BCOM 501-18
Financial Management

Course Objective: To provide an in-depth understanding of the core finance functions and decisions in the area of corporate financial management. Further provide a practical and problem insight for effective financial decision-making.

UNIT-I

Introduction to Financial Management: Meaning, Scope and Objectives of Financial Management. Functions and role of a financial Manager. Time Value of Money- Compounding Techniques and Discounting Techniques. Cost of Capital: meaning, significance and determination of Cost of Capital, Components of Cost of Capital.

UNIT II

Capital Structure: meaning and features of capital structure decision. Factors affecting capital structure. Theories of capital structure. EBIT – EBTEPS –analysis .Financial and Operating Leverages

UNIT III

Capital Budgeting Decision: Meaning and Nature of investment decisions; process of capital budgeting, investment evaluation criteria: Discounted and Non-Discounted Methods (Pay-Back Period, Average rate of return, Net Present Value, Benefit Cost Ratio and Internal Rate of Return. Capital rationing.

Dividend Policy Decisions – Determinants of dividend policy – types of dividend policy– forms of dividend. Dividend theories: Walter's Model- Gordon's Model- MM's Hypothesis (problems)

UNIT IV

Working Capital Management: Planning and forecasting of working capital, importance of adequate working capital- excess or inadequate working capital – determinants of working capital requirement. Sources of working capital Cash management, receivable management and inventory management.

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Unit -1

Meaning, Nature and Scope of Finance:

Finance may be defined as the art and science of managing money. It includes financial service and financial instruments. Finance also is referred as the provision of money at the time when it is needed.
Finance function is the procurement of funds and their effective utilization in business concerns. The concept of finance includes capital, funds, money, and amount. But each word is having unique meaning. Studying and understanding the concept of finance become an important part of the business concern.

Definition of Financial Management:

Howard and Upton:

Financial management "as an application of general managerial Principles to the area of financial decision-making.

Financial goals or objectives:

Effective procurement and efficient use of finance lead to proper utilization of the finance of the business concern. It is the essential part of the financial manager. Hence, the financial manager must determine the basic objectives of the financial management.

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

- **Profit maximization**
- **Wealth maximization.**

Profit maximization Vs wealth maximization

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 is the measuring techniques to understand the business efficiency of the concern. Profit maximization is also the traditional and narrow approach, which aims at, maximizes the profit of the concern.

Profit maximization is also called as cashing per share maximization. It leads to maximize the business operation for profit maximization.

Favorable Arguments for Profit Maximization

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

(i) Main aim is earning profit.
(ii) Profit is the parameter of the business operation.
(iii) Profit reduces risk of the business concern.
(iv) Profit is the main source of finance.
(v) Profitability meets the social needs also.

Unfavorable Arguments for Profit Maximization

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

- Profit maximization leads to exploiting workers and consumers.
- Profit maximization creates immoral practices such as corrupt practice, unfair trade practice, etc.
- Profit maximization objectives leads to inequalities among the stake holders such as customers, suppliers, public shareholders, etc.

Drawbacks of Profit Maximization

Profit maximization objective consists of certain drawback also:

1. It is vague:

In this objective, profit is not defined precisely or correctly. It creates some unnecessary opinion regarding earning habits of the business concern.

2. It ignores the time value of money:

Profit maximization does not consider the time value of money or the net present value of the cash inflow. It leads certain differences between the actual cash inflow and net present cash flow during a particular period.

3. It ignores risk:

Profit maximization does not consider risk of the business concern. Risks may be internal or external which will affect the overall operation of the business concern.

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.

Favorable Arguments for Wealth Maximization

(i) Wealth maximization is superior to the profit maximization because the main aim of the business concern under this concept is to improve the value or wealth of the shareholders.

(ii) Wealth maximization considers the comparison of the value to cost associated with the business concern. Total value detected from the total cost incurred for the business operation. It provides extract value of the business concern.

(iii) Wealth maximization considers both time and risk of the business concern.

(iv) Wealth maximization provides efficient allocation of resources.

(v) It ensures the economic interest of the society.

Unfavorable Arguments for Wealth Maximization

(i) Wealth maximization leads to prescriptive idea of the business concern but it may not be suitable to present day business activities.
(ii) Wealth maximization is nothing, it is also profit maximization, it is the indirect name of the profit maximization.
(iii) Wealth maximization creates ownership-management controversy.
(iv) Management alone enjoy certain benefits.
(v) The ultimate aim of the wealth maximization objectives is to maximize the profit.
(vi) Wealth maximization can be activated only with the help of the profitable position of the business concern.

OBJECTIVE OF FINANCIAL MANAGEMENT

The objective of financial management is to maximize the current price of equity shares of the company. However, the current price of equity shares should not be maximized by manipulating the share prices. Rather it should be maximized by making efficient decisions which are desirable for the growth of a company and are valued positively by the investors at large. A decision is considered efficient if it increases the price of share but is considered as inefficient if it results in decline in the share price. In other words, the objective of financial management is to maximize the wealth of the owners of the company, that is the shareholders. Here wealth maximization means the maximization of the market price of the equity shares of the company in the long run by making efficient decisions and not by manipulating the share prices. The financial manager must identify those avenues of investment; modes of financing, ways of handling various components of working capital which ultimately will lead to an increase in the price of equity share. If shareholders are gaining, it implies that all other claimants are also gaining because the equity shareholders get paid only after the claims of all other claimants (such as creditors, employees, lenders) have been duly paid

Scope of financial Management:

1. Estimating Financial Requirement
2. Deciding Capital Structure
3. Selecting a source of finance
4. Selecting a Pattern of investment.
5. Proper Cash Management
6. Implementing Financial controls
7. Proper uses of surpluses.

1.Estimating Financial Requirements:

The first task of a financial manager is to estimate short-term and long-term financial requirements of his business. For this purpose, he will prepare a financial plan for present as well as for future. The amount required for purchasing fixed assets as well as needs of funds for working capital will have to be ascertained.

2. **Deciding Capital Structure.**
   The capital structure refers to the kind and proportion of different securities for raising funds. After deciding about the quantum of funds required it should be decided which type of securities should be raised. Long-term funds should be employed to finance working capital also, if not wholly then partially. A decision about various sources for funds should be linked to the cost of raising funds. If cost of raising funds is very high then such sources may not be useful for long.

3. **Selecting a Source of Finance:**

After preparing a capital structure, an appropriate source of finance is selected. Various from which finance may be raised, include: share capital, debentures, financial institutions, commercial banks, public deposits, etc. If finances are needed for short periods then banks, public deposits and financial institutions may be appropriate, on the other hand, if long-term finances are required then share capital ad debentures may be useful.

4. **Selecting a Pattern of Investment**

When funds have been procured then a decision about investment pattern is to be taken. The selection of an investment pattern is related to the use of funds. A decision will have to be taken as to which assets are to be purchased? The funds

will have to be spent on fixed assets and then an appropriate portion will be retained for working capital.

5. **Proper Cash Management:**

Cash management is also an important task of finance manager. He has to access various cash needs at different times and then make arrangements for arranging cash. Cash may be required to (a) purchase raw materials, (b) make payments to creditors, (c) meet wage bills, (d) meet day to day expenses. The usual sources of cash may be a: (a) cash sales, (b) collection of debts, (c) short term arrangements with bank etc. The cash management should be such that neither there is a shortage of it and nor it is idle. Any shortage of cash will damage the creditworthiness of the enterprise.

6. **Implementing Financial Controls:**

An efficient system of financial Management necessitates the use of various control devices. Financial control devices generally used are : (a) Return on investment, (b) Budgetary Control, (c), Break Even Analysis, (d) Cost Control, (e) Ratio Analysis (f) Cost of Internal Audit return on investment is the best control device to evaluate the performance of various financial policies the higher this percentage, better may be the financial performance.

7. **Proper Use of Surpluses.**

The utilization of profits or surpluses is also an important factor in financial management. An effective use of surplus is essential for expansion and diversification plans and also in protecting the interests of shareholders.

Nature of Financial Management:

Nature of financial management could be spotlighted with reference to the following aspects of this discipline:

(i) Financial management is a specialized branch of general management, in the present-day-times. Long back, in traditional times, the finance function was

coupled, either with production or with marketing; without being assigned a separate status.

(ii) Financial management is growing as a profession. Young educated persons, aspiring for a career in management, undergo specialized courses in Financial Management, offered by universities, management institutes etc.; and take up the profession of financial management.

(iii) Despite a separate status financial management, is intermingled with other aspects of management. To some extent, financial management is the responsibility of every functional manager.
For example, the production manager proposing the installation of a new plant to be operated with modern technology; is also involved in a financial decision.
Likewise, the Advertising Manager thinking, in terms of launching an aggressive advertising programme, is too, considering a financial decision; and so on for other functional managers. This intermingling nature of financial management calls for efforts in producing a coordinated financial system for the whole enterprise.

(**iv)** Financial management is multi-disciplinary in approach. It depends on other disciplines, like Economics, Accounting etc., for a better procurement and utilisation of finances.
For example, macro-economic guides financial management as to banking and financial institutions, capital market, monetary and fiscal policies to enable the finance manager decide about the best sources of finances, under the economic conditions, the economy is passing through.

Micro-economics points out to the finance manager techniques for profit maximisation, with the limited finances at the disposal of the enterprise. Accounting, again, provides data to the finance manager for better and improved financial decision making in future.

(v) The finance manager is often called the Controller; and the financial management function is given name of controllership function; in as much as the basic guideline for the formulation and implementation of plans-throughout the enterprise-come from this quarter.

The finance manager, very often, is a highly responsible member of the Top Management Team. He performs a trinity of roles-that of a line officer over the Finance Department; a functional expert commanding subordinates throughout the enterprise in matters requiring financial discipline and a staff adviser, suggesting the best financial plans, policies and procedures to the Top Management.

In any case, however, the scope of authority of the finance manager is defined by the Top Management; in view of the role desired of him- depending on his financial expertise and the system of organizational functioning.

(vi) Despite a hue and cry about decentralisation of authority; finance is a matter to be found still centralised, even in enterprises which are so called highly decentralised. The reason for authority being centralised, in financial matters is simple; as every Tom, Dick and Harry manager cannot be allowed to play with finances, the way he/she likes. Finance is both-a crucial and limited asset-of any enterprise.

(vii) Financial management is not simply a basic business function along with production and marketing; it is more significantly, the backbone of commerce and industry. It turns the sand of dreams into the gold of reality.

No production, purchases or marketing are possible without being duly supported by requisite finances. Hence, Financial Management commands a higher status vis-a-vis all other functional areas of general management.

Objectives of Financial Management:

Objectives of financial management may be multiple; as this branch of general management encompasses the entire organizational functioning.

Following is a brief account of each one of the above objectives of financial management:

(1) Basic Objectives:

(i) Profit-Maximisation:

Since time immemorial, the primary objective of financial management has been held to be profit-maximisation. That is to say, that financial management ought to take financial decisions and implement them in a way so as to lead the enterprise along lines of profit maximasation. The support for these objectives could be derived from the philosophy, that 'profit is a test of economic efficiency'.

Though, there could be little controversy over profit maximisation, as the basic objective of financial management – yet, in the modern times, several authorities on financial management criticize this objectives, on the following grounds:

(i) Profit is a vague concept, in that; it is not clear whether profit means – short-run or long-run profits. Or
– Profit before tax or profits after tax or
– Rate of profits or the amount of profits.

(ii) The profit maximisation objective ignores, what financial experts call the time value of money'.

For example

let us assume that two financial courses of action provide equal benefits (i.e. profits) over a certain period of time. However, one alternative gives more profits in earlier years; while the other one gives more profits in later years.

Based on profit maximization criterion, both alternatives are equally well. However, the first alternative i.e. the one which gives more profits in earlier years is better; as some part of the profits received earlier could be reinvested also.

Modern financial experts call this philosophy, 'the earlier the better principle'. The second alternative which gives more profits only in later years is inferior; as the time-value of profits is more in the case of the first alternative.

(iii) The profit maximization objective ignores the quality of benefits (i.e. profits). The factor implicit here, is the risk element associated with profits. Quality of benefits (profits) is the most when risk associated with their occurrence is the least. According to modern financial experts, less profit with less risk are superior to more profits with more risk.

(iv) Profit-maximisation objective is lop-sided. This objective considers or rather over-emphasizes only on the interests of owners. Interests of other parties like,

workers, consumers, the Government and the society as a whole are ignored, under this concept of profit-maximisation.

(ii) Wealth-Maximisation:

Discarding the profit-maximisation objective; the real basic objective of financial management, now-a-days, is considered to be wealth maximisation. Wealth maximisation is also known as value-maximisation or the net present worth maximisation.

Since wealth of owners is reflected in the market-value of shares; wealth maximisation means the maximisation of the market price of shares. Accordingly, wealth maximisation is measured, by the market value of shares.

According to wealth maximisation objective, financial management must select those decisions, which create most wealth for the owners. If two or more financial courses of action are mutually exclusive (i.e. only one can be undertaken at a time); then that decision-which creates most wealth, must be selected.

The wealth arising from a financial course of action could be stated as follows:

Wealth = Gross present worth of a financial course of action minus amount of capital invested which is required to achieve the benefits i.e. cash flows.

Explanation:

The gross present worth of a financial course of action is equal to the capitalized value of the flow of expected future benefits (i.e. cash flows); which are discounted at a rate – reflecting both- time value of money and their quality (i.e. the risk associated with benefits).

The wealth maximisation objective is held to be superior to the profit maximisation objective, because of the following reasons:

(i) It is based on the concept of cash flows; which is more definite than the concept of profits. Moreover, management is more interested in immediate cash flows than the profits a large part of which might be hidden in credit sales- still to be realized.

(ii) Through discounting the cash flows arising from a financial course of action over a period of time at an appropriate discount rate; the wealth maximisation approach considers both- the time value of money and the quality of benefits.

(iii) Wealth maximization objective is consistent with the long term profitability of the company.

(2) Operational Objectives:

(i) Timely Availability of Requisite Finances:

A very important operational objective of financial management is to ensure that requisite funds are made available to all the departments, sections or units of the enterprise at the needed time; so that the operational life of the enterprise goes smoothly.

(ii) Most Effective Utilization of Finances:

Throughout the enterprise, the finances must be utilized most effectively. This is yet, another important operational objective of the financial, management.

To ensure the attainment of this objective, the financial management must:

– Formulate plans for the most effective utilisation of funds, among channels of investment, which create most wealth for the company.

– Exercise and enforce ‘financial discipline’ to prevent wasteful expenditure, by any department, or branch or section of the enterprise.

(iii) Safety of Investment:

The financial management must primarily look to the safety of investment i.e. the channels of investment might bring in less returns; but investment must be safe. Loss of investment, in any one line, might lead to capital depletion; and ultimately tell upon the financial health of the enterprise.

(iv) Growth of the Enterprise:

The financial management must plan for the long-term stability and growth of the enterprise. The limited finances of the enterprise must be so utilized that not only short run benefits are available; but the enterprise grows slow and steady, in the long run also.

(3) Social Objectives:

(i) Timely Payment of Interest:

The financial management must see to it that interest on bonds, debentures or other loans of the company is paid in time. This will not only keep the creditors satisfied with the company adding to its goodwill; but also prevent any untoward consequences of the non-payment of interest, in time.

(ii) Payment of Reasonable Dividends:

An important social objective of financial management is that shareholders i.e. the equity members of the company must get at least some regular dividends.

This objective is important for two reasons: –

– It helps the company maintain its competitive image, in the market.

– The members on whose funds the company is running profitable operations must be duly compensated, as a matter of natural justice.

(iii) Timely Payment of Wages:

The financial management must make a provision for a timely payment of wages to workers. This is necessary to keep the labor force satisfied and motivated. Further, if wages are paid on time; the legal consequences of non-payment of wages, under the ‘ Payment of Wages Act’, need not frighten management.

(iv) Fair-Settlement with Suppliers:

The financial management must make it a point to settle accounts with suppliers and fellow- businessmen in time, in a fair way; otherwise the commercial reputation of the enterprise will get a setback.

(v) Timely Payment of Taxes:

An important objective of financial management would be to make timely payment of taxes to the Government – so as to avoid legal consequences; and also fulfill its social obligations towards the State.

(vi) Maintaining Relations with Financiers:

The financial management must develop and maintain friendly relations with financiers i.e. banks, financial institutions and various segments of the money market and capital market. When good relations are maintained with financiers; they might come to the rescue of the enterprise, in situations of financial crisis.

4) **Research Objectives:**

The successful attainment of various objectives by the financial management requires it to follow a research approach. It must research into new and better

sources of finances; and also, into new and better channels for the investment of finances.

This research objective of financial management requires it to:

– Collect financial data about the progress of its competitive counterparts.

– Make a study of money market and capital market operations, through a study of latest financial magazines and other literature on financial management.

Meaning of Financial Management

Financial Management is all about planning, organizing, directing, and controlling the economic pursuits such as acquisition and utilization of capital of the firm. To put it in other words, it is applying general management standards to the financial resources of the firm.

Scope of Financial Management

To understand the financial management scope, first, it is essential to understand the approaches that are divided into two sections.

1. Traditional Approach
2. Modern Approach

Approach 1: Traditional Approach to Finance Function

During the 20th century, the traditional approach was also known as corporate finance. This approach was initiated to procure and manage funds for the company. To study the procurement of financial Management the following three points were used

(i) Institutional sources of finance.
(ii) Issue of financial devices to collect refunds from the capital market.
(iii) Accounting and legal relationship between the source of finance and business.

In this approach, finance was required not for regular business operations but occasional events like reorganization, promotion, liquidation, expansion, etc. It was considered essential to have funds for such events and regarded as one of the crucial functions of a financial manager.

