a year.

d) Information System:

The discipline regarding submission of quarterly statements should be strictly adhered to, in respect of all borrowers having limits of 50 lacs and above.

3. COMMERCIAL PAPER:

- In India, the issue of CP's is regulated by the RBI.
- Only those Companies, which have
 - (a) Net Worth of 10 Crores,
 - (b) MPBF of not less than 25 Crores &
 - (c) Listed in Stock Exchange can issue CP's.
- Size of a single issue should be at least One Crore and size of each CP should be at least 25 Lacs. (5 lacs suggested by Vaghul).
- Maturity of the CP's in India runs between 91 to 180 days.
- In USA, it is 1 to 270 days.
- Though the issue of CP's is regulated by the RBI, still the interest rate is determined by the market.
- The interest rate depends on
 - (a) PLR,
 - (b) Maturity,
 - (c) Credit worthiness and
 - (d) the rating of the CP provided by agencies.
- In USA the two main rating agencies are STANDARD & POOR and MOODY.
- In India this is done by ICRA (an agency set up by ICICI & UTI)

UNIT V

Concept of Capital Budgeting, Importance of Capital Budgeting, Characteristic of Capital Budgeting Decisions; Limitations of Capital Budgeting Decisions; Capital Budgeting Process; Capital Rationing. Capital Budgeting Techniques- Accounting Rate of Return- ARR Method of Evaluation & Its Analysis; Payback Method of Evaluation & Its Analysis; Internal Rate of Return- IRR Method of Evaluation & Its Analysis; Net Present Value- NPV Method of Evaluation & Its Analysis; Profitability Index- PI Method of Evaluation & Its Analysis, Dividend, Bonus, Right Shares, Theories of Dividend, Types of Dividend, Determination of Dividend, Inflation; Inflation Accounting; Capital Market and Money Market, Practical Problems.

Capital Budgeting.

Definition

According to **Charles T. Hrongreen**, “capital budgeting is a long-term planning formaking and financing proposed capital out lays.

PRINCIPLES OF CAPITAL BUDGETING

i) Relevant cash flows are based on incremental cash flows.

- 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.

ii) Cash flows are based on opportunity cost

- The project analysis should include opportunity costs.
- Opportunity cost is the cash flow that the company loses because of undertaking the new project.

iii) Timing of cash flow

- 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.

iv) 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.
- After-tax cash flow should be used for capital budgeting analysis.

v) 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.
- Financing costs should not be included in the cash flow.
- The financing costs are already reflected in the required rate of return and the cash flow should not be adjusted for the same, irrespective of whether the project is financed using equity, debt or a combination of both.

FEATURES / CHARACTERISTICS / NATURE OF CAPITAL BUDGETING DECISION.

i) Capital Expenditure for Long Period

Capital budgeting entails heavy expenditure. In fact, this is a very important characteristic which explain the importance of capital budgeting decision to firm. Capital expenditure is the main link between present and future, for it is the principal means by which an industrial company tries to attain its long term goals and objectives.

ii) Forecasting

As funds are committed over extend periods of time, there is a need for proper forecasting, and there is an element of uncertainty and risk associated in business. Al those factors have to be properly evaluated in process of forecasting.

iii) Creative Search for Profitable Opportunities

The concept of the profit making idea must be combined in the capital facility. Profitable opportunities for the company invested capital must be turned up. A corporate future profitability and growth linked to the soundness of its capital expenditure policy.

vi) Measurement of Project Worth

In order to permit an objective ranging of projects, the productivity of the proposed

outlay will have to be measured.

v) Control of Authorized Outlays

Control has to be exercised by the top management in order to ensure that the facility conforms to specification and that the outlay does not exceed the amount authorized. Once capital expenditure incurred, it is most difficult to change the course of expenditure.

vi) Forms and Procedures

An effective system of capital expenditure control should implement with the use of specialized forms, written procedures which are based on company's need.

vii) Economics of Capital Budgeting

Good estimates of rate of return of capital expenditure projects pre suppose an understanding of the economic concepts that underlie sound investment decision.

viii) Planning Assets Capacities

A firm has to assess the capacities of the assets properly before arriving at its long term decision. Both under capacities and over capacities should be avoided, the assets management should be determined the timing and qualities of assets acquisition.

ix) Logic of Financial System

As by product of financial modelling, some executives have found that the act of defining the logic and interaction of the financial system in developing the model is important and revealing activity.