Though he was not accountable for the effective utilization of funds, however, his responsibility was to get the required funds from external partners on a fair term.

The traditional approach of finance management stayed until the 5th decade of the 20th century. The traditional approach only emphasized on the fund's procurement only by corporations. Hence, this approach is regarded as narrow and defective.

Limitations of Traditional Approach

- **One-sided approach-** It is more considerate towards the fund procurement and the issues related to their administration; however, it pays no attention to the effective utilization of funds.
- **Gives importance to the Financial Problems of Corporations-** It only focuses on the financial problems of corporate enterprises, so it narrows the opportunity of the finance function.
- **Attention to Irregular Events-** It provides funds to irregular events like consolidation, incorporation, reorganization, and mergers, etc. and does not give attention to everyday business operations.
- **More Emphasis on Long Term Funds-** It deals with the issues of long-term financing.

Approach 2: Modern Approach to Finance Function

With technological improvement, increase competition, and the development of strong corporate, it was important for Management to use the available financial resources in its best possible way. Therefore, the traditional approach became inefficient in a growing business environment.

The modern approach had a more comprehensive analytical viewpoint with a focus on the procurement of funds and its active and optimum use. The fund arrangement is an essential feature of the entire finance function.

The main element of this approach are an evaluation of alternative utilization of funds, capital budgeting, financial planning, ascertainment of financial standards for the business success, determination of cost of capital, working capital management, Management of income, etc. The three critical decisions taken under this approach are.

(i) Investment Decision
(ii) Financing Decision
(iii) Dividend Decision

Features of Modern Approach

The following are the main features of a modern approach.

- **More Emphasis on Financial Decisions-** This approach is more analytic and less descriptive as the right decisions for a business can be taken only on the base of accounting and statistical data.
- **Continuous Function-** The modern approach is a constant activity where the financial manager makes different financing decisions unlike the traditional method,
- **Broader View-** It gives importance not only to optimum use of finance also about the fund's procurement. Similarly, it also incorporates features relating to the cost of capital, capital budgeting, and financial planning, etc.
- **The measure of Performance-** Performance of a firm is also affected by the financial decision taken by the Management or finance manager. Therefore, to maximize revenue, the modern approach keeps a balance between liquidity and profitability.

The other scope of financial management also includes acquisition of funds- gathering funds for the company from different sources, assessment- evaluation of financial plans and policies, allocation of funds- use of funds to buy fixed and current assets, appropriation of funds- dividing and distribution of profits, and the anticipation of funds- estimation of financial needs of the company.

Role of a Financial Manager

Financial activities of a firm are one of the most important and complex activities of a firm. Therefore, in order to take care of these activities a financial manager performs all the requisite financial activities.

A financial manager 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 actions directly affect the Profitability, growth and goodwill of the firm.

Following are the main functions of a Financial Manager:

1. **Raising of Funds**

   In order to meet the obligation of the business it is important to have enough cash and liquidity. A firm can raise funds by the way of equity and debt. It is

the responsibility of a financial manager to decide the ratio between debt and equity. It is important to maintain a good balance between equity and debt.

2. **Allocation of Funds**

Once the funds are raised through different channels the next important function is to allocate the funds. The funds should be allocated in such a manner that they are optimally used. In order to allocate funds in the best possible manner the following point must be considered

a. The size of the firm and its growth capability
b. Status of assets whether they are long-term or short-term
c. Mode by which the funds are raised

These financial decisions directly and indirectly influence other managerial activities. Hence formation of a good asset mix and proper allocation of funds is one of the most important activity

3. **Profit Planning**

Profit earning is one of the prime functions of any business organization. Profit earning is important for survival and sustenance of any organization. Profit planning refers to proper usage of the profit generated by the firm.
Profit arises due to many factors such as pricing, industry competition, state of the economy, mechanism of demand and supply, cost and output. A healthy mix of variable and fixed factors of production can lead to an increase in the profitability of the firm.
Fixed costs are incurred by the use of fixed factors of production such as land and machinery. In order to maintain a tandem, it is important to continuously value the depreciation cost of fixed cost of production. An opportunity cost must be calculated in order to replace those factors of production which has gone thrown wear and tear. If this is not noted then these fixed costs can cause huge fluctuations in profit.

4. **Understanding Capital Markets**

Shares of a company are traded on stock exchange and there is a continuous sale and purchase of securities. Hence a clear understanding of capital market is an important function of a financial manager. When securities are traded on stock market there involves a huge amount of risk involved. Therefore, a financial manager understands and calculates the risk involved in this trading of shares and debentures.

It's on the discretion of a financial manager as to how to distribute the profits. Many investors do not like the firm to distribute the profits amongst shareholders as dividend instead invest in the business itself to enhance growth. The practices of a financial manager directly impact the operation in capital market.

5. **Estimating the Amount of Capital Required:**

This is the foremost function of the financial manager. Business firms require capital for:

(i) purchase of fixed assets,

(ii) meeting working capital requirements, and

(iii) modernization and expansion of business.

The financial manager makes estimates of funds required for both short-term and long-term.

6. **Determining Capital Structure:**

Once the requirement of capital funds has been determined, a decision regarding the kind and proportion of various sources of funds has to be taken. For this, financial manager has to determine the proper mix of equity and debt and short-term and long-term debt ratio. This is done to achieve minimum cost of capital and maximise shareholders wealth.

7. **Choice of Sources of Funds:**

Before the actual procurement of funds, the finance manager has to decide the sources from which the funds are to be raised. The management can raise finance from various sources like equity shareholders, preference shareholders, debenture-holders, banks and other financial institutions, public deposits, etc.

8. **Disposal of Profits or Surplus:**

The financial manager has to decide how much to retain for ploughing back and how much to distribute as dividend to shareholders out of the profits of the

company. The factors which influence these decisions include the trend of earnings of the company, the trend of the market price of its shares, the requirements of funds for self- financing the future programs and so on.

9. Management of Cash:

Management of cash and other current assets is an important task of financial manager. It involves forecasting the cash inflows and outflows to ensure that there is neither shortage nor surplus of cash with the firm. Sufficient funds must be available for purchase of materials, payment of wages and meeting day-to-day expenses.

10.Financial Control:

Evaluation of financial performance is also an important function of financial manager. The overall measure of evaluation is Return on Investment (ROI). The other techniques of financial control and evaluation include budgetary control, cost control, internal audit, break-even analysis and ratio analysis. The financial manager must lay emphasis on financial planning as well.

Next topic
Time Value of Money

The value of money received today is different from the value of money received after some time in the future. An important financial principle is that the value of money is time dependent.

This principle is based on the following four reasons:

Inflation:

Under inflationary conditions the value of money, expressed in terms of its purchasing power over goods and services, declines.

Risk:

Re. 1 now is certain, whereas Re. 1 receivable tomorrow is less certain. This 'bird-in-the-hand' principle is extremely important in investment appraisal.

Personal Consumption Preference:

Many individuals have a strong preference for immediate rather than delayed consumption. The promise of a bowl of rice next week counts for little to the starving man.

Investment Opportunities:

Money like any other desirable commodity, has a price, given the choice of Rs. 100 now or the same amount in one year's time, it is always preferable to take the Rs. 100 now because it could be invested over the next year at (say) 18% interest rate to produce Rs. 118 at the end of one year.

If 18% is the best risk-free return available, then you would be indifferent to receiving Rs. 100 now or Rs. 118 in one year's time. Expressed another way, the present value of Rs. 118 receivable one year hence is Rs. 100.

Simple Interest:

Simple interest is the interest calculated on the original principal only for the time during which the money lent is being used. Simple interest is paid or earned on the principal amount lent or borrowed.

Simple interest is ascertained with the help of the following formula:

Interest = Pnr

Amount = P(1 + nr)

Where, P = Principal

r = Rate of Interest per annum (r being in decimal)

n = Number of years

Illustration 1:

What is the simple interest and amount of Rs? 8,000 for 4 years at 12% p.a.

Solution:

Interest = Pnr

= 8,000 x 4 x 0.12 = Rs. 3,840

Amount (i.e. principal + Interest)

= P(1 + nr) = 8,000 [1+(4X0.12)]

= 8,000 (1 + 0.48)

= 8,000 x 1.48 = Rs. 11,840

Interest = Amount – Principal

= 11,840 – 8,000 = Rs. 3,840

Illustration 2:

At what rate per cent will Rs. 26,435 amounts to Rs. 31.722 in 4 years?

Solution:

A = P(1 + nr)

31,722 = 26,435 (1+4x r/100)

31,722 = 26435 + 1,05,740r/100

1,057.40 r = 31,722 – 26,435

r = 5,287/1,057.40= 5

∴ Rate of interest = 5%

Illustration 3:

A sum deposited at a bank fetches Rs. 13,440 after 5 years at 12% simple rate of interest. Find the principal amount.

Solution:

A = P(1 +nr)

13,440 =P (1+5 x 0.12)

13,440 = P + P0.6

1.6 P = 13,440

P = 13,440/1.6 = 8,400

∴ Principal amount = Rs. 8,400

Compound Interest:

If interest for one period is added to the principal to get the principal for the next period, it is called ‘compounded interest’. The time period for compounding the interest may be annual, semiannual or any other regular period of time.

The period after which interest becomes due is called ‘interest period’ or ‘conversion period’. If conversion period is not mentioned, interest is to be

compounded annually. The formula used for compounding of interest income over 'n' number of years.

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

Where, A = Amount at the end of 'n' period

P = Principal amount at the beginning of the 'n' period

i = Rate of interest per payment period (in decimal)

n = Number of payment periods

When interest is payable half-yearly

$A = P (1 + i/2)^{2n}$

When interest is payable quarterly

$A = P(1+i/4)^{4n}$

When interest is payable monthly

$A = P (1+i/12)^{12n}$

When interest is payable daily

$A = P(1+i/365)^{365n}$

Illustration 4:

Find out compounded interest on Rs. 6,000 for 3 years at 9% compounded annually.

Solution:

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

$= 6,000(1 + 0.09)^3$

$= 6{,}000\ (1.09)^3$

$= 6{,}000 \times 1.29503 = \text{Rs. } 7{,}770$

Illustration 5:

What sum will amount to Rs. 5,000 in 6 years' time at 8 ½ % per annum.

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

$= 5{,}000\ (1 + 0.085)^6$

$= 5{,}000\ (1.085)^6$

$= 5{,}000 \times 1.63147 = \text{Rs. } 8{,}157$

Illustration 6:

Find the compound interest on Rs. 2,500 for 15 months at 8% compounded quarterly.

Solution:

$A = P(1 + i/4)^{4n}$

$= 2{,}500\ (1 + 0.08/4)^{4 \times 15/12}$

$= 2{,}500\ (1 + 0.02)^5$

$= 2{,}500\ (1.02)^5$

Let $x = (1.02)^5$

$\therefore \log x = 5 \log 1.02 = 5 \times 0.0086 = 0.0430$

$\therefore x = \text{antilog } 0.0430 = 1.104$

$\therefore A = 2{,}500 \times 1.04 = \text{Rs. } 2{,}760$

Compound Interest = 2,760 – 2,500 = Rs. 260

Illustration 7:

Find the present value of Rs. 2,000 due in 6 years if money is worth compounded semiannually.

Solution:

$A = P (1+i/2)^{2n}$

$2,000 = P (1+0.05/2)^{2\times6}$

$2,000 = P (1.025)^{12}$

Log 2,000 = log P +12 log 1.025

3.30103 = log P +12 x 0.01072

Log p = 3.30103 – 0.12864

Log p = 3.17239 = 3.1724

P = antilog 3.1724

P = Rs. 1,487.30

∴ The required present value is Rs. 1,487.30

Compounded interest = 2,000- 1,487.30 = Rs. 512.70

Present Value:

It is a method of assessing the worth of an investment by inverting the compounding process to give present value of future cash flows. This process is called 'discounting'.

The present value of 'P' of the amount 'A' due at the end of 'n' conversion periods at the rate 'i' per conversion period.

The value of 'P' is obtained by solving the following equation:

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

Illustration 8:

Ascertain the present value of an amount of Rs. 8,000 deposited now in a commercial bank for a period of 6 years at 12% rate of interest.

Solution:

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

$8,000 = A/(1 + i)^n$

$8,000 = A/(1 + 0.12)^6$

$8,000 = A/1.97382$

$A = 8,000 \times 1.97382 = Rs. 15,791$

Annuity:

An annuity is a cashflow, either income or outgoings, involving the same sum in each period. An annuity is the payment or receipt of equal cashflows per period for a specified amount of time. For example, when a company set aside a fixed sum each year to meet a future obligation, it is using annuity.

The time period between two successive payments is called 'payment period or 'rent period. The word 'annuity' is broader in sense, which includes payments which can be annual, semiannual, quarterly or any other fixed length of time. Annuity does not necessarily mean payment taken to be one year.

Illustration 10:

Find the future value of ordinary annuity Rs. 4,000 each six months for 15 years at 5% p.a. compounded semiannually.

Solution:

$A = P/I [1+i)^n-1]$

Where, P = Rs. 4,000

i = 0.05/2 = 0.025

n = 15 x 2 =30

$A = 4,000/0.025 [(1 + 0.025)^{30} – 1]$

$A = 4,000/ 0.025 [(1.025)^{30}-1]$

Let $x = (1.025)^{30}$

Log x = 30 log 1.025

= 30 x 0.0107 = 0.321

x = antilog 0.321 = 2.094

A = 4,000 /0.025 (2.094 – 1)

= 1,60,000 x 1.094 = Rs. 1,75,040

Present Value of Ordinary Annuity:

The present value of an ordinary annuity is the sum of the present value of a series of equal periodic payments.

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

Where, V = Present value of annuity

Illustration 13:

Mr. Y is depositing Rs. 8,000 annually for 4 years, in a post office savings bank account at an interest of 5% p.a. Find the present value of annuity.

Solution:

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

P = Rs. 8,000 i = 0.05 n = 4

$V = 8,000/0.05 [1-(1+0205)^{-4}]$

$= 1,60,000 [1 – (1.05)^{-4}]$

Let $x = (1.05)^{-4}$

Log x = – 4 log 1.05

= – 4 X 0.0212 = – 0.0848

= – 1 + 1 – 0.0848 = 1.9152

x = antilog (1.9152) = 0.8226

V = 1,60,000 x (1 – 0.8226)

= 1,60,000 x .1774 = Rs. 28,38

Amortisation:

Amortisation is the gradual and systematic writing off of an asset or an account over a period. The amount on which amortisation is provided is referred to as ‘amortizable amount. Depreciation accounting is form of amortisation applied to depreciable assets. Depletion is a form of amortisation in case of wasting assets.

The gradual repayment or redemption of loan or debentures is also referred to as amortisation. Sinking fund method and Insurance policy method are used for systematic writing-off of an asset or redemption of bonds and other long-term debt instruments. Present value of an annuity interest factors can be used to solve a loan amortisation problem, where the objective is to determine the payments necessary to pay off or amortise a loan.

Illustration 16:

Mr. Balu has borrowed a loan of Rs. 5,00,000 to construct his house which repayable in 12 equal annual instalments the first being paid at the end of first year. The rate of interest chargeable on this loan is (a 4% p.a. compounded. How much of equal annual installments payable to amortize the said loan.

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

V = Rs. 5,00,000 I = 0.04 n = 12

$5,00,000 = P/0.04 [1-(1+4)^{-12}]$

$5,00,000 = P/0.04 [1-(1.04)^{-12}]$

Let $x = (1.04)^{-12}$

Log x = -12 log 1.04

= -12 x 0.0170 = -0.204

= -1 + 1 – 0.204 = 1.796

X = antilog 1.796 = 0.6252

5,00,000 = p/0.04 (1-0.6252)

5,00,000 = P/0.04 x 0.3748

5,00,000 = P x 9.37

P = 5,00,000/9.37 = Rs. 53,362

Sinking Fund:

It is a kind of reserve by which a provision is made to reduce a liability, e.g., redemption of debentures or repayment of a loan. A sinking fund is a form of specific reserve set aside for the redemption of a long-term debt. The main purpose

of creating a sinking fund is to have a certain sum of money accumulated for a future date by setting aside a certain sum of money every year.

It is a kind of specific reserve. Whatever the object or the method of creating such a reserve may be, every year a certain sum of money is invested in such a way that with compound interest, the exact amount to wipe off the liability or replace the wasting asset or to meet the loss, will be available. The amount to be invested every year can be known from the compound interest annuity tables.

Alternatively, an endowment policy may be taken out which matures on the date when the amount required will be paid by the insurance company.

The advantage of this method is that a definite amount will be available while in the case of investment of funds in securities then exact amount may not be available on account of fall in the value of securities. After the liability is redeemed, the sinking fund is no longer required and as it is the undistributed profit, it may be distributed to the shareholders or may be transferred to the General Reserve Account.

Illustration 17:

A machine costs Rs. 3,00,000 and its effective life is estimated to be 6 years. A sinking fund is created for replacing the machine at the end of its effective life time when its scrap realizes a sum of Rs. 20,000 only. Calculate to the nearest hundreds of rupees, the amount which should be provided, every year, for the sinking if it accumulates at 8% p.a. compounded annually.

Solution:

For accumulation in sinking fund at compound rate we have:

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

A = 3,00,000 – 20,000 = 2,80,000

i = 0.08

n =6

$2,80,000 = P/0.08 [(1+0.08)^6 -1]$

$2,80,000 = P/0.08 [(1.08)^6-1]$

$2,80,000 = P/0.08 (1.586874 -1)$

$2,80,000 = P/0.08 \times 0.586874$

$2,80,000 = P \times 7.33593$

$P = 2,80,000/7.33593 = Rs.\ 38,168$

Next topic

Cost of capital

Meaning of Cost of Capital:

An investor provides long-term funds (i.e., Equity shares, Preference Shares, retained earnings, Debentures etc.) to a company and quite naturally he expects a good return on his investment.