Factors Influencing / Affecting capital decision making.

i) Technological Change

- In modern times, one often finds fast obsolescence of technology. New technology, which is relatively more efficient, takes the place of old technology .
- However, in taking a decision of this type, the management has to consider the cost of new equipment *vis-a-vis* the productive efficiencies of the new as well as the old equipments.

ii) Competitor's Strategy

Many a time an investment is taken to maintain the competitive strength of the firm; if the competitors are installing new equipment to expand output or to improve quality of

their products, the firm under consideration will have no alternative but to follow suit, else where it can survive in market .

ii) Demand Forecast

The long-run forecast of demand is one of the determinants of investment decision. If it is found that there is a market potential for the product in the long run, the dynamic firm will have to take decisions for capital expansion.

iii) Type of Management

Whether capital investment would be encouraged or not depends, to a large extent, on the viewpoint of the management. If the management is modern and progressive in its outlook, the innovations will be encouraged, whereas a conservative management discourages innovation and fresh investments.

iv) Fiscal Policy

Various tax policies of the government (like tax concessions on investment income, rebate on new investment, and method of allowing depreciation deduction allowance) also have favourable or unfavourable influence on capital investment.

v) Cash Flows

Every firm makes a cash flow budget. Its analysis influences capital investment decisions. With its help the firm plans the funds for acquiring the capital asset. The budget also shows the timing of availability of cash flows for alternative investment proposals, thereby helping the management in selecting the desired project.

vi) Return Expected from the Investment

In most of the cases, investment decisions are made in anticipation of increased return in future. While evaluating investment proposals, it is therefore essential for the firm to estimate future returns or benefits accruing from the investment.

Need and importance of Capital Budgeting.(Apr/May 2018)

i) Huge Investment

Capital budgeting decision involves large investment of funds. But the funds available with the firm are always limited and the demand for funds far exceeds the resources. Hence it is very important for a firm to plan and control its capital expenditure.

ii) Long Term Commitment of Funds / More Risky:

Capital expenditures involves not only large amount of funds but also funds for long term or permanent basis. The long term commitments of funds increases, the financial risk

involved in the investment decision. Greater the risk involved, greater is need for careful planning of capital expenditure i.e. Capital Budgeting.

iii) Irreversibility

The Capital expenditure decision is of irreversible nature. Once the decision for acquiring a permanent asset is taken, it becomes very difficult to dispose of these assets without incurring heavy losses.

iv) Long Term Effect on Profitability

Capital budgeting decisions have a long term and significant effect on the profitability of a concern. Not only the present earnings of the firm are effected by the investments in capital asserts but also the future growth and profitability of the firm depends upon the investment decision taken today.

v) Difficulties of Investment Decisions

The long term investment decision are difficult to be taken because decision extends to a series of years beyond the current accounting period, uncertainties of future, higher degree of risk.

CAPITAL BUDGETING PROCESS.

i) Identification of Investment Proposals / Idea Generation

- The capital budgeting process begins with the identification of investment proposals.
- The proposal or the idea about potential investment opportunities may originate from the top management.
- The departmental head analyses the various proposals in the view of corporate strategies and submits the suitable proposals to the capital expenditure planning committee

ii) Screening the Proposals / Evaluation:

- The expenditure planning committee screens or evaluates the various proposals received from different departments.
- The committee views these proposals from various angels like marketing, technical, financial, profitability etc to ensure that these are in accordance with the a selection criterion's of the firm.

iii) Selection

- After evaluating various proposals, the unprofitable or uneconomic proposals may be rejected straight ways.
- It may not be possible for the firm to invest immediately in all the acceptable proposals due to limitation of funds.
- Hence, it is very essential to rank the various proposals and to establish priorities after considering urgency, risk and profitability involved therein.

iv) Financing the selected projects:

- Proposals meeting the evaluation and other criteria are finally approved to be included in the Capital expenditure budget.
- There are two broad sources for financing such as equity and debt
- While financing the project factors like flexibility, risk, income , tax benefits etc.

v) Execution or Implementation:

- Implementation of projects involves designing, negotiations, contracting, construction, training etc.
- Translating an investment from paper work to concrete work is very risky and time consuming and it can be better implemented by using networking techniques like PERT, CPM etc...

vii) Performance Review

- The last stage in the process of capital budgeting is the evaluation of the performance of the project.
- The evaluation is made through post completion audit by way of comparison of actual expenditure of the project with the budgeted one, and also by comparing the actual return from the investment with the anticipated return.

EXPLAIN TECHNIQUES OF CAPITAL BUDGETING / PROJECT EVALUATION TECHNIQUES.

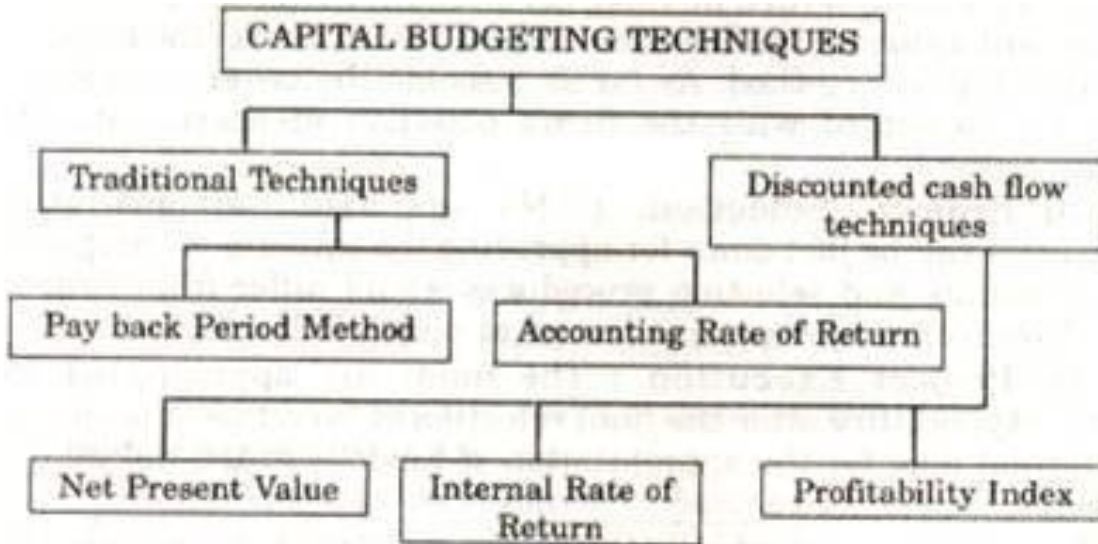


Fig. 24.1.

TRADITIONAL METHODS OR NON DISCOUNTED METHOD

i) Payback Period Method

- This method is popularly known as *pay off, pay-out, recoupment period method* also.
- It may be defined as period required to recover or number of years required in which the original amount invested.
- Payback can be calculated in two ways

i) when the annual cash inflow is equal:
$$PBP = \frac{\text{Initial Investment}}{\text{Annual Cashflow}}$$

ii) When the annual cash inflow is unequal:

$$\text{Pay back period} = \text{Pay back year} + \frac{\text{Amount required to recover initial investment}}{\text{annual cash flow of next year}} \times 12$$

Merits of Pay-back method:

1. It is easy to calculate and simple to understand.
2. Pay-back method provides further improvement over the accounting rate return.
3. Pay-back method reduces the possibility of loss on account of obsolescence.

Demerits

1. It ignores the time value of money.
2. It ignores all cash inflows after the pay-back period.
3. It is one of the misleading evaluations of capital budgeting.

Decision Rule:

Accept/Reject criteria of project is decided on basis of comparison of calculated PBP with standard PBP.

Accept: Cal PBP < Standard PBP

Reject : Cal PBP > Standard PBP

ii) Average Rate of Return(ARR)

- This method uses accounting information from financial statements, to measure the profitability of investment proposals.
- It is also known as Return on investment(ROI).
- Average annual earnings after depreciation and tax is used to calculate ARR and it measured in terms of percentage.