In order to satisfy the investor's expectations, the company should be able to earn enough revenue.

Thus, to the company, the cost of capital is the minimum rate of return that the company must earn on its investments to fulfill the expectations of the investors.

If a company can raise long-term funds from the market at 10%, then 10% can be used as cut-off rate as the management gains only when the project gives return higher than 10%. Hence 10% is the discount rate or cut-off rate. In other words, it is the minimum rate of return required on the investment project to keep the market value per share unchanged.

In order to maximize the shareholders' wealth through increased price of shares, a company has to earn more than the cost of capital. The firm's cost of capital can be determined by working out weighted average of the different costs of raising different sources of capital.

Definitions of cost of capital:

Ezra Solomon defines **"Cost of capital is the minimum required rate of earnings or cutoff rate of capital expenditure".**

Cost of capital depends upon:

(a) Demand and supply of capital,

(b) Expected rate of inflation,

(c) Various risk involved, and

(d) Debt-equity ratio of the firm etc.

Significance of Cost of Capital:

The concept of cost of capital plays a vital role in decision-making process of financial management. The financial leverage, capital structure, dividend policy, working capital management, financial decision, appraisal of financial performance of top management etc. are greatly influenced by the cost of capital.

The significance or importance of cost of capital may be stated in the following ways:

1. Maximisation of the Value of the Firm:

For the purpose of maximisation of value of the firm, a firm tries to minimise the average cost of capital. There should be judicious mix of debt and equity in the capital structure of a firm so that the business does not to bear undue financial risk.

2. Capital Budgeting Decisions:

Proper estimate of cost of capital is important for a firm in taking capital budgeting decisions. Generally cost of capital is the discount rate used in evaluating the desirability of the investment project. In the internal rate of return method, the project will be accepted if it has a rate of return greater than the cost of capital.

In calculating the net present value of the expected future cash flows from the project, the cost of capital is used as the rate of discounting. Therefore, cost of capital acts as a standard for allocating the firm's investible funds in the most optimum manner. For this reason, cost of capital is also referred to as cut-off rate, target rate, hurdle rate, minimum required rate of return etc.

3. Decisions Regarding Leasing:

Estimation of cost of capital is necessary in taking leasing decisions of business concern

4. Management of Working Capital:

In management of working capital, the cost of capital may be used to calculate the cost of carrying investment in receivables and to evaluate alternative policies regarding receivables. It is also used in inventory management also.

5. Dividend Decisions:

Cost of capital is significant factor in taking dividend decisions. The dividend policy of a firm should be formulated according to the nature of the firm—whether it is a growth firm, normal firm or declining firm. However, the nature of the firm is determined by comparing the internal rate of return (r) and the cost of capital (k) i.e., $r > k$, $r = k$, or $r < k$ which indicate growth firm, normal firm and decline firm, respectively

6. Determination of Capital Structure:

Cost of capital influences the capital structure of a firm. In designing optimum capital structure that is the proportion of debt and equity, due importance is given to the overall or weighted average cost of capital of the firm. The objective of the firm should be to choose such a mix of debt and equity so that the overall cost of capital is minimized.

7. Evaluation of Financial Performance:

The concept of cost of capital can be used to evaluate the financial performance of top management. This can be done by comparing the actual profitability of the investment project undertaken by the firm with the overall cost of capital.

Measurement of Cost of Capital:

Cost of capital is measured for different sources of capital structure of a firm. It includes cost of debenture, cost of loan capital, cost of equity share capital, cost of preference share capital, cost of retained earnings etc.

The measurement of cost of capital of different sources of capital structure is discussed:

A. Cost of Debentures:

The capital structure of a firm normally includes the debt capital. Debt may be in the form of debentures bonds, term loans from financial institutions and banks etc. The amount of interest payable for issuing debenture is considered to be the cost of

debenture or debt capital (K_d). Cost of debt capital is much cheaper than the cost of capital raised from other sources, because interest paid on debt capital is tax deductible.

The cost of debenture is calculated in the following ways:

(i) When the debentures are issued and redeemable at par: $K_d = r (1 – t)$

where K_d = Cost of debenture

r = Fixed interest rate

t = Tax rate

(ii) When the debentures are issued at a premium or discount but redeemable at par

$K_d = I/NP (1 – t)$

where, K_d = Cost of debenture

I = Annual interest payment

t = Tax rate

Np = Net proceeds from the issue of debenture.

(iii) When the debentures are redeemable at a premium or discount and are redeemable after 'n' period:

K_d

$I(1-t)+1/N(R_v – NP) / ½ (R_V – NP)$

where K_d = Cost of debenture .

I = Annual interest payment

t = Tax rate

NP = Net proceeds from the issue of debentures

Ry = Redeemable value of debenture at the time of maturity

B. Cost of Preference Share Capital:

For preference shares, the dividend rate can be considered as its cost, since it is this amount which the company wants to pay against the preference shares. Like debentures, the issue expenses or the discount/premium on issue/redemption are also to be taken into account.

(i) The cost of preference shares (K_P) = D_P / NP

Where, D_P = Preference dividend per share

NP = Net proceeds from the issue of preference shares.

There is no tax advantage for cost of preference shares, as its dividend is not allowed deduction from income for income tax purposes. The students should note that both in the case of debt and preference shares, the cost of capital is computed with reference to the obligations incurred and proceeds received. The net proceeds received must be taken into account while computing cost of capital.

C. Cost of Equity or Ordinary Shares:

The funds required for a project may be raised by the issue of equity shares which are of permanent nature. These funds need not be repayable during the lifetime of the organization. Calculation of the cost of equity shares is complicated because, unlike debt and preference shares, there is no fixed rate of interest or dividend payment.

Cost of equity share is calculated by considering the earnings of the company, market value of the shares, dividend per share and the growth rate of dividend or earnings.

(i) Dividend/Price Ratio Method:

An investor buys equity shares of a particular company as he expects a certain return (i.e. dividend). The expected rate of dividend per share on the current market price per share is the cost of equity share capital. Thus, the cost of equity share capital is computed on the basis of the present value of the expected future stream of dividends.

Thus, the cost of equity share capital (K_e) is measured by:

K_e = where D = Dividend per share

P = Current market price per share.

If dividends are expected to grow at a constant rate of 'g' then cost of equity share capital

(K_e) will be $K_e = D/P + g$.

This method is suitable for those entities where growth rate in dividend is relatively stable. But this method ignores the capital appreciation in the value of shares. A company which declares a higher amount of dividend out of given quantum of earnings will be placed at a premium as compared to a company which earns the same amount of profits but utilizes a major part of it in financing its expansion programme.

Market price: Dividend / (cost of capital-growth rate)

Example :

The current market price of a share is Rs. 100. The firm needs Rs. 1,00,000 for expansion and the new shares can be sold at only Rs. 95. The expected dividend at the end of the current year is Rs. 4.75 per share with a growth rate of 6%.

Calculate the cost of capital of new equity.

Solution:

We know, cost of Equity Capital (K_e) = D/P + g

(i) When current market price of share (P) = Rs. 100

K = Rs 4.75 / Rs. 100 + 6% = 0.0475 + 0.06 = 0.1075 or 10.75%.

(ii) Cost of new Equity Capital = Rs. 4.75 / Rs. 95 + 6% = 0.11 or, 11%.

Example :

A company's share is currently quoted in the market at Rs. 20. The company pays a dividend of Rs. 2 per share and the investors expect a growth rate of 5% per year. You are required to calculate (a) Cost of equity capital of the company, and (b) the market price per share, if the anticipated growth rate of dividend is 7%.

Solution:

(a) Cost of equity share capital (K_e) = D/P +g = Rs. 2/Rs. 20 + 5% = 15%

(b) K_e = D/P + g

or, 0.15 = Rs. 2 / P + 0.07 or, P = 2/0.08 = Rs. 25.

(ii) Earnings/Price Ratio Method:

This method takes into consideration the earnings per share (EPS) and the market price of share. Thus, the cost of equity share capital will be based upon the expected rate of earnings of a company. The argument is that each investor expects

a certain amount of earnings whether distributed or not, from the company in whose shares he invests.

If the earnings are not distributed as dividends, it is kept in the retained earnings and it causes future growth in the earnings of the company as well as the increase in market price of the share.

Thus, the cost of equity capital (K_e) is measured by:

K_e = E/P where E = Current earnings per share

P = Market price per share.

If the future earnings per share will grow at a constant rate 'g' then cost of equity share capital (K_e) will be

K_e = E/P+ g.

D. Cost of Retained Earnings:

The profits retained by a company for using in the expansion of the business also entail cost. When earnings are retained in the business, shareholders are forced to forego dividends. The dividends forgone by the equity shareholders are, in fact, an opportunity cost. Thus, retained earnings involve opportunity cost.

Many accountants consider the cost of retained earnings as the same as that of the cost of equity share capital. However, if the cost of equity share capital i9 computed on the basis of dividend growth model (i.e., D/P + g), a separate cost of retained earnings need not be computed since the cost of retained earnings is automatically included in the cost of equity share capital.

Therefore, K_r = K_e = D/P + g.

E. Overall or Weighted Average Cost of Capital:

A firm may procure long-term funds from various sources like equity share capital, preference share capital, debentures, term loans, retained earnings etc. at different costs depending on the risk perceived by the investors.

When all these costs of different forms of long-term funds are weighted by their relative proportions to get overall cost of capital it is termed as weighted average cost of capital. It is also known as composite cost of capital. While taking financial decisions, the weighted or composite cost of capital is considered.

The weighted average cost of capital is used by an enterprise because of the following reasons:

(i) It is useful in taking capital budgeting/investment decisions.

(ii) It recognizes the various sources of finance from which the investment proposal derives its life-blood (i.e., finance).

(iii) It indicates an optimum combination of various sources of finance for the enhancement of the market value of the firm.

(iv) It provides a basis for comparison among projects as a standard or cut-off rate.

I. Computation of Weighted Average Cost of Capital:

Computation of Weighted Average cost of capital is made in the following ways:

(i) The specific cost of each source of funds (i.e., cost of equity, preference shares, debts, retained earnings etc.) is to be calculated.

(ii) Weights (i.e., proportion of each, source of fund in the capital structure) are to be computed and assigned to each type of funds. This implies multiplication of each source of capital by appropriate weights.

Generally, the-following weights are assigned:

(a) Book values of various sources of funds

(b) Market values of various sources of capital

(c) Marginal book values of various sources of capital.

Book values of weights are based on the values reflected by the balance sheet of a concern, prepared under historical basis and ignoring price level changes. Most of the financial analysts prefer to use market value as the weights to calculate the weighted average cost of capital as it reflects the current cost of capital.

But the determination of market value involves some difficulties for which the measurement of cost of capital becomes very difficult.

(iii) Add all the weighted component costs to obtain the firm's weighted average cost of capital.

Therefore, weighted average cost of capital (K_o) is to be calculated by using the following formula:

$K_o = K_1w_1 + K_2w_2 + \ldots\ldots\ldots\ldots$

where K_1, K_2 …….. are component costs and W_1, W_2 …….. are weights.

FACTORS AFFECTING COST OF CAPITAL

1. **MARKET OPPORTUNITY**

Unquestionably, most fundamental price deciding factor for anything in this world is the law of demand-supply. Cost of capital is also not away from this fundamental law. When the demand for capital increases, the cost of capital also increases and vice versa. The demand is influenced greatly by the available market opportunities. If there are a lot of production opportunities in the market, more and more entrepreneurs will explore those opportunities to create profitable ventures. Entrepreneurs, then, would require capital to implement their business ideas. So, cost of capital is directly related to the market opportunities available in the market.

2. CAPITAL PROVIDER'S PREFERENCES

An individual who has some additional funds has two straight choices – save money or consume it. It is completely a personal choice but to a great extent, it is impacted by the culture of a society. For example, Japanese people are more bent towards saving compared to the US. Another important factor that determines the utility of capital is the interest rate or returns available to their funds. Naturally higher returns would enforce higher savings.

3. RISK

'High-risk high-return' principle works here too. If the venture where investment is required has a high level of risk, the return required by the investor would also be very high to compensate the risk. On the other hand, the businessman taking up the venture may not opt for a too high cost of capital because it may put the viability of the overall project at stake. So, this is how risk plays a key role deciding the capital transactions in the market.

4. INFLATION

All capital providers try to invest in a manner that maximizes returns. The lower benchmark for investing has always been the inflation. At the minimum, an investment should beat the inflation and there should be some real income. Real income is nothing but the actual return less inflation. In simple words, you invested money which could buy you a particular basket of things a year ago. After a year when your investment is matured and you receive money, you would at least expect that money should be able to buy that same basket of things. If the matured money falls short of buying you the same basket, you have diminished the value of your money in last one year. If the money is more than just buying that basket, you have earned real income on your investment.

ECONOMIC AND OTHER FACTORS AFFECTING COST OF CAPITAL

1. **FEDERAL RESERVE POLICY**

All federal banks have got the power to influence the economy. US Federal Reserve Board simple purchases the treasury securities, normally held by banks, to boost the economy. Let's understand how it works. When the 'Federal Reserve Board' buys the Treasury securities from the banks, the banks accumulate a lot of loanable funds with it. Now, the banks with a higher supply of funds would start offering loans at lower interest rates. This reduction in interest rates will encourage industrialists to start more and more ventures and that, in turn, will create job opportunities, overall demand in the market etc. Although, there is a flip side of this policy that it will increase the inflation in the longer run. This is how federal policies have a great impact on the cost of capital.

2. **FEDERAL BUDGET DEFICIT OR SURPLUS**

Federal budget deficit and surplus also have a role to play in deciding the cost of capital in the market. In a surplus situation, Fed would buy Treasury securities from the market and that will reduce the interest rates. On the contrary, in a deficit situation, Fed would sell Treasury securities or mint money. Minting money would increase the money supply in the market along with an expectation of higher inflation and that leads to increasing the cost of money. Similarly, selling Treasury securities to banks will reduce the loanable funds with banks and they increase the cost of funds.

3. **TRADE ACTIVITY**

Economic boom and recession also play a very important role in determining the cost of capital by impacting the interest rates in the market.

4. **FOREIGN TRADE SURPLUSES OR DEFICITS**

A foreign trade deficit creates a need for borrowing from other countries. Borrower countries will have their own opportunity cost of capital based on the interest rates available with other countries. Higher the borrowings and higher will be the interest rates. That will impact the capital market.

5. **COUNTRY RISK**

Country risk is the risk associated with political, social, economic environment of a country. To understand with an example, assume a country has trends of suddenly

changing the tax rates, regulations relating to trade and commerce etc. An international investor would resist investing in that country because their policy can put any business at stake suddenly. This will reduce the flow of international capital in the country and thereby increase the cost of capital.

6. **EXCHANGE RATE RISK**

Investment in countries other than the home country has a bearing of exchange rate risk on them. The real return of an investor depends on two factors.

1. The performance of the investment in the foreign country and
2. The performance of the currency of that country in comparison to home currency.

At the time of maturity of the investment, if the home currency weakens, the net realization in home currency would also be reduced. That can affect an investor's decision of investing in other countries, especially whose currency rates fluctuate a lot.

FACTORS AFFECTING COST OF CAPITAL

1. CAPITAL STRUCTURE POLICY

All companies try to optimize their capital structure with a policy that suits their individual situations. New acquisition of capital will depend a lot on the capital structure policy and therefore the capital structure policy of the said company will have a bearing on its cost of capital.

2. **DIVIDEND POLICY**

A dividend policy of a corporation decides how much percentage of profits it will retain and how much will be distributed as dividends. If a company retains higher percentage of profits in the business, it is effectively adding a capital at the cost of equity. Accordingly, the overall cost of capital will be impacted.

3. INVESTMENT POLICY

A company is nothing but a set of different projects it takes up. It is very important to note that different projects would have different risk profile. If a company is adding a project with higher risk compared to overall risk level of the organization, it is effectively increasing the risk of the organization. With this increase in risk, the required rate of return will also increase. This is how, investment policy impacts the cost of capital

Important ques.

1) Discuss the concept and importance of cost of capital
2) Distinguish among various classes of cost of capital
3) Discuss various uses of the concept of Cost of Capital.
4) How is the Cost of Debt Capital ascertained? Give examples.
5) How will you calculate the Cost of Preferences Share Capital?
6) What is the scope of finance function?

7) What are the main duties and responsibilities of a finance executive?

Unit -2

Next topic:
Capital Structure

Meaning and Concept of Capital Structure:

The term 'structure' means the arrangement of the various parts. So capital structure means the arrangement of capital from different sources so that the long-term funds needed for the business are raised.

Thus, capital structure refers to the proportions or combinations of equity share capital, preference share capital, debentures, long-term loans, retained earnings and other long-term sources of funds in the total amount of capital which a firm should raise to run its business.

Definitions of capital structure:

"Capital structure refers to the mix of long-term sources of funds, such as, debentures, long-term debts, preference share capital and equity share capital including reserves and surplus."—I. M. Pandey.

Capital Structure, Financial Structure and Assets Structure:

- The term capital structure should not be confused with Financial structure and Assets structure.

- While financial structure consists of short-term debt, long-term debt and share holders' fund i.e., the entire left-hand side of the company's Balance Sheet. But capital structure consists of long-term debt and shareholders' fund.

So, it may be concluded that the capital structure of a firm is a part of its financial structure. Some experts of financial management include short-term debt in the composition of capital structure. In that case, there is no difference between the two terms—capital structure and financial structure.