(a) Average Rate of Return on Original Investment (ARR)

Under this method average profit after tax and depreciation is calculated and then it is divided by the total capital outlay or total investment in the project.

$$\text{ARR} = \frac{\text{Average Annual Profit (EATD)}}{\text{Original Investment}} \times 100$$

Annual Profit = Earnings or Profit after tax and depreciation

Original investment = Initial investment+ Additional NWC +Installation charges+ Transport charges

(b) Average Rate of Return on Average Investment Method

Under this method, average profit after depreciation and taxes is divided by the average amount of investment thus:

$$\text{ARR} = \frac{\text{Average Annual Profit (EATD)}}{\text{Average Investment}} \times 100$$
$$* \text{ Average Investment} = \frac{\text{Original Investment} - \text{Scrap value}}{2} + \text{Additional WC} + \text{Scrap value}$$

Merits :

1. It is easy to calculate and simple to understand.
2. It is based on the accounting information rather than cash inflow.
3. It is not based on the time value of money.
4. It considers the total benefits associated with the project.

Demerits

1. It ignores the time value of money.
2. It ignores the reinvestment potential of a project.
3. Different methods are used for accounting profit. So, it leads to some difficulties in the calculation of the project.

Decision Rule:

Accept/Reject criteria is based on comparison of actual accounting rate of return with the predetermined rate or cut off rate.

Accept: Cal ARR > Predetermined ARR

Reject: Cal ARR < Predetermined ARR

MORDERN OR DISCOUNTED CASH FLOW METHOD

i) Net Present Value (NPV) Method

- NPV can be defined as the difference between the present value of cash inflow and present value of cash outflow.
- It is used in capital budgeting and investment planning to analyze the profitability of a projected investment or project.

NPV = Total Present value of cash inflows – Initial Investment

Present value = Cash inflows x PV factor

Cash Inflow = EBDAT

PV Factor = Refer Table Present value of one rupee for given interest rate and year

Steps in Calculation of Present Value

Step 1: Forecasting of cash inflow of the investment project based on realistic assumptions.

Step 2: Computation of cost of capital, which used as discounting factor for conversion of future cash inflows into present value

Step 3: Calculation of PV cash flows using cost of capital as discounting rate

Step 4 : Finding out NPV by subtracting PV of cash out flows from PV of cash Inflows

Merits

1. It recognizes the time value of money.
2. It considers the total benefits arising out of the proposal.
3. It is the best method for the selection of mutually exclusive projects.
4. It helps to achieve the maximization of shareholders' wealth.

Demerits

1. It is difficult to understand and calculate.
2. It needs the discount factors for calculation of present values.
3. It is not suitable for the projects having different effective lives.

Decision Rule:

- Accept if $NPV > 0$ (i.e., NPV is positive)
- Reject if $NPV < 0$ (i.e., NPV is negative)
- Project may be accepted if $NPV = 0$

ii) PROFITABILITY INDEX (PI) OR BENEFIT COST (B/C) RATIO METHOD

- Profitability Index is also known as benefit cost (B/C) ratio.
- This is similar to NPV method.
- Profitability Index measures the present value of future cash per rupee on investment

$$\text{Profitability Index (PI)} = \frac{\text{Present value of cash inflows}}{\text{Present value of cash outflows}}$$

Merits:

1. It considers Time value of money
2. It considers all cash flow during life time of project.
3. More reliable than NPV method when evaluating the projects requiring different initial investments.

Demerits:

1. This method is difficult to understand.
2. Calculations under this method are complex

Decision Rule:

Accept: PI > 1

Reject: PI < 1

iii) INTERNAL RATE OF RETURN METHOD (IRR)

- IRR is the rate that makes the net present value of any project equal to zero. (At IRR NPV = 0)
- In other words, the interest rate that equates present value of cash inflow with the present value of cash outflow of any project is called as Internal rate of return.