So, capital structure is different from financial structure. It is a part of financial structure. Capital structure refers to the proportion of long-term debt and equity in the total capital of a company. On the other hand, financial structure refers to the net worth or owners' equity and all liabilities (long-term as well as short-term).

Capital structure does not include short-term liabilities but financial structure includes short-term liabilities or current liabilities.

- Assets structure implies the composition of total assets used by a firm i.e., make-up of the assets side of Balance Sheet of a company. It indicates the application of fund in the different types of assets fixed and current.

Assets structure = Fixed Assets + Current Assets.

Importance of Capital Structure:

The importance or significance of Capital Structure:

1. Increase in value of the firm:

A sound capital structure of a company helps to increase the market price of shares and securities which, in turn, lead to increase in the value of the firm.

2. Utilisation of available funds:

A good capital structure enables a business enterprise to utilise the available funds fully. A properly designed capital structure ensures the determination of the financial requirements of the firm and raise the funds in such proportions from various sources for their best possible utilisation. A sound capital structure protects the business enterprise from over-capitalisation and under-capitalisation.

3. Maximisation of return:

A sound capital structure enables management to increase the profits of a company in the form of higher return to the equity shareholders i.e., increase in earnings per share. This can be done by the mechanism of trading on equity i.e., it refers to increase in the proportion of debt capital in the capital structure which is the cheapest source of capital. If the rate of return on capital employed (i.e., shareholders' fund + long- term borrowings) exceeds the fixed rate of interest paid to debt-holders, the company is said to be trading on equity.

4. Minimisation of cost of capital:

A sound capital structure of any business enterprise maximises shareholders' wealth through minimisation of the overall cost of capital. This can also be done by incorporating long-term debt capital in the capital structure as the cost of debt capital is lower than the cost of equity or preference share capital since the interest on debt is tax deductible.

5. Solvency or liquidity position:

A sound capital structure never allows a business enterprise to go for too much raising of debt capital because, at the time of poor earning, the solvency is disturbed for compulsory payment of interest to .the debt-supplier.

6. Flexibility:

A sound capital structure provides a room for expansion or reduction of debt capital so that, according to changing conditions, adjustment of capital can be made.

7. Undisturbed controlling:

A good capital structure does not allow the equity shareholders control on business to be diluted.

Factor affecting capital structure:

1. **Financial risk:**

If debt component increases in the capital structure of a company, the financial risk (i.e., payment of fixed interest Risk of cash insolvency arises due to failure to pay fixed interest liabilities. Generally, the higher proportion of debt in capital structure

compels the company to pay higher rate of interest on debt irrespective of the fact that the fund is available or not. The non-payment of interest charges and principal amount in time call for liquidation of the company.

The sudden withdrawal of debt funds from the company can cause cash insolvency. This risk factor has an important bearing in determining the capital structure of a company and it can be avoided if the project is financed by issues equity share capital.

2. Risk in variation of earnings:

The higher the debt content in the capital structure of a company, the higher will be the risk of variation in the expected earnings available to equity shareholders. If return on investment on total capital employed (i.e., shareholders' fund plus long-term debt) exceeds the interest rate, the shareholders get a higher return.

On the other hand, if interest rate exceeds return on investment, the shareholders may not get any return at all.

3. Cost of capital:

Cost of capital means cost of raising the capital from different sources of funds. It is the price paid for using the capital. A business enterprise should generate enough revenue to meet its cost of capital and finance its future growth. The finance manager should consider the cost of each source of fund while designing the capital structure of a company.

4. Control:

The consideration of retaining control of the business is an important factor in capital structure decisions. If the existing equity shareholders do not like to dilute

the control, they may prefer debt capital to equity capital, as former has no voting rights.

5. Trading on equity:

The use of fixed interest bearing securities along with owner's equity as sources of finance is known as trading on equity. It is an arrangement by which the company aims at increasing the return on equity shares by the use of fixed interest bearing securities (i.e., debenture, preference shares etc.).

If the existing capital structure of the company consists mainly of the equity shares, the return on equity shares can be increased by using borrowed capital. This is so because the interest paid on debentures is a deductible expenditure for income tax assessment and the after-tax cost of debenture becomes very low.

Any excess earnings over cost of debt will be added up to the equity shareholders. If the rate of return on total capital employed exceeds the rate of interest on debt capital or rate of dividend on preference share capital, the company is said to be trading on equity.

6. Government policies:

Capital structure is influenced by Government policies, rules and regulations of SEBI and lending policies of financial institutions which change the financial pattern of the company totally. Monetary and fiscal policies of the Government will also affect the capital structure decisions.

7. Size of the company:

Availability of funds is greatly influenced by the size of company. A small company finds it difficult to raise debt capital. The terms of debentures and long-

term loans are less favourable to such enterprises. Small companies have to depend more on the equity shares and retained earnings.

On the other hand, large companies issue various types of securities despite the fact that they pay less interest because investors consider large companies less risky.

8. Needs of the investors:

While deciding capital structure the financial conditions and psychology of different types of investors will have to be kept in mind. For example, a poor or middle class investor may only be able to invest in equity or preference shares which are usually of small denominations, only a financially sound investor can afford to invest in debentures of higher denominations.

A cautious investor who wants his capital to grow will prefer equity shares.

9. Flexibility:

The capital structures of a company should be such that it can raise funds as and when required. Flexibility provides room for expansion, both in terms of lower impact on cost and with no significant rise in risk profile.

10. Period of finance:

The period for which finance is needed also influences the capital structure. When funds are needed for long-term (say 10 years), it should be raised by issuing debentures or preference shares. Funds should be raised by the issue of equity shares when it is needed permanently.

11. Nature of business:

It has great influence in the capital structure of the business, companies having stable and certain earnings prefer debentures or preference shares and companies having no assured income depends on internal resources.

12. Legal requirements:

The finance manager should comply with the legal provisions while designing the capital structure of a company.

13. Purpose of financing:

Capital structure of a company is also affected by the purpose of financing. If the funds are required for manufacturing purposes, the company may procure it from the issue of long- term sources. When the funds are required for non-manufacturing purposes i.e., welfare facilities to workers, like school, hospital etc. the company may procure it from internal sources.

14. Corporate taxation:

When corporate income is subject to taxes, debt financing is favourable. This is so because the dividend payable on equity share capital and preference share capital are not deductible for tax purposes, whereas interest paid on debt is deductible from income and reduces a firm's tax liabilities. The tax saving on interest charges reduces the cost of debt funds.

Moreover, a company has to pay tax on the amount distributed as dividend to the equity shareholders. Due to this, total earnings available for both debt holders and stockholders is more when debt capital is used in capital structure. Therefore, if the corporate tax rate is high enough, it is prudent to raise capital by issuing debentures or taking long-term loans from financial institutions.

15. Cash inflows:

The selection of capital structure is also affected by the capacity of the business to generate cash inflows. It analyses solvency position and the ability of the company to meet its charges.

16. Provision for future:

The provision for future requirement of capital is also to be considered while planning the capital structure of a company.

17. EBIT-EPS analysis:

If the level of EBIT is low from HPS point of view, equity is preferable to debt. If the EBIT is high from EPS point of view, debt financing is preferable to equity. If ROI is less than the interest on debt, debt financing decreases ROE. When the ROI is more than the interest on debt, debt financing increases ROE.

Theories of Capital Structure

1. Net Income (NI) Approach:

According to NI approach a firm may increase the total value of the firm by lowering its cost of capital.

When cost of capital is lowest and the value of the firm is greatest, we call it the optimum capital structure for the firm and, at this point, the market price per share is maximised.

The same is possible continuously by lowering its cost of capital by the use of debt capital. In other words, using more debt capital with a corresponding reduction in cost of capital, the value of the firm will increase.

The same is possible only when:

(i) Cost of Debt (K_d) is less than Cost of Equity (K_e);

(ii) There are no taxes; and

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(ii) There are no taxes; and

Capital Structure Theory # 2. Net Operating Income (NOI) Approach:

Now we want to highlight the Net Operating Income (NOI) Approach which was advocated by David Durand based on certain assumptions.

They are:

(i) The overall capitalisation rate of the firm K_w is constant for all degree of leverages;

(ii) Net operating income is capitalised at an overall capitalisation rate in order to have the total market value of the firm.

Thus, the value of the firm, V, is ascertained at overall cost of capital (K_w):

$V = EBIT/K_w$ (since both are constant and independent of leverage)

(iii) The market value of the debt is then subtracted from the total market value in order to get the market value of equity.

S – V – T

(iv) As the Cost of Debt is constant, the cost of equity will be

K_e = EBIT – I/S

Under this approach, the most significant assumption is that the K_w is constant irrespective of the degree of leverage. The segregation of debt and equity is not important here and the market capitalises the value of the firm as a whole.

Thus, an increase in the use of apparently cheaper debt funds is offset exactly by the corresponding increase in the equity- capitalisation rate. So, the weighted average Cost of Capital K_w and K_d remain unchanged for all degrees of leverage. Needless to mention here that, as the firm increases its degree of leverage, it becomes more risky proposition and investors are to make some sacrifice by having a low P/E ratio.

Capital Structure Theory # 3. Traditional Theory Approach:

It is accepted by all that the judicious use of debt will increase the value of the firm and reduce the cost of capital. So, the optimum capital structure is the point at which the value of the firm is highest and the cost of capital is at its lowest point. Practically, this approach encompasses all the ground between the Net Income Approach and the Net Operating Income Approach, i.e., it may be called Intermediate Approach.

The traditional approach explains that up to a certain point, debt-equity mix will cause the market value of the firm to rise and the cost of capital to decline. But after attaining the optimum level, any additional debt will cause to decrease the market value and to increase the cost of capital.

In other words, after attaining the optimum level, any additional debt taken will offset the use of cheaper debt capital since the average cost of capital will increase along with a corresponding increase in the average cost of debt capital.

Thus, the basic proposition of this approach are:

(a) The cost of debt capital, K_d, remains constant more or less up to a certain level and thereafter rises.

(b) The cost of equity capital K_e, remains constant more or less or rises gradually up to a certain level and thereafter increases rapidly.

(c) The average cost of capital, K_w, decreases up to a certain level remains unchanged more or less and thereafter rises after attaining a certain level.

Capital Structure Theory # 4. Modigliani-Miller (M-M) Approach:

Modigliani-Miller' (MM) advocated that the relationship between the cost of capital, capital structure and the valuation of the firm should be explained by NOI (Net Operating Income Approach) by making an attack on the Traditional Approach.

The Net Operating Income Approach, supplies proper justification for the irrelevance of the capital structure. In Income Approach, supplies proper justification for the irrelevance of the capital structure.

In this context, MM support the NOI approach on the principle that the cost of capital is not dependent on the degree of leverage irrespective of the debt-equity mix. In the words, according to their thesis, the total market value of the firm and the cost of capital are independent of the capital structure.

They advocated that the weighted average cost of capital does not make any change with a proportionate change in debt-equity mix in the total capital structure of the firm.

The same can be shown with the help of the following diagram:

Proposition:

The following propositions outline the MM argument about the relationship between cost of capital, capital structure and the total value of the firm:

(i) The cost of capital and the total market value of the firm are independent of its capital structure. The cost of capital is equal to the capitalisation rate of equity stream of operating earnings for its class, and the market is determined by capitalising its expected return at an appropriate rate of discount for its risk class.

(ii) The second proposition includes that the expected yield on a share is equal to the appropriate capitalisation rate of a pure equity stream for that class, together with a premium for financial risk equal to the difference between the pure-equity capitalisation rate (K_e) and yield on debt (K_d). In short, increased K_e is offset exactly by the use of cheaper debt.

(iii) The cut-off point for investment is always the capitalisation rate which is completely independent and unaffected by the securities that are invested.

Assumptions:

The MM proposition is based on the following assumptions:

(a) Existence of Perfect Capital Market It includes:

(i) There is no transaction cost;

(ii) Flotation costs are neglected;

(iii) No investor can affect the market price of shares;

(iv) Information is available to all without cost;

(v) Investors are free to purchase and sale securities.

(b) Homogeneous Risk Class/Equivalent Risk Class:

It means that the expected yield/return have the identical risk factor i.e., business risk is equal among all firms having equivalent operational condition.

(c) Homogeneous Expectation:

All the investors should have identical estimate about the future rate of earnings of each firm.

(d) The Dividend pay-out Ratio is 100%:

It means that the firm must distribute all its earnings in the form of dividend among the shareholders/investors, and

(e) Taxes do not exist:

That is, there will be no corporate tax effect (although this was removed at a subsequent date).

Interpretation of MM Hypothesis:

The MM Hypothesis reveals that if more debt is included in the capital structure of a firm, the same will not increase its value as the benefits of cheaper debt capital are exactly set-off by the corresponding increase in the cost of equity, although

debt capital is less expensive than the equity capital. So, according to MM, the total value of a firm is absolutely unaffected by the capital structure (debt-equity mix) when corporate tax is ignored.

Proof of MM Hypothesis—The Arbitrage Mechanism:

MM have suggested an arbitrage mechanism in order to prove their argument. They argued that if two firms differ only in two points viz. (i) the process of financing, and (ii) their total market value, the shareholders/investors will dispose-off share of the over-valued firm and will purchase the share of under-valued firms.

Naturally, this process will be going on till both attain the same market value. As such, as soon as the firms will reach the identical position, the average cost of capital and the value of the firm will be equal. So, total value of the firm (V) and Average Cost of Capital, (K_w) are independent.

Criticisms of the MM Hypothesis:

We have seen (while discussing MM Hypothesis) that MM Hypothesis is based on some assumptions. There are some authorities who do not recognise such assumptions as they are quite unrealistic, viz. the assumption of perfect capital market.

We also know that most significant element in this approach is the arbitrage process forming the behavioural foundation of the MM Hypothesis. As the imperfect market exists, the arbitrage process will be of no use and as such, the discrepancy will arise between the market value of the unlevered and levered firms.

The shortcomings for which arbitrage process fails to bring the equilibrium condition are:

(i) Existence of Transaction Cost:

The arbitrage process is affected by the transaction cost. While buying securities, this cost is involved in the form of brokerage or commission etc. for which extra amount is to be paid which increases the cost price of the shares and requires a greater amount although the return is same. As such, the levered firm will enjoy a higher market value than the unlevered firm.

(ii) Assumption of borrowing and lending by the firms and the individual at the same rate of interest:

The above proposition that the firms and the individuals can borrow or lend at the same rate of interest, does not hold good in reality. Since a firm holds more assets and credit reputation in the open market in comparison with an individual, the former will always enjoy a better position than the latter.

As such, cost of borrowing will be higher in case of an individual than a firm. As a result, the market value of both the firms will not be equal.

(iii) Institutional Restriction:

The arbitrage process is retarded by the institutional investors e.g., Life Insurance Corporation of India, Commercial Banks; Unit Trust of India etc., i.e., they do not encourage personal leverage. At present these institutional investors dominate the capital market.

(iv) "Personal or home-made leverage" is not the prefect substitute for "corporate leverage.":

MM hypothesis assumes that "personal leverage" is a perfect substitute for "corporate leverage" which is not true as we know that a firm may have a limited liability whereas there is unlimited liability in case of individuals. For this purpose, both of them have different footing in the capital market.

(v) Incorporation of Corporate Taxes:

If corporate taxes are considered (which should be taken into consideration) the MM approach will be unable to discuss the relationship between the value of the firm and the financing decision.

For example, we know that interest charges are deducted from profit available for dividend, i.e., it is tax deductible.

In other words, the cost of borrowing funds is comparatively less than the contractual rate of interest which allows the firm regarding tax advantage. Ultimately, the benefit is being enjoyed by the equity-holders and debt-holders.

According to some critics the arguments which were advocated by MM, are not valued in the practical world. We know that cost of capital and the value of the firm are practically the product of financial leverage.

MM Hypothesis with Corporate Taxes and Capital Structure:

The MM Hypothesis is valid if there is perfect market condition. But, in the real world capital market, imperfection arises in the capital structure of a firm which affects the valuation. Because, presence of taxes invites imperfection.

We are, now, going to examine the effect of corporate taxes in the capital structure of a firm along with the MM Hypothesis. We also know that when taxes are levied

on income, debt financing is more advantageous as interest paid on debt is a tax-deductible item whereas retained earning or dividend so paid in equity shares are not tax-deductible.

Thus, if debt capital is used in the total capital structure, the total income available for equity shareholders and/or debt holders will be more. In other words, the levered firm will have a higher value than the unlevered firm for this purpose, or, it can alternatively be stated that the value of the levered firm will exceed the unlevered firm by an amount equal to debt multiplied by the rate of tax.

The same can be explained in the form of the following equation:

Thus, a firm can lower its cost of capital continuously due to the tax deductibility of interest charges. So, a firm must use the maximum amount of leverage in order to attain the optimum capital structure although the experience that we realise is contrary to the opinion.

In real-world situation, however, firms do not take a larger amount of debt and creditors/lenders also are not interested to supply loan to highly levered firms due to the risk involved in it.

Thus, due to the market imperfection, after tax cost of capital function will be U-shaped. In answer to this criticism, MM suggested that the firm would adopt a target debt ratio so as not to violate the limits of level of debt imposed by creditors. This is an indirect way of stating that the cost of capital will increase sharply with leverage beyond some safe limit of debt.

Features of an Appropriate Capital Structure of a Company

The important features of an appropriate capital structure of a company are as follows:

The term capital structure is used to represent the proportionate relationship between the various long-term kinds of capital arrangements – equity, debentures, preference shares, long- term debt, capital surplus, and retained earnings.

The term capital structure is part of financial structure, which includes both long-term and short-term funds. Analysis of capital structure involves the use of capital gearing (also called as capital leveraging or leveraging).

An appropriate capital structure should incorporate the following features

1. Flexibility:

The consideration of flexibility gives the finance manager the ability to alter the firm's capital structure with a minimum cost and delay, if warranted by the changed environment. 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:

Extensive debt threatens the solvency and credit rating of the company. The debt financing should be only to the extent that it can be serviced fully and also be paid back (if required)

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.

Some of the major features of sound capital structure are as follows: (i) Maximum Return (ii) Less Risky (iii) Safety (iv) Flexibility (v) Economy (vi) Capacity (vii) Control.

A company's capital structure is said to be optimum when the proportion of debt and equity is such that it results in maximising the return for the equity shareholders.

Such a structure would vary from company to company depending upon the nature and size of operations, availability of funds from different sources, efficiency of management, etc.

Next topic:
EBIT-EPS Analysis

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

Concept of EBIT-EPS Analysis:

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

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

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

Advantages of EBIT-EPS Analysis:

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

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

1. **Financial Planning:**

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

2. **Comparative Analysis:**

EBIT-EPS analysis is useful in evaluating the relative efficiency of departments, product lines and markets. It identifies the EBIT earned by these different departments, product lines and from various markets, which helps financial planners rank them according to profitability and also assess the risk associated with each.

3. **Performance Evaluation:**

This analysis is useful in comparative evaluation of performances of various sources of funds. It evaluates whether a fund obtained from a source is used in a project that produces a rate of return higher than its cost.

4. **Determining Optimum Mix:**

EBIT-EPS analysis is advantageous in selecting the optimum mix of debt and equity. By emphasizing on the relative value of EPS, this analysis determines the optimum mix of debt and equity in the capital structure. It helps determine the alternative that gives the highest value of EPS as the most profitable financing plan or the most profitable level of EBIT as the case may be.

Limitations of EBIT-EPS Analysis:

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

1. **No Consideration for Risk:**

Leverage increases the level of risk, but this technique ignores the risk factor. When a corporation, on its borrowed capital, earns more than the interest it has to

pay on debt, any financial planning can be accepted irrespective of risk. But in times of poor business the reverse of this situation arises—which attracts high degree of risk. This aspect is not dealt in EBIT-EPS analysis.

2. **Contradictory Results:**

It gives a contradictory result where under different alternative financing plans new equity shares are not taken into consideration. Even the comparison becomes difficult if the number of alternatives increase and sometimes it also gives erroneous result under such situation.

3. **Over-capitalization:**

This analysis cannot determine the state of over-capitalization of a firm. Beyond a certain point, additional capital cannot be employed to produce a return in excess of the payments that must be made for its use. But this aspect is ignored in EBIT-EPS analysis.

Next topic:

Leverage

Leverage refers to the employment of assets or sources of fund bearing fixed payment to magnify EBIT or EPS respectively. So it may be associated with investment activities or financing activities.

According to its association we find mainly two types of leverages:

1. Operating leverage and
2. Financial leverage.

It is to be noted here that these two leverages are not independent of each other; rather they form a part of the whole process. So, we want to know the combined effect of both investment and financing decisions. The combined effect of operating and financial leverage is measured with the help of combined leverage

1. Operating Leverage:

Operating leverage is concerned with the investment activities of the firm. It relates to the incurrence of fixed operating costs in the firm's income stream. The operating cost of a firm is classified into three types: Fixed cost, variable cost and semi-variable or semi-fixed cost. Fixed cost is a contractual cost and is a function of time. So it does not change with the change in sales and is paid regardless of the sales volume.

Variable costs vary directly with the sales revenue. If no sales are made variable costs will be nil. Semi-variable or semi-fixed costs vary partly with sales and remain partly fixed. These change over a range of sales and then remain fixed. In the context of operating leverage, semi-variable or semi-fixed cost is broken down into fixed and variable portions and is merged accordingly with variable or fixed cost. Investment decision goes in favor of employing assets having fixed costs because fixed operating costs can be used as a lever.

With the use of fixed costs, the firm can magnify the effect of change in sales on change in EBIT. Hence the firm's ability to use fixed operating costs to magnify the effects of changes in sales on its earnings before interest and taxes is termed as operating leverage. This leverage relates to variation in sales and profit. Operating leverage is measured by computing the Degree of Operating Leverage (DOL). DOL expresses operating leverage in quantitative terms.

The higher the proportion of fixed operating cost in the cost structure, higher is the degree of operating leverage. The percentage change in the earnings before interest and taxes relative to a given percentage change in sales and output is defined as the DOL.

2. Financial Leverage:

Financial leverage is mainly related to the mix of debt and equity in the capital structure of a firm. It exists due to the existence of fixed financial charges that do not depend on the operating profits of the firm. Various sources from which funds are used in financing of a business can be categorized into funds having fixed financial charges and funds with no fixed financial charges. Debentures, bonds, long-term loans and preference shares are included in the first category and equity shares are included in the second category.

Financing decision goes in favour of employing funds having fixed financial charges because it can be used as a lever. Financial leverage results from the existence of fixed financial charges in the firm's income stream. With the use of fixed financial charges, a firm can magnify the effect of change in EBIT on change in EPS. Hence financial leverage may be defined as the firm's ability to use fixed financial charges to magnify the effects of changes in EBIT on its EPS.

The higher the proportion of fixed charge bearing fund in the capital structure of a firm, higher is the Degree of Financial Leverage (DFL) and vice-versa. Financial leverage is computed by the DFL. DEL expresses financial leverage in quantitative terms. The percentage change in the earning per share to a given percentage changes in earnings before interest and taxes is defined as Degree of Financial Leverage (DFL).

A firm is said to be highly financially leveraged if the proportion of fixed interest bearing securities, i.e. long term debt and preference share capital in the capital

structure is higher in comparison to equity share capital. Like operating leverage, the value of financial leverage must be greater than 1.

3. Combined Leverage:

A firm incurs total fixed charges in the form of fixed operating cost and fixed financial charges. Operating leverage is concerned with operating risk and is expressed quantitatively by DOL. Financial leverage is associated with financial risk and is expressed quantitatively by DFL. Both the leverages are concerned with fixed charges. If we combine these two we will get the total risk of a firm that is associated with total leverage or combined leverage of the firm. Combined leverage is mainly related with the risk of not being able to cover total fixed charges.

The firm's ability to cover the aggregate of fixed operating and financial charges is termed as combined leverage. The percentage change in EPS to a given percentage change in sales is defined as Degree of Combined Leverage (DCL). DCL expresses combined leverage in quantitative terms. The higher the proportion of fixed operating cost and financial charges, higher is the degree of combined leverage. Like other two leverages the value of combined leverage must be greater than 1.

4. Working Capital Leverage:

Investment in working capital has a significant impact on the profitability and risk of a business. A decrease in investment in current assets will lead to an increase in the profitability of the firm and vice versa. This is due to the fact that current assets are less profitable in comparison to fixed assets. Decrease in investment in current assets also increases the volume of risk. Risk and returns are directly related.

Therefore as risk increases, profitability of firm tends to increase. Thus Working Capital Leverage (WCL) may be defined as the ability of the firm to magnify the

effects of change in current assets— assuming current liabilities remain constant— on firm's Return on Investment (ROI).

Unit- 3

Capital Budgeting Decision

capital budgeting includes the process of generating, evaluating, selecting and following- up on capital expenditure alternatives, allocation of financial resources should be made by the firm to its new investment projects in the most efficient manner.

A firm may adopt three types of capital budgeting decisions:

(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.

The time period should be determined in the context of the following major considerations

(a) Type of Industry:

For example, a pharmaceutical firm is to make plans for a shorter period since its equipment's are short-lived whereas a mining firm has to make a plan for a longer period.

(b) General Economic Conditions:

At the time of prosperity, the planning time gets longer whereas, at the time of crisis, the same is shorter.

However, there are some authors who prefer to classify the time—horizon in Investment decisions into two following groups:

(i) Long period:

Which may include a period from 5 to 20 years.

(ii) Short period:

Which is considered for inclusion in the next annual budget period.

Generally, investments in long-term assets require a plan for several years ahead for a number of reasons:

(a) Long-term investment expresses a framework for the future development of the firm which must be visualised in advance;

(b) A long gestation period lies between the time of planning the project and the actual operation of the plant;

(c) Arrangement must be made for required fund from different sources in advance which needs careful planning.

Short-term budgets, on the other hand, may be influenced by the financial resources. Of course, in case of an emergency need, the funds are to be procured/arranged from different sources so that the project may be taken up.

Nature of Capital Budgeting:

Capital budgeting is the process of making investment decisions in capital expenditures. A capital expenditure may be defined as an expenditure the benefits of which are expected to be received over period of time exceeding one year.

The main characteristic of a capital expenditure is that the expenditure is incurred at one point of time whereas benefits of the expenditure are realized at different points of time in future. In simple language we may say that a capital expenditure is an expenditure incurred for acquiring or improving the fixed assets, the benefits of which are expected to be received over a number of years in future.

The following are some of the examples of capital expenditure:

(1) Cost of acquisition of permanent assets as land and building, plant and machinery, goodwill, etc.

(2) Cost of addition, expansion, improvement or alteration in the fixed assets.

(3) Cost of replacement of permanent assets.

(4) Research and development project cost, etc.

Capital expenditure involves non-flexible long-term commitment of funds. Thus, capital expenditure decisions are also called as long term investment decisions. Capital budgeting involves the planning and control of capital expenditure. It is the process of deciding whether or not to commit resources to a particular long term project whose benefits are to be realized over a period of time, longer than one year. Capital budgeting is also known as Investment Decision Making, Capital Expenditure Decisions, Planning Capital Expenditure and Analysis of Capital Expenditure.

Definition:

Charles T. Horngreen has defined capital budgeting as, “Capital budgeting is long term planning for making and financing proposed capital outlays.”

Need and Importance of Capital Budgeting:

Capital budgeting means planning for capital assets.

Capital budgeting decisions are vital to any organisation as they include the decisions as to:

(a) Whether or not funds should be invested in long term projects such as setting of an industry, purchase of plant and machinery etc.

(b) Analyze the proposal for expansion or creating additional capacities.

(c) To decide the replacement of permanent assets such as building and equipment’s.

(d) To make financial analysis of various proposals regarding capital investments so as to choose the best out of many alternative proposals.

The importance of capital budgeting can be well understood from the fact that an unsound investment decision may prove to be fatal to the very existence of the concern.

The need, significance or importance of capital budgeting arises mainly due to the following:

(1) Large Investments:

Capital budgeting decisions, generally, involve 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.

(2) Long-term Commitment of Funds:

Capital expenditure involves not only large amount of funds but also funds for long-term or more or less on permanent basis. The long-term commitment of funds increases the financial risk involved in the investment decision. Greater the risk involved, greater is the need for careful planning of capital expenditure, i.e. Capital budgeting.

(3) Irreversible Nature:

The capital expenditure decisions are 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

(4) 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 affected by the investments in capital assets but also the future growth and profitability of the firm depends upon the investment decision taken today. An unwise decision may prove disastrous and fatal to the very existence of the concern. Capital budgeting is of utmost importance to avoid over investment or under investment in fixed assets.

(5) Difficulties of Investment Decisions:

The long term investment decisions are difficult to be taken because:

(i) Decision extends to a series of years beyond the current accounting period,

(ii) Uncertainties of future and

(iii) Higher degree of risk

(6) National Importance:

Investment decision though taken by individual concern is of national importance because it determines employment, economic activities and economic growth. Thus, we may say that without using capital budgeting techniques a firm may involve itself in a losing project. Proper timing of purchase, replacement, expansion and alternation of assets is essential.

Limitations of Capital Budgeting:

Capital budgeting techniques suffer from the following limitations:

(1) All the techniques of capital budgeting presume that various investment proposals under consideration are mutually exclusive which may not practically be true in some particular circumstances.

(2) The techniques of capital budgeting require estimation of future cash inflows and outflows. The future is always uncertain and the data collected for future may not be exact. Obliviously the results based upon wrong data may not be good.

(3) There are certain factors like morale of the employees, goodwill of the firm, etc., which cannot be correctly quantified but which otherwise substantially influence the capital decision.

(4) Urgency is another limitation in the evaluation of capital investment decisions.

(5) Uncertainty and risk pose the biggest limitation to the techniques of capital budgeting.

Investment Decision

Definition:

The **Investment Decision** relates to the decision made by the investors or the top-level management with respect to the amount of funds to be deployed in the investment opportunities.

Simply, selecting the type of assets in which the funds will be invested by the firm is termed as the investment decision. These assets fall into two categories:

1. **Long Term Assets**
2. **Short-Term Assets**

The decision of investing funds in the long term assets is known as **Capital Budgeting.** Thus, Capital Budgeting is the process of selecting the asset or an investment proposal that will yield returns over a long period.

The first step involved in Capital Budgeting is to select the asset, whether existing or new on the basis of benefits that will be derived from it in the future.

The next step is to analyze the proposal's uncertainty and risk involved in it. Since the benefits are to be accrued in the future, the uncertainty is high with respect to its returns.

Finally, the minimum rate of return is to be set against which the performance of the long-term project can be evaluated.

The investment made in the current assets or short term assets is termed as **Working Capital Management**. The working capital management deals with the management of current assets that are highly liquid in nature.

The investment decision in short-term assets is crucial for an organization as a short term survival is necessary for the long-term success. Through working capital management, a firm tries to maintain a trade-off between the profitability and the liquidity.

In case a firm has an inadequate working capital i.e. less funds invested in the short term assets, then the firm may not be able to pay off its current liabilities and may result in bankruptcy. Or in case the firm has more current assets than required, it can have an adverse effect on the profitability of the firm

Thus, a firm must have an optimum working capital that is necessary for the smooth functioning of its day to day operations

Methods of Capital Budgeting

The following points highlight the three traditional methods for capital budgeting, i.e ,

1. Pay-Back Period Method

2. Improvements of Traditional Approach to Pay Back Period Method

3. Rate of Return Method

Capital Budgeting Method # 1. Pay-Back Period Method:

The 'Pay back' sometimes called as pay out or pay off period method represents the period in which the total investment in permanent assets pays back itself. This method is based on the principle that every capital expenditure pays itself back within a certain period out of the additional earnings generated from the capital assets. Thus, it measures the period of time for the original cost of a project to be recovered from the additional earnings of the project itself.

Under this method, various investments are ranked according to the length of their payback period in such a manner that the investment with a- shorter payback period is preferred to the one which has longer payback period. In case of evaluation of a single project, it is adopted if it pays back for itself within a period specified by the management and if the project does not pay back itself within the period specified by the management then it is rejected.

The pay-back period can be ascertained in the following manner:

(1) Calculate annual net earnings (profits) before depreciation and after taxes; these are called annual cash inflows.

(2) Divide the initial outlay (cost) of the project by the annual cash inflow, where the project generates constant annual cash inflows.

(3) Where the annual cash inflows (Profit before depreciation and after taxes) are unequal, the payback period can be found by adding up the cash inflows until the total is equal to the initial cash outlay of project or original cost of the asset.

Advantages of Pay-Back Period Method:

(1) The main advantage of this method is that it is simple to understand and easy to calculate.

(2) It saves in cost, it requires lesser time and labour as compared to other methods of capital budgeting.

(3) In this method, as a project with a shorter pay-back period is preferred to the one having a longer pay-back period, it reduces the loss through obsolescence and is more suited to the developing countries, like India, which are in the process of development and have quick obsolescence.

(4) Due to its short term approach, this method is particularly suited to a firm which has shortage of cash or whose liquidity position is not particularly good.

Disadvantages of Pay-Back Method:

Though pay-back period method is the simplest, oldest and most frequently used method, it suffers from the following limitations:

(1) It does not take into account the cash inflows earned after the payback period and hence the true profitability of the projects cannot be correctly assessed.

(2) This method ignores the time value of money and does not consider the magnitude and timing of cash inflows. It treats all cash flows as equal though they

occur in different periods. It ignores the fact that cash received today is more important than the same amount of cash received after, say 3 years.

(3) It does not take into consideration the cost of capital which is a very important factor in making sound investment decisions.

(4) It may be difficult to determine the minimum acceptable pay-back period, it is usually, a subjective decision.

(5) It treats each asset individually in isolation with other assets which is not feasible in real practice.

(6) Pay-back period method does not measure the true profitability of the project as the period considered under this method is limited to a short period only and not the full life of the asset.

In spite of the above-mentioned limitations, this method can be used in evaluating the profitability of short term and medium term capital investment proposals.

Capital Budgeting Method # 2. Improvements of Traditional Approach to Pay Back Period Method:

(a) Post Pay-Back Profitability Method:

One of the serious limitations of Pay-back period method is that it does not take into account the cash inflows earned after pay-back period and hence the true profitability of the project cannot be assessed. Hence, an, improvement over this method can be made by taking into account the returns receivable beyond the pay-back period. These returns are called post pay-back profits.

(b) **Pay-back Reciprocal Method:**

Sometimes, Pay -back Reciprocal method is employed to estimate the internal rate of return generated by a project.

However, this method should be used only when the following two conditions are satisfied:

(i) Equal cash inflows are generated every year.

(ii) The project under consideration has a long life which must be at least twice the pay-back period.

(c) Post Pay-back Period Method:

One of the limitations of the pay-back period method is that is it ignores the life of the project beyond the pay-back period. Post Pay-back Period method takes into account the period beyond the pay-back method. This method is also known as Surplus Life over Pay-back method.

According to this method, the project which gives the greatest post pay-back period may be accepted. The method can be employed successfully where the various projects under consideration do not differ significantly as to their size and the expected cash inflows are even throughout the life of the project.

(d) Discounted Pay- back Method:

Another serious limitation of the pay-back period method is that it ignores the time value of money. Hence, an improvement over this method can be made by employing the discounted pay-back period method. Under this method the present values of all cash outflows and inflows are computed at an appropriate discount rate. The present values of all inflows are cumulated in order of time.