Steps to be followed:

Step 1. find out factor

Factor is calculated as follows:

$$F = \frac{\text{Cash outlay (or) initial investment}}{\text{Cash inflow}}$$

Step 2. Find out positive net present value

Step 3. Find out negative net present value

Step 4. Find out formula net present value

Formula

$$\text{IRR} = \text{Base factor} + \frac{\text{Positive net present value}}{\text{Difference in positive and Negative net present value}} \times \text{DP}$$

Base factor = Positive discount rate

DP = Difference in percentage

Merits

1. It consider the time value of money.
2. It takes into account the total cash inflow and outflow.
3. It does not use the concept of the required rate of return.
4. It gives the approximate/nearest rate of return.

Demerits

1. It involves complicated computational method.
2. It produces multiple rates which may be confusing for taking decisions.
3. It is assume that all intermediate cash flows are reinvested at the internal rate of return.

Decision Rule:

Accept: $IRR > R$

$IRR = 0$

Reject: $IRR < R$

COMPARE AND CONTRAST NPV WITH IRR.

NPV and IRR are the discounted cash flow method available for capital budgeting projects. They are similar in some aspects and they differ in some aspects.

NPV with IRR: Similarities

1. Both are modern techniques or discounted cash flow techniques of capital budgeting.
2. Both are considering the time value of money.
3. The two methods use cash flow after tax
4. Independent investment proposals which do not compete with one another and which may be either accepted or rejected on the basis of a minimum required rate of return. Under these circumstances, both methods gave same results.
5. Conventional investment proposals which involve cash outflows or outlays in the initial period followed by a series of cash inflows. Both methods gave same results under these circumstances.

NPV with IRR: Differences

Net Present Value Method	Internal Rate of Return Method
Discount rate is determined by discounting the future cash flows of a project at pre-determined rate i.e. cost of capital or cut off rate.	Discount rate is not predetermined under this method. But, this is calculated by trial or error method.
It recognizes the importance of market rate of interest or cost of capital.	This method does not consider the market rate of interest but prefer to invest the funds at the maximum rate of interest.
Under this method, it is presumed that the cash inflows are reinvested at the cut off rate or cost of capital.	Under this method, it is presumed that the cash inflows are presumed to be reinvested at the internal rate of return.
In case of Mutually exclusive projects NPV method accepts the project	In case of Mutually exclusive projects IRR method Rejects the project
It takes interest as a known factor	It takes interest as a Unknown factor
It calculates exact amount of Investment	It calculates maximum rate of interest

Kinds of Capital Budgeting Decisions / Proposals:

(i) Mutually Exclusive Projects:

- It means if a firm accepts one project, it may rule out the necessity for others i.e., the alternatives are mutually exclusive and only one is to be chosen.
- For example, if there is a need to transport supplies from a loading dock to the warehouse, the firm may adopt two proposals, viz., (a) fork lifts to pick up the goods and move them, or, (b) a conveyor belt may be connected between the dock and the warehouse. If one proposal is accepted it will eliminate the other.

(ii) Accept-Reject Decisions or Acceptance Rule:

- The proposals which yield a higher rate of return in comparison with a certain rate of return or cost of capital are accepted and, naturally, the others are rejected.
- For example, if the minimum acceptable return from a project is, say, 10%, after tax, and

an investment proposal which shows a return of 12% may be accepted and another project which gives a return of 8% only may be rejected.

- In other words, using Net Present Value Method Criterion, an investment opportunity will be accepted if $NPV > 0$, or, the same will be rejected if $NPV < 0$. That is, all independent projects are accepted under this criterion.
- It is to be noted that independent projects are those which do not compete with one another, i.e. the acceptance of one precludes the acceptance of the other. At the same time, those projects which will satisfy the minimum investment criterion should be taken into consideration.

(iii) Capital Rationing Decision:

- Capital rationing is normally applied to situations where the supply of funds to the firm is limited in some way. As such, the term encompasses many different situations ranging from that where the borrowing and lending rates faced by the firm differ, to that where the funds available for investments are strictly limited.
- In other words, it occurs when a firm has more acceptable proposals than it can finance. At this point, the firm ranks the projects from highest to lowest priority and, as such, a cut-off point is considered.
- Naturally, those proposals which are above the cut-off point will be accepted and those which are below the cut-off point are rejected, i.e., ranking is necessary to choose the best alternatives.