The time period at which the cumulated present value of cash inflows equals the present value of cash outflows is known as discounted pay-back period. The project which gives a shorter discounted pay-back period is accepted.

Capital Budgeting Method # 3. Rate of Return Method:

This method takes into account the earnings expected from the investment over their whole life. It is known as Accounting Rate of Return method for the reason that under this method, the Accounting concept of profit (net profit after tax and depreciation) is used rather than cash inflows.

According to this method, various projects are ranked in order of the rate of earnings or rate of return. The project with the higher rate of return is selected as compared to the one with lower rate of return. This method can also be used to make decision as to accepting or rejecting a proposal. The expected return is determined and the project which has a higher rate of return than the minimum rate specified by the firm called the cut off rate is accepted and the one which gives a lower expected rate of return than the minimum rate is rejected.

The return on investment method can be used in several ways as follows:

(a) **Average Rate of Return Method:**

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.

(b) **Return per unit of Investment Method:**

This method is small variation of the average rate of return method. In this method the total profit after tax and depreciation is dividend by the total investment,

(c) Return on Average Investment Method:

In this method the return on average investment is calculated. Using of average investment for the purpose of return on investment is preferred because the original investment is recovered over the life of the asset on account of depreciation charges.

Advantages of Rate of Return Method:

(1) It is very simple to understand and easy to operate.

(2) It uses the entire earnings of a project in calculating rate of return and not only the earnings up to pay-back period and hence gives a better view of profitability as compared to pay-back period method.

(3) As this method is based upon accounting concept of profits, it can be readily calculated from the financial data.

Disadvantages of Rate of Return Method:

(1) This method also like pay-back period method ignores the time value of money as the profits earned at different points of time are given equal weight by averaging the profits. It ignores the fact that a rupee earned today is of more value than a rupee earned an year after, or so.

(2) It does not take into consideration the cash flows which are more important than the accounting profits.

(3) This method cannot be applied to a situation where investment in a project is to be made in parts.

Discounted Methods of Capital Budgeting

The following points highlight the three time-adjusted or discounted methods of capital budgeting, i.e., 1. Net Present Value Method

2. Internal Rate of Return Method

3. Profitability Index Method

4. Terminal Value Method.

Capital Budgeting Discounted Method # 1. Net Present Value Method:

The net present value method is a modern method of evaluating investment proposals. This method takes into consideration the time value of money and attempts to calculate the return on investments by introducing the factor of time element. It recognizes the fact that a rupee earned today is worth more than the same rupee earned tomorrow.

The net present values of all inflows and outflows of cash occurring during the entire life of the project is determined separately for each year by discounting these flows by the firm's cost of capital or a pre-determined rate.

Steps to Be Followed for Adopting Net Present Value Method:

The following are necessary steps to be followed for adopting the net present value method of evaluating investment proposals:

(i) First of all determine an appropriate rate of interest that should be selected as the minimum required rate of return called 'cut -off rate or discount rate. The rate should be a minimum rate of return below which the investor considers that it does not pay him to invest. The discount rate should be either the actual rate of interest in the market on long-term loans or it should reflect the opportunity cost of capital of the investor.

(ii) Compute the present value of total investment outlay, i.e. cash outflows at the determined discount rate. If the total investment is to be made in the initial year, the present value shall be the same as the cost of investment.

(iii) Compute the present values of total investment proceeds, i.e., cash inflows, (profit before depreciation and after tax) at the above determined discount rate.

(iv) Calculate the net present value of each project by subtracting the present value of cash inflows from the present value of cash outflows for each project.

(v) If the net present value is positive or zero, i.e, when present value of cash inflows either exceeds or is equal to the present values of cash outflows, the proposal may be accepted. But in case the present value of inflows is less than the present value of cash outflows, the proposal should be rejected.

(vi) To select between mutually exclusive projects, projects should be ranked in order of net present values, i.e. the first preference should be given to the project having the maximum positive net present value.

Merits of the Net Present Value Method:

The advantages of the net present value method of evaluating investment proposals are as follows:

(1) It recognizes the time value of money and is suitable to be applied in a situation with uniform cash outflows and uneven cash inflows or cash flows at different periods of time.

(2) It takes into account the earnings over the entire life of the project and the true profitability of the investment proposal can be evaluated.

(3) It takes into consideration the objective of maximum profitability.

Demerits of the Net Present Value Method:

The net present value method suffers from the following limitations:

(1) As compared to the traditional methods, the net present value method is more difficult to understand and operate.

(2) It may not give good results while comparing projects with unequal lives as the project having higher net present value but realized in a longer life span may not be as desirable as a project having something lesser net present value achieved in a much shorter span of life of the asset.

(3) In the same way as above, it may not give good results while comparing projects with unequal investment of funds.

(4) It is not easy to determine an appropriate discount rate.

Capital Budgeting Discounted Method # 2. Internal Rate of Return Method:

The internal rate of return method is also a modern technique of capital budgeting that takes into account the time value of money. It is also known as 'time adjusted rate of return' discounted cash flow' 'discounted rate of return,' 'yield method,' and 'trial and error yield method'.

In the net present value method the net present value is determined by discounting the future cash flows of a project at a predetermined or specified rate called the cut-off rate. But under the internal rate of return method, the cash flows of a project are discounted at a suitable rate by hit and trial method, which equates the net present value so calculated to the amount of the investment.

Under this method, since the discount rate is determined internally, this method is called as the internal rate of return method. The internal rate of return can be defined as that rate of discount at which the present value of cash-inflows is equal to the present value of cash outflows.

The following steps are required to practice the internal rate of return method:

(1) Determine the future net cash flows during the entire economic life of the project. The cash inflows are estimated for future profits before depreciation but after taxes.

(2) Determine the rate of discount at which the value of cash inflows is equal to the present value of cash outflows. This may be determined as explained after step (4).

(3) Accept the proposal if the internal rate of return is higher than or equal to the minimum required rate of return, i.e. the cost of capital or cut off rate and reject the proposal if the internal rate o return is lower than the cost of cut-off rate.

(4) In case of alternative proposals select the proposal with the highest rate of return as long as the rates are higher than the cost of capital or cut-off-rate.

Determination of Internal Rate of Return (IRR):

(a) When the annual net cash flows are equal over the life of the asset:

Firstly, find out present value factor by dividing initial outlay (cost of the investment) by annual cash flow, i.e.,

(b) When the annual cash flows are unequal over the life of the asset:

In case annual cash flows are unequal over the life of the asset, the internal rate of return cannot be determined according to the technique suggested above. In such cases, the internal rate of return is calculated by hit and trial and that is why this method is also known as hit and trial yield method.

We may start with any assumed discount rate and find out the total present value of cash outflows which is equal to the cost of the initial investment where total investment is to be made in the beginning. The rate, at which the total present

value of all cash inflows equals the initial outlay, is the internal rate of return. Several discount rates may have to be tried until the appropriate rate is found.

The calculation process may be summed up as follows:

(i) Prepare the cash flow table using an arbitrary assumed discount rate to discount the net cash flows to the present value.

(ii) Find out the Net Present Value by deducting from the present value of total cash flows calculated in (i) above the initial cost of the investment.

(iii) If the Net Present Value (NPV) is positive, apply higher rate of discount.

(iv) If the higher discount rate still gives a positive net present value, increase the discount rate further until the NPV becomes negative.

(v) If the NPV is negative at this higher rate, the internal rate of return must be between these two rates:

Advantages of Internal Rate of Return Method

The internal rate of return method has the following advantages:

(i) Like the net present value method, it takes into account the time value of money and can be usefully applied in situations with even as well as un even cash flow at different periods of time.

(ii) It considers the profitability of the project for its entire economic life and hence enables evaluation of true profitability.

(iii) The determination of cost of capital is not a pre-requisite for the use of this method and hence it is better than net present value method where the cost of capital cannot be determined easily.

(iv) It provides for uniform ranking of various proposals due to the percentage rate of return.

(v) This method is also compatible with the objective of maximum profitability and is considered to be a more reliable technique of capital budgeting.

Disadvantages of Internal Rate of Return Method:

In-spite of so many advantages, it suffers from the following drawbacks:

(i) It is difficult to understand and is the most difficult method of evaluation of investment proposals.

(ii) This method is based upon the assumption that the earnings are reinvested at the internal rate of return for the remaining life of the project, which is not a justified assumption particularly when the average rate of return earned by the firm is not close to the internal rate of return. In this sense, Net Present Value method seems to be better as it assumes that the earnings are reinvested at the rate of firm's cost of capital.

(iii) The results of NPV method and IRR method may differ when the projects under evaluation differ in their size, life and timings of cash flows.

Capital Budgeting Discounted Method # 3. Profitability Index Method:

It is also a time -adjusted method of evaluating the investment proposals. Profitability index also called as Benefit-Cost Ratio (B/C) or 'Desirability factor' is the relationship between present value of cash inflows and the present value of cash outflows.

The net profitability index can also be found as Profitability Index (gross)minus one. The proposal is accepted if the profitability index is more than one and is rejected in case the profitability index is less than one. The various projects are ranked under this method in order of their profitability index, in such a manner that one with higher profitability index is ranked higher than the other with lower profitability index.

Advantages and Disadvantages of Profitability Index Method:

The method is a slight modification of the Net Present Value Method. The net present value method has one major drawback that it is not easy to rank projects on the basis of this method particularly when the costs of the projects differ significantly. To evaluate such projects, the profitability index method is most suitable. The other advantages and disadvantages of this method are the same as those of net present value method.

Capital Rationing

Meaning of Capital Rationing:

Capital rationing is a situation where a constraint or budget ceiling is placed on the total size of capital expenditures during a particular period. Often firms draw up their capital budget under the assumption that the availability of financial resources is limited.

Capital rationing refers to the selection of the investment proposals in a situation of constraint on availability of capital funds, to maximize the wealth of the company by selecting those projects which will maximize overall NPV of the concern.

In capital rationing situation a company may have to forego some of the projects whose IRR is above the overall cost of the firm due to ceiling on budget allocation for the projects which are eligible for capital investment. Capital rationing refers to a situation where a company cannot undertake all positive NPV projects it has identified because of shortage of capital.

Under this situation, a decision maker is compelled to reject some of the viable projects having positive net present value because of shortage of funds. It is known as a situation involving capital rationing.

In terms of financing investment projects, the following important questions are to be answered:

(i) What would be the requirement of funds for capital investment decisions in the forthcoming planning period?

(ii) How much quantum of funds available for capital investment?

(iii) How to assign the available funds to the acceptable proposals which require more funds than are available?

The answers to the first and second questions are given with reference to the capital investment appraisal decisions made by the top management. The third question is answered with specific reference to the appraisal of investment decisions from the angle of capital rationing.

Factors Leading to Capital Rationing:

Two different types of capital rationing situation can be identified, distinguished by the source of the capital expenditure constraint.

i. External Factors:

Capital rationing may arise due to external factors like imperfections of capital market or deficiencies in market information which might have for the availability of capital.

Generally, either the capital market itself or the Government will not supply unlimited amounts of investment capital to a company, even though the company has identified investment opportunities which would be able to produce the required return. Because of these imperfections the firm may not get necessary amount of capital funds to carry out all the profitable projects.

ii. Internal Factors:

Capital rationing is also caused by internal factors which are as follows:

(i) Reluctance to take resort to financing by external equities in order to avoid assumption of further risk.

(ii) Reluctance to broaden the equity share base for fear of losing control.

(iii) Reluctance to accept some viable projects because of its inability to manage the firm in the scale of operation resulting from inclusion of all the viable projects.

The level of capital budget will tend to depend on the quality of investment proposals submitted to top management; in addition it will also tend to depend on the following factors:

(a) Top management philosophy towards capital spending.

(b) The outlook for future investment opportunities that may be unavailable if extensive current commitments are undertaken.

(c) The funds provided by current operations.

(d) The feasibility of acquiring additional capital through borrowing or share issues. Under capital rationing, the management has to determine not only the profitable investment opportunities but also decide to obtain that combination of the profitable projects which yields highest NPV within the available funds by ranking them according to their relative profitability. Theoretically, projects should be undertaken to the point where the return is just equal to the cost of financing these projects.

If safety and the maintaining of, say, family control is considered to be more important than additional profits, there may be a marked unwillingness to engage in external financing, and hence a limit will be placed on the amounts available for investment. Even though the enterprise may wish to raise external finance for its investment program, there are many reasons why it may be unable to do this.

Examples include:

(a) The enterprise's past record and its present capital structure may make it impossible or extremely costly to raise additional debt capital.

(b) Its record may make it impossible to raise new equity capital because of low yields or even no yield.

(c) Covenants in existing loan agreements may restrict future borrowing. Furthermore, in the typical company; one would expect capital rationing to be largely self- imposed.

Benefit Cost Ratio

The Benefit Cost Ratio (BCR), also referred to as Benefit-to-Cost Ratio is an indicator that is typically used within a cost benefit analysis. In project management, the benefit cost ratio can support the cost-benefit analysis of a business case.

Definition and Meaning of Benefit Cost Ratio

The benefit cost ratio (or benefit-to-cost ratio) compares the present value of all benefits with that of the cost and investments of a project or investment. These benefits and costs are treated as monetary cash flows or their equivalents.
Its meaning depends on the value it is indicating

What Does a BCR < 1 Indicate?

The present value of the benefits in a series of cash flows is lower than the present value of the corresponding costs. The lower the BCR, the higher the excess of discounted costs compared to the discounted benefits.
In general, pursuing investments with a negative BCR is not recommended. The same holds basically true for different project options.
However, there are certain types of projects that need to be conducted even if they are not generating sufficient tangible or quantifiable benefits to cover the costs, e.g. the implementation of regulatory or legal requirements. In these cases, the option with the highest BCR (yet below 1) may be the least unprofitable implementation scenario.

What Is the Meaning of a BCR = 1?

The present value of benefits of a series of cash flows equals the likewise discounted costs. This situation is obviously more preferable than options with a BCR lower than 1. However, if there are alternatives with a benefit-to-cost ratio exceeding 1, they are likely to be favored.

How Is a BCR > 1 Interpreted?

This value range indicates that the discounted benefits exceed the present value of the costs and investments. The general rule is that the higher the BCR the greater the profit an investment option or project is expected to generate.

Apart from the benefit cost ratio, there are other important quantitative and qualitative considerations though – in reality, a project or investment decision is based on a number of different criteria rather than relying on the BCR only.

Advantages and Disadvantages of the Benefit-to-Cost Ratio

Pros

- The BCR translates the absolute amounts of benefits and costs into a ratio
- It facilitates the comparison of different investment or project alternatives
- The ratio helps interpret the 'inherent riskiness' of forecasted net cash flows and profitability, e.g. in cases where small profit margins are prone to a higher risk while large margins offer a buffer for price adjustments
- It considers the value of cash flows in relation to the time of their occurrence

Cons

- The BCR alone does not indicate the liquidity / funding aspects of the analyzed options, e.g. an option may require large investments and expenses in earlier periods while producing returns in far later

- It is subject to various assumptions for the discount rate, residual value and cash flow forecast. These assumptions can significantly impact the outcome of a benefit cost analysis without considering the inherent insecurities of these parameters

Next topic

Dividend Policy:

Dividend may be defined as divisible profit which is distributed amongst the members of a company in proportion to their shares in such a manner as is prescribed by the Memorandum and Articles of Association of a company. It is the share of profits of a company divided amongst its shareholders.

In other words, it is a return that a shareholder gets from the company which is distributed out of its profits on his shareholdings, i.e., dividend is a distribution to shareholders out of profits or reserves available for this purpose.

Determinants of Dividend Policy

The declaration of dividends involves some legal as well as financial considerations. From the point of legal considerations, the basic rule is that dividend can only be paid out profits without the impairment of capital in any way. But the various financial considerations present a difficult situation to the management for coming to a decision regarding dividend distribution.

These considerations are discussed below:

(i) Type of Industry:

Industries that are characterized by stability of earnings may formulate a more consistent policy as to dividends than those having an uneven flow of income. For example, public utilities concerns are in a much better position to adopt a relatively fixed dividend rate than the industrial concerns.

(ii) Age of Corporation:

Newly established enterprises require most of their earning for plant improvement and expansion, while old companies which have attained a longer earning experience, can formulate clear cut dividend policies and may even be liberal in the distribution of dividends.

(iii) Extent of share distribution:

A closely held company is likely to get consent of the shareholders for the suspension of dividends or for following a conservative dividend policy. But a company with a large number of shareholders widely scattered would face a great difficulty in securing such assent. Reduction in dividends can be affected but not without the co-operation of shareholders.

(iv) Need for additional Capital:

The extent to which the profits are ploughed back into the business has got a considerable influence on the dividend policy. The income may be conserved for meeting the increased requirements of working capital or future expansion.

(v) Business Cycles:

During the boom, prudent corporate management creates good reserves for facing the crisis which follows the inflationary period. Higher rates of dividend are used as a tool for marketing the securities in an otherwise depressed market.

(vi) Changes in Government Policies:

Sometimes government limits the rate of dividend declared by companies in a particular industry or in all spheres of business activity. The Government put temporary restrictions on payment of dividends by companies in July 1974 by making amendment in the Indian Companies Act, 1956. The restrictions were removed in 1975.

(vii) Trends of profits:

The past trend of the company's profit should be thoroughly examined to find out the average earning position of the company. The average earnings should be subjected to the trends of general economic conditions. If depression is approaching, only a conservative dividend policy can be regarded as prudent.

(viii) Taxation policy:

Corporate taxes affect dividends directly and indirectly— directly, in as much as they reduce the residual profits after tax available for shareholders and indirectly, as the distribution of dividends beyond a certain limit is itself subject to tax. At present, the amount of dividend declared is tax free in the hands of shareholders.

(ix) Future Requirements:

Accumulation of profits becomes necessary to provide against contingencies (or hazards) of the business, to finance future- expansion of the business and to modernize or replace equipments of the enterprise. The conflicting claims of dividends and accumulations should be equitably settled by the management.

(x) Cash Balance:

If the working capital of the company is small liberal policy of cash dividend cannot be adopted. Dividend has to take the form of bonus shares issued to the members in lieu of cash payment.

Legal rules governing payment of dividends:

It is illegal to pay a dividend, if after its payment; the capital would be impaired (reduced). This requirement might be met if only capital surplus existed. An upward revaluation of assets, however, would create a capital surplus, but at the same time might operate as a fraud on creditors and for that reason is illegal.

Basically the dividend laws were intended to protect creditors and therefore prohibit payment of a dividend if a corporation is insolvent or if the dividend payment will cause insolvency.

The corporate laws must be taken into consideration by the directors before they declare a dividend. The company can postpone the distribution of dividend in cash, which may be conserved for strengthening the financial condition of the company by declaring stock dividend or bonus shares.

To sum up, the decision with regard to dividend policy rests on the judgment of the management, since it is not a contractual obligation like interest. The formulation

of dividend policy requires a balanced financial judgment by judiciously weighting the different factors affecting the policy.

Stock dividend or bonus shares:

A stock dividend is a distribution of additional shares of stock to existing shareholders on a pro-rata basis i.e. so much stock for each share of stock held. Thus, a 10% stock dividend would give a holder additional 10 shares, whereas a 250% stock dividend would give him 250 additional shares. A stock dividend has no immediate effect upon assets.

It results in a transfer of an amount from the accumulated earnings or surplus account to the share capital account. In other words, the reserves are capitalized and their ownership is formally transferred to the shareholders.

The equity of the shareholders in the corporation increases. Stock dividends do not alter the cash position of the company. They serve to commit the retained earnings to the business as a part of its fixed capitalization.

Reasons for declaring a stock dividend:

Two principal reasons which usually actuate the directors to declare a stock dividend are:

(1) They consider it advisable to reduce the market value of the stock and thereby facilitate a broader distribution of ownership.

(2) The corporation may have earnings but may find it inadvisable to pay cash dividends. The declaration of a stock dividend will give the stock holders evidence of the increase in their investment without interfering with the company's cash position. If the stock holders prefer cash to additional stock in the company, they can sell the stock received as dividend.

Sometimes, a stock dividend is declared to protect the interests of old stock holders when a company is about to sell a new issue of stock (so that new shareholders should not share the accumulated surplus).

Limitations of stock dividends:

The bonus shares entail an increase in the capitalization of the corporation and this can only be justified by a proportionate increase in the earning capacity of the corporation. Young companies with uncertain earnings or companies with fluctuating income are likely to take great risk by distribution stock dividends.

Every stock dividend carries an implied promise that future cash dividends will be maintained at a steady level because of the permanent capitalization of reserves. Unless the corporate management has reasonable grounds of entertaining this hope, the wisdom of large stock dividend is always subject to grave suspicion.

The existence of legal sanction for distributing the accumulated earnings or reserves does not warrant the issue of stock dividends from the point of view of sound financial practice.

Types of Dividend Policies Adopted by a Firm

Dividend Policy # 1. Stable Dividend Policy:

When a firm constantly pays a fixed amount of dividends and maintains it for all the times to come regardless of fluctuations in the level of its earnings, it is said to have pursued a relatively stable dividend policy. In such a policy, stockholders are assured of fixed dividends per share.

During periods of prosperity the firm withholds all extra-ordinary income of the business to use it to maintain dividend amount during lean years. Stability of

dividend policy does not mean stagnation in dividend pay-out ratio. In fact, slow but steady change is the prime feature of stable dividend policy.

When the firm's earnings tend to rise regularly and the management feels satisfied that increased earnings are sustainable and permanent, amount of dividend per share is increased. Likewise, dividend will not be allowed to decline in correspondence with a fall in business earnings until it is felt that the firm will not be able to recover from the setback.

In actual practice, most of the companies follow stable dividend policy because of the following reasons:

1. Firms regularly paying dividends at a fixed rate have always high credit standing in the market. They can raise as much funds as they like from the market because of widespread demand of their shares.

2. Stable dividend policy fosters a rise in share values. Investors generally pay higher premium to shares promising a certainty of dividend income than to those with fluctuating dividends because of risks inherent in the latter. Those who derive their regular income from dividend would always prefer to hold such shares as assure certainty of dividend.

3. Since dividends communicate information to investors about a firm's profitability and managerial efficiency, naturally firm pursuing stable dividend policy enjoys a great confidence of shareholders. This may be immensely useful in fund raising activity of the firm and will also give boost to the morale of the management.

4. Firm with stable policy can very easily formulate long-term financial planning because the finance manager can in that case correctly estimate future supply and demand of capital in the firm.

However, in designing stable dividend policy finance manager should see that dividend pay-out ratio is not fixed at a level that the firm may subsequently find it difficult to sustain. It would be worthwhile to keep in mind future earning power of the firm while determining dividend rate.

Stability in level of earnings indeed is a basic condition for pursuing this policy. Firms with erratic fluctuations in level of earnings may find it extremely difficult to follow stable dividend policy. Public utility concerns and others manufacturing staple products of daily consumption generally follow this policy because of relatively less variations in their earnings.

Dividend Policy # 2. Policy of no Immediate Dividend:

Very often management may decide to declare no dividend despite large earnings of the firm.

This policy is generally pursued in the following circumstances:

1. A new and rapidly growing concern which needs tidy amount of funds to finance the expansion programmers.
2. When the firm's access to capital market is difficult or when availability of funds is costlier.
3. Where shareholders have agreed to accept higher return in future or they have strong preference for long-term capital gains as opposed to short-term dividend income.

Policy of no immediate dividends should be followed by issue of bonus shares so that the firm's capital increases and amount of reserves and surplus is reduced or the firm's stock should be split into small lots so as to keep dividend per share low while providing large dividend amounts to stockholders.

This course of action would be necessary to keep share prices within limits. Detailed account of significance of stock dividends has been given under the heading stock dividends.

Dividend Policy # 3. Policy of Regular Extra Dividends:

Firms following regular dividend policy pay out dividends constantly to stockholders at constant rate and do not change the pay-out ratio unless it is believed that changes in earnings are permanent. When profits of the firm swell, management may decide to distribute a part of the increased earnings as extra dividend instead of increasing regular dividend pay-out ratio.

Extra dividends are declared only in the year when the earnings exceed the annual dividend requirement by some given amount. Whether or not the extra dividends will be declared depends on a number of factors, among which the important ones are expected funds requirements, the desired level of liquidity, and expectations about future earning levels.

Such a policy gives impression to the stockholders that extra dividends have been paid because the firm has made extra ordinary earnings which will be skipped subsequently when business earnings will drop to normal level. With this policy, the firm's credit standing and so its share values are not likely to be adversely affected with omission of extra dividends in future.

However, a firm following the policy of regular and extra dividends year after year may give a wrong impression among the stockholders who may treat extra dividends as part of regular dividends with the result that they may react very strongly to omission of extra dividends in future when earnings of the firm do not warrant distribution of such dividends and firm may lose confidence of stockholders and its credit standing in the market.

It is, therefore, pertinent for the management to make it crystal clear in policy announcement that a regular dividend rate will be paid under normal circumstances with the possibility of extra dividends only when earnings power and other conditions warrant.

Further, to distinguish between regular and extra dividends, they should be clearly labelled to that effect. Bigger companies have been found assigning different numbers to regular and extra dividends.

It is only when extraordinary earnings become a permanent feature and management feels that increased earnings will support an increase in dividend rate permanently that extra dividends become a part of regular dividend and dividend rate is raised accordingly.

Dividend Policy # 4. Policy of Regular Stock Dividends:

Firm pursuing this policy pays dividends in stock instead of cash. Stocks to pay dividends are designated as ‘bonus shares’ which are very frequently used to capitalize reinvested earnings of the firm. Issue of bonus shares does not at all affect liquidity position of the firm; it increases, indeed, the share holding of residual owners but not their equity in the firm.

Such a policy is generally followed under the following circumstances:

(1) When the firm needs cash generated by earnings to cover its modernization and expansion programmers.

(2) When the firm is deficient of cash despite high earnings. This is particularly true if the firm's sales were affected through credit and entire sale proceeds are tied in receivables.

It may be noted that it may be dangerous to pursue the policy of stock dividend regularly for a long period of time because in that case earnings per share will decline sharply, value of shares tends to plumb and credit standing of the firm receives big jolt.

Besides, stockholders cannot remain satisfied with receiving dividends in stocks. They may cry for cash dividends after some time and may even force the management to change.

Dividend Policy # 5. Policy to Pay Irregular Dividends:

Firm following this policy does not pay out fixed amount of dividend per share. Instead, dividend per share is varied in correspondence with change in earning level; larger the earnings means higher the dividend and the vice-versa. This policy is based on management's belief that shareholders are entitled to dividend only when earning and liquidity position of the firm warrant.

Generally, this policy is adopted by firms with unstable earnings. Firms with fluctuating investment opportunities may find this policy useful. A large part of profits may be ploughed back in the year when a firm has number of highly profitable investment opportunities.

In the subsequent year, when the firm will have no or limited investment opportunities to seize, the management may distribute larger portion of earnings which would otherwise have remained unutilized.

Types of Dividend Issued by a Company

Dividend Type # 1. Cash Dividends:

Cash dividends are, by far, the most popular form of dividend. In cash dividends, stockholders receive checks for the amounts due to them. Cash generated by business earnings is used to pay cash dividends. Sometimes, the firm may issue additional stock to use proceeds so derived to pay cash dividends or bank may be approached for the purpose. Generally, stockholders have strong preference for cash dividends.

Dividend Type # 2. Stock Dividends:

Stock dividends rank next to cash dividends in respect of their popularity. In this form of dividends, the firm issues additional shares of its own stock to the stockholders in proportion to the number of shares held in lieu of cash dividends. The payment of stock dividends does not affect cash and earning position of the firm nor is ownership of stockholders changed.

Indeed there will be transfer of the amount of dividend from the surplus account to the capital stock account which amount to capitalization of retained earnings. The net effect of this would be an increase in number of shares of the current stockholders but there will be no change in their total equity.

With payment of stock dividends the stock-holders have simply more shares of stock to represent the same interest as it was before issuing stock dividends. Thus, there will be merely an adjustment in the firm's capital structure in terms of both the book value and the market price of the common stock.

Guidelines on Stock Dividends:

While announcing stock dividends, the management must keep in mind legal provisions regarding the distribution of such dividends and also guidelines

prescribed by the controller of capital issues in respect thereof Section 205 (i) of the Companies Act, 1956, as amended from time to time, lays down certain guidelines which must be complied with while distributing stock dividends.

These are:

(1) Articles of association must permit issue of bonus shares.

(2) Sufficient undistributed profits must be present.

(3) A resolution capitalizing profits must have been passed by the Board of Directors.

(4) The resolution of the Board of Directors must be approved by the stockholders in a general meeting.

(5) The bonus issue is permitted to be made out of free reserves built out of genuine profits or share premium collected in cash only.

(6) Reserves created by revaluation of fixed assets are not permitted to be capitalized.

(7) Development rebate reserve is considered as free reserve for the purpose of calculation of residual reserves and is also allowed to be capitalized.

(8) The residual reserves after the proposed capitalization should be at least 40% of the increased paid-up capital.

(9) Thirty percent of the average profits before tax of the company for the previous three years should yield a rate of dividend on the expanded capital base of the company at 10%.

(10) Declaration of bonus issues in lieu of dividend is not allowed.

(11) The company should make a further application for an issue of bonus shares only after 24 months have elapsed from the date of sanction by the Government of an earlier bonus issue by the Company.

(12) Bonus issues are not permitted unless the partly paid shares, if any, are made fully paid-up.

(13) Companies defaulting in payment to any public financial institution will have to produce a no objection letter from it before issuing bonus shares.
(14) The amount of reserves to be capitalized by issuing bonus shares should not exceed the total amount of the paid-up capital of the company.

SEBI Guidelines:

(i) Issue of bonus shares after any public/rights issue is subject to the conditions that no bonus issue shall be made which will dilute the value or rights of the holders of debenture, convertible fully or partly.
In other words, no company shall, pending conversation of FCDs/PCDs, issue any shares by way of bonus unless similar benefit is extended to the holders of such FCDs/PCDs, through reservation of shares in proportion to such convertible part of FCDs or PCsD. The shares so reserved may be issued at the time of conversion of such debentures on the same terms on which the bonus shares were made.

(ii) Bonus share is made out of free reserves built out of the genuine profits or share premium collected in cash only.

(iii) Reserves created by revolution are not capitalized.

(iv) The declaration of bonus issue in lien of dividend is not made.

(v) The bonus issue is not made unless the partly paid up shares, if any, are made fully paid-up.
(vi) The Company:

(a) Has not defaulted in payment of interest or principal in respect of fixed deposits and interest on existing debentures or principal on redemption thereof, and
(b) Has sufficient reason to believe that it has not defaulted in respect of the payment of statutory dues of the employees such as contribution to provident fund, gratuity, bonus, etc.

(vii) A company which announces its bonus issue after the approval of the Board of Directors must implement the proposals within a period of six months from the date of such approval and shall not have the option of changing the decision.

(viii) There should be a provision in the Articles of Association of the company for capitalisation of reserves, etc and if not, the company shall pass a resolution at its General Body Meeting making provisions in the Articles of Association for capitalisation.

(ix) Consequent to the issue of bonus shares if the subscribed and paid-up capital exceeds the authorised share capital, a resolution shall be passed by the company at its General Body Meeting for increasing the authorised capital.

Dividend Type # 3. Scrip Dividend:

Scrip dividend means payment of dividend in scrip or promissory notes. Sometimes companies need cash generated by business earnings to meet business requirements or withhold the payment of cash dividend because of temporary shortage of cash.
In such cases the company may issue scrip or notes promising to pay dividend at a future date. The scrip usually bears a definite date of maturity. Sometimes maturity date is not stipulated and its payment is left to the discretion of Board of Directors.

Scrip may be interest bearing or non-interest bearing. Such dividends are relatively scarce.

Issue of scrip dividends is justified in the following circumstances:

(i) When a company has sufficiently large earnings to distribute dividends but cash position is temporarily tight because bulk of the sale proceeds tied in receivables for time being will be released very shortly, the management may issue certificates to stockholders promising them to pay dividend in near future.

(ii) When a company wants to maintain an established dividend record without paying out cash immediately, the management may take recourse to scrip dividend.

(iii) When the management believes that stock dividend will not be useful because future earnings of the company will not increase sufficiently to maintain dividend rate on increased shareholding, issue of promissory notes to pay dividends in future would be a wise step.

(iv) When the company does not wish to borrow to cover its dividend. The danger lies in their use as a sop to stockholders when business earnings are inadequate to cover dividend payments. Such kind of dividend is not in existence in India.

Dividend Type # 4. Bond Dividend:

As in scrip dividends, dividends are not paid immediately in bond-dividends; instead company promises to pay dividends at future date and to that effect issues bonds to stockholders in place of cash. The purpose of both bond and scrip dividends is alike, i.e. postponement of dividend payment.

Difference between the two is in respect of date of payment and their effect is the same. Both result in lessening of surplus and in addition to the liability of the firm.

The only difference between bond and scrip dividends is that the former carries longer maturity date than the latter.

Thus, while issue of bond-dividend increases long-term obligation of the Company, current liability increases as consequence of issue of scrip dividends. In bond dividends stockholders have stronger claim against the company as compared to scrip dividends.

Bonds used to pay dividends always carry interest. This means that company assumes fixed obligation of interest payments annually on principal amount of bond at the maturity date. It should be remembered that the company is assuming this obligation in return of nothing except credit for declaring the dividend.

How far the company will be able to meet this obligation in future is also difficult to predict at the time of issue of bonds.

Management should, therefore, balance cost of issuing bond dividends against benefits resulting from them (benefit of the bond dividend lies in postponement of dividend for a distant date) before deciding about distribution of dividends in the form of bonds. Bond dividends are not vogue in India.

Dividend Type # 5. Property Dividends:

In property dividends, Company pays dividends in the form of assets other than cash. Generally, assets that are superfluous for the Company are distributed as dividends to stock-holders. Sometime, a Company may use its products to pay dividends. Securities of subsidiaries owned by the Company may also take the form of property dividends. This form of dividend is not vogue in India.

Theories of Dividend:

Walter's model, Gordon's model and Modigliani and Miller's Hypothesis

Some of the major different theories of dividend in financial management are as follows:

1. Walter's model

2. Gordon's model

3. Modigliani and Miller's hypothesis.

1. **Walter's model:**

As per this model, the investment decisions and dividend decisions of a firm are inter related.

1.A firm should retain its earnings if the return on investment exceeds the cost of capital. Such firms are called Growth Firms (r > Ke). Such firms should have zero pay-out and should re-invest their entire earnings.

2. On the other hand, a firm should distribute its earnings to the shareholder if the internal rate of return is less than the cost of capital (r < Ke). Such firms are called declining firms. Such firms should distribute the entire profits i.e. 100 per cent pay-out ratio.

3. Firms with internal rate of return equal to the cost of capital (r = Ke) are called Normal Firms. In such firms, the shareholders will be indifferent whether the firm pays dividends or retain the profits.

Walter's model is based on the following assumptions:

1. The firm finances all investment through retained earnings; that is debt or new equity is not issued;

2. The firm's internal rate of return (r), and its cost of capital (k) are constant;

3. All earnings are either distributed as dividend or reinvested internally immediately.

4. Beginning earnings and dividends never change. The values of the earnings pershare (E), and the divided per share (D) may be changed in the model to

determine results, but any given values of E and D are assumed to remain constant forever in determining a given value.

5. The firm has a very long or infinite life.

Walter's formula to determine the market price per share (P) is as follows:

$P = D/K + r(E-D)/K/K$

Criticism:

Walter's model is quite useful to show the effects of dividend policy on an all equity firm under different assumptions about the rate of return. However, the simplified nature of the model can lead to conclusions which are net true in general, though true for Walter's model.

The criticisms on the model are as follows:

1. Walter's model of share valuation mixes dividend policy with investment policy of the firm. The model assumes that the investment opportunities of the firm are financed by retained earnings only and no external financing debt or equity is used for the purpose when such a situation exists either the firm's investment or its dividend policy or both will be sub-optimum. The wealth of the owners will maximise only when this optimum investment in made.

2. Walter's model is based on the assumption that r is constant. This reflects the assumption that the most profitable investments are made first and then the poorer investments are made.

The firm should step at a point where r = k. This is clearly an erroneous policy and fall to optimise the wealth of the owners.

3. A firm's cost of capital or discount rate, K, does not remain constant; it changes directly with the firm's risk. Thus, the present value of the firm's income moves inversely with the cost of capital. By assuming that the discount rate, K is constant, Walter's model abstracts from the effect of risk on the value of the firm.

2. Gordon's Model:

One very popular model explicitly relating the market value of the firm to dividend policy is developed by Myron Gordon.

Assumptions:

Gordon's model is based on the following assumptions.

1. The firm is an all Equity firm
2. No external financing is available
3. The internal rate of return (r) of the firm is constant.
4. The appropriate discount rate (K) of the firm remains constant.
5. The corporate taxes do not exist.

Gordon clearly states the relationship between internal rate of return, r, and the cost of capital, k. He also contends that dividend policy depends on the profitable investment opportunities.

However, his proposition may be summed up as under:

(a) When r > k (Growth Firms):

When r > A, the value per share P increases since the retention ratio, b, increases, i.e., P increases with decrease in dividend pay-out ratio. In short, under this condition, the firm should distribute smaller dividends and should retain higher earnings.

(b) When r < k (Declining Firms):

When r<k, the value per share P decreases since the retention ratio b, increases, i.e., P increases with increase in dividend pay-out ratio. It can be proved that the value of b increases, the value of the share continuously falls.

If the internal rate of return is smaller than k, which is equal to the rate available in the market, profit retention clearly becomes undesirable from the shareholders' viewpoint. Each additional rupee retained reduces the amount of funds that shareholders could invest at a higher rate elsewhere and thus it further reduces the value of the company's share.

(c) When r = k (Normal Firms):
When r = k, the value of the firm is not affected by dividend policy and is equal to the book value of assets, i.e., when r = k, dividend policy is irrelevant.

It implies that under competitive conditions, k must be equal to the rate of return, r, available to investors in comparable shares in such a manner that any funds distributed as dividends may be invested in the market at the rate which is equal to the internal rate of return of the firm.

Consequently, shareholders can neither lose nor gain by any change in the company's dividend policy and the market value of the shares must remain unchanged

Modigliani And Miller Approach

They have expressed their opinion in a more comprehensive way. They feel the price of share of a Company is determined by its earning potentiality and investment policy and never by the pattern of Income Distribution.

Under the condition of perfect capital market, rational investors, absence of tax discrimination between dividend income and capital appreciation given in the company's investment policy. If Dividend have no influence on the market price of the shares. The logic given by the above school of thought is that whatever increase in shareholders wealth results from Dividend Payments will be exactly offset by the effect of raising additional, capital.

Example

For example: If a Company having investment opportunities distribute its earning among shareholders it will have to raise the capital required from outside. This will increase the number of shares, result fall in future earning of shares.

Thus, whatever a shareholder gets as a result of increased Dividend will be neutralized completely on account of fall in the value of shares due to the decline in expected earnings per share.

Assumptions of M.M. Hypothesis

The M.M. Hypothesis approach is based on the following assumptions:

(i) Capital markets are perfect.

(ii) Investors behave rationally. Information is freely available to them and there are no floatation and transaction costs.

(iii) There are either no taxes or there are no differences in the tax rates applicable to capital gains and Dividend.

(iv) The firm has a fixed Investment Policy.

(v) Risk or uncertainty does not exist. Investors are able to forecast future prices and dividends with certainty and one discount rate can be used for all securities at all times.

Proof of M.M. Hypothesis.

The market value of a share in the beginning of the period is equal to the present value of Dividends paid at the end of the period plus market price of the share at the end of the period. This can be put as:

$PO = (D_1 + P_1) / (I + K)$
Where,

PO = Prevailing market price of a share
P_1 = Market Price of Share at the end of period one
K = Cost of Equity Share
D_1 = Dividend to be received at the end of period one.
I = Investment.

The value of P_1 can be:
$P_1 = PO (I+K) – D_1$

Computation of New Shares to be Issued
The Investment Programme of a Company in a given period of time can be financed, either by retained earning or by new shares or both. The following formula:

$$m \times P_1 = i – (X – ND_1)$$

Where,

M = No. of new shares to be issued.
P_1 = Price at which new shares is to be issued.
I = Amount of investment required
X = Total Net profit of the firm during the period.
ND_1 = Total dividend paid during the year.

Example
Z Ltd. has 1000 Share of 100 each. The Company is contemplating $10 Per Share Dividend at the end of the earned year. The Co. expects a Net Income of $25000.

What will be the price of Shake if (i) Dividend is not declared. (ii) a Dividend is declared. Presume Company pays dividend and has to make new Investment of $48,000 in the coming Period. how many new shares be issued to Finance Investment Programme as per M.M. approach 10% risk factor.

Solution
Price of share can be known by the following formula:
$P_1 = PO (1 + k) – D_1$
When dividend is not paid:
$P_1 = \$100 (1 + .10) – 0$
$= 100 \times 1.10$

$=\$110$

When dividend is paid:
$P_1 = 100 (1 + .10) – 10$
$= \$100$

New Shares:
$M \times P_1 = i - (X - ND_1)$
$M \times 100 = 48,000 - (25,000 - 10,000)$

$110M = 33,000$

$M = 33,000 / 100$

$M = 330$ shares

Criticisms

1. Tax Differential: M.M. approach assumption is that Taxes do not exist, is for from reality.
2. Floatation Cost: A firm has to pay financing cost in the form of Under Writing Commission, brokerage etc. As a result External Financial is costlier than intervenal.
3. Transaction Costs: The Shareholders has to pay brokerage fees etc. when he wants to sell shares. Thus Shareholders will like to have dividend rather shares.
4. Discount Rate: A single discount rate can be used for discounting cash inflow at different time period is not correct. Uncertainty increases with the length of the time period. Investors prefer near Lesser Dividend is good rather high Dividend in future.

Unit -4

Meaning of Working Capital Management

Working capital management is a business strategy designed to ensure that a company operates efficiently by monitoring and using its current assets and liabilities to the best effect. The primary purpose of working capital management is to enable the company to maintain sufficient cash flow to meet its short-term operating costs and short-term debt obligations.

Forecasting of Working Capital Requirement

The following points highlight the six steps involved in forecasting of working capital requirements.

Step # 1:

Collection of the following information affecting the working capital requirements:

(a) The expected production during the year.

(b) The expected cost of raw materials, labour and overheads per unit of production.

(c) The period during which raw materials will remain in store before it is issued to production process.

(d) The length of processing or conversion time which the work-in-progress is to be kept in the production process.

(e) The period during which finished products will remain in warehouse before sale.

(f) The period of credit allowed to debtors for credit sales.

(g) The period of credit allowed by creditors for credit purchase of raw materials.

(h) The time-lag in payment of wages and overheads.

(i) The inclusion of profit element in the debtors.

(j) The nature of production and overheads accruing throughout the year.

Step # 2:

Determine average estimated production (week, fortnight or month etc.)

Step # 3:

Determine average expected cost (week, fortnight, month etc.) of each element of cost viz. material, labour and overheads.

Step # 4:

Determine the net block period for each element of cost viz. material, labour and overhead. For instance, raw material may be in store for 2 months, in processing 1 month, in finished goods condition 2 months, in the hands of debtors 4 months and

is usually paid for 1 month after credit purchase. So the net block period is (9 – 1) or 8 months i.e., the period during which fund for raw material will remain blocked.

Step # 5:

Multiply the net block period of each element of cost with their average periodical cost separately. This will give working capital requirement for each element of cost. For example, if the net block period of material is 8 months and monthly cost of raw material is Rs. 10,000, then working capital to be maintained for raw material is (8 x Rs. 10,000) or Rs. 80,000. In this way working capital requirement for wages and overheads will have to be found out.

Step # 6:

Lastly, add the item-wise working capital requirement as found out in (5) to arrive as total working capital requirement

Advantages of Adequate Working Capital

1. Solvency of the Business:

Adequate working capital helps in maintaining solvency of the business by providing uninterrupted flow of production.

2. Goodwill:

Sufficient working capital enables a business concern to make prompt payments and hence helps in creating and maintaining goodwill.

3. Easy Loans:

A concern having adequate working capital, high solvency and good credit standing can arrange loans from banks and others on easy and favourable terms.

4. Cash Discounts:

Adequate working capital also enables a concern to avail cash discounts on the purchases and hence it reduces costs.

#5. Regular Supply of Raw Materials:

Sufficient working capital ensures regular supply of raw materials and continuous production.

6. Regular Payment of Salaries, Wages and Other Day-to-day Commitments:

A company which has ample working capital can make regular payment of salaries, wages and other day-to-day commitments which raises the morale of its employees, increases their efficiency, reduces wastages and costs and enhances production and profits.

7. Exploitation of Favourable Market Conditions:

Only concerns with adequate working capital can exploit favourable market conditions such as purchasing its requirements in bulk when the prices are lower and by holding its inventories for higher prices.

8. Ability to Face Crisis:

Adequate working capital enables a concern to face business crisis in emergencies such as depression because during such periods, generally, there is much pressure on working capital.

9. Quick and Regular Return on Investments:

Every Investor wants a quick and regular return on his investments. Sufficiency of working capital enables a concern to pay quick and regular dividends to its investors as there may not be much pressure to plough back profits. This gains the confidence of its investors and creates a favorable market to raise additional funds in the future.

10. High Morale:

Adequacy of working capital creates an environment of security, confidence, high morale and creates overall efficiency in a business.

Disadvantages of Excessive and Inadequate Working Capital

Disadvantages of Redundant or Excessive Working Capital:

1. Excessive Working Capital means idle funds which earn no profits for the business and hence the business cannot earn a proper rate of return on its investments.

2. When there is a excessive working capital, it may lead to unnecessary purchasing and accumulation of inventories causing more chances of theft, waste and losses.

3. Excessive working capital implies excessive debtors and defective credit policy which may cause higher incidence of bad debts.

4. It may result into overall inefficiency in the organisation.

5. When there is excessive working capital, relations with banks and other financial institutions may not be maintained.

6. Due to low rate of return on investments, the value of shares may also fall.

7. The excessive working capital gives rise to speculative transactions.

Disadvantages or Dangers of Inadequate Working Capital:

1. A concern which has inadequate working capital cannot pay its short-term liabilities in time. Thus, it will lose its reputation and shall not be able to get good credit facilities.

2. It cannot buy its requirements in bulk and cannot avail of discounts, etc.

3. It becomes difficult for the firm to exploit favourable market conditions and undertake profitable projects due to lack of working capital.

4. The firm cannot pay day-to-day expenses of its operations and it creates inefficiencies, increases costs and reduces the profits of the business.

5. It becomes impossible to utilize efficiently the fixed assets due to non-availability of liquid funds.

6. The rate of return on investments also falls with the shortage of working capital.

Determinants of Working Capital

The requirements of working capital are not uniform in all enterprises, and therefore, factors responsible for a particular size of working capital in one company are different than in other enterprise. Therefore, a set pattern of factors determining the optimum size of working capital is difficult to suggest.

1. Nature of business:

It is an important factor for determining the amount of working capital needed by various companies. The trading or manufacturing concerns will require more amount of working capital along-with their fixed investment of stock, raw materials and finished products.

Public utilities and railway companies with huge fixed investment usually have the lowest needs for current assets, partly because of cash, nature of their business and partly due to their selling a service instead of a commodity. Similarly, basic and key industries or those engaged in the manufacture of producer's goods usually have less proportion of working capital to fixed capital than industries producing consumer goods.

2. Length of period of manufacture:

The average length of the period of manufacture, i.e., the time which elapses between the commencement and end of the manufacturing process is an important factor in determining the amount of the working capital.

If it takes less time to make the finished product, the working capital required will be less. To give an example, a baker requires one night time to bake his daily quota of bread. His working capital is, therefore, much less than that of a shipbuilding concern which takes three to five years to build a ship. Between these two cases may fall other business concerns with varying periods of manufacture requiring different amounts of working capital.

3. Volume of business:

Generally, the size of the company has a direct relation with the working capital needs. Big concerns have to keep higher working capital for investment in current assets and for paying current liabilities.

4. The proportion of the cost of raw materials to total cost:

Where the cost of raw materials to be used in manufacturing of a product is very large in proportion to the total cost and its final value, working capital required will also be more.

That is why, in a cotton textile mill or in a sugar mill, huge funds are required for this purpose. A building contractor also needs huge working capital for this reason. If the importance of materials is less, as for example in an oxygen company, the needs of working capital will be naturally not more.

5. Use of Manual Labour or Mechanization:

In labour intensive industries, larger working capital will be required than in the highly mechanized ones. The latter will have a large proportion of fixed capital. It may be remembered, however, that to some extent the decision to use manual labour or machinery lies with the management. Therefore, it is possible in most cases to reduce the requirements of working capital and increase investments in fixed assets and vice versa.

6. Need to keep large stocks of raw materials of finished goods:

The manufacturing concerns generally have to carry stocks of raw materials and other stores and also finished goods. The larger the stocks (whether of raw materials or finished goods) more will be the needs of working capital.

In certain lines of business, e.g., where the materials are bulky and have to be purchased in large quantities, (as in cement manufacturing), stock piling of raw-material is used.

Similarly, in public utilities, which must have adequate supplies of coal to assure regular service, stock piling of coal is necessary. In seasonal industries finished goods stocks have to be stored during off seasons. All these require large working capital.

7. Turnover of working capital:

Turnover means the speed with which the working capital is recovered by the sale of goods. In certain businesses, sales are made quickly and the stocks are soon exhausted and new purchases have to be made. In this manner, a small amount of money invested in stocks will result in sales of much larger amount.

Considering the volume of sales, the amount of working capital requirements will be rather small in such type of business. There are other businesses where sales are made irregularly**. *For example, in case of jewelers, a costly jewellery may remain locked up in the show-window for a long period before it catches the fancy of a rich lady.***

In such cases, large sums of money have to be kept invested in stocks. But a baker or a news-hawker may be able to dispose of his stocks quickly, and may, therefore, need much smaller amounts by way of working capital.

8. Terms of Credit:

A company purchasing all raw-materials for cash and selling on credit will be requiring more amount of working capital. Contrary to this, if the enterprise is in a

position to buy on credit and sell it for cash, it will need less amount of working capital. The length of the period of credit has a direct bearing on working capital.

The essence of this is that the period which elapses between the purchase of materials and sale of finished goods and receipts of sale proceeds, will determine the requirements of working capital.

9. Seasonal Variations:

There are some industries which either produce goods or make sales only seasonally. ***For example, the sugar industry produces practically all the sugar between December and April and the woolen textile industry makes its sales generally during winter***.

In both these cases the needs of working capital will be very large, during few months {i.e., season). The working capital requirements will gradually decrease as and when the sales are made.

10. Requirements of Cash:

The need to have cash in hand to meet various requirements e.g., payment of salaries, rents, rates etc., has an effect on the working capital. The more the cash requirements the higher will be working capital needs of the company and vice versa.

11. Other Factors:

In addition to the above mentioned considerations there are also a number of other factors which affect the requirements of working capital. Some of them are given below.

(i) Degree of co-ordination between production and distribution policies.

(ii) Specialization in the field of distribution.

(iii) Developments of means of transportation and communications.

(iv) The hazards and contingencies inherent in the type of business.

Financing of Long-Term Working Capital: 5 Sources

The following points highlight the five sources of financing of long-term working capital.

Long-Term Working Capital Source # 1. Shares:

Issue of shares is the most important source for raising the permanent or long-term capital. A company can issue various types of shares as equity shares, preference shares and deferred shares. According to the Companies Act, 1956, however, a public company cannot issue deferred shares.

Preference shares carry preferential rights in respect of dividend at a fixed rate and in regard to the repayment of capital at the time of winding up the company. Equity shares do not have any fixed commitment charge and the dividend on these shares is to be paid subject to the availability of sufficient profits. As far as possible, a company should raise the maximum amount of permanent capital by the issue of shares.

Long-Term Working Capital Source # 2. Debentures:

A debenture is an instrument issued by the company acknowledging its debt to its holder. It is also an important method of raising long-term or permanent working capital. The debenture-holders are the creditors of the company. A fixed rate of interest is paid on debentures. The interest on debentures is a charge against profit and loss account.

The debentures are generally given floating charge on the assets of the company. When the debentures are secured they are paid on priority to other creditors. The debentures may be of various kinds such as simple, naked or unsecured debentures, secured or mortgaged debentures, redeemable debentures, irredeemable debentures, convertible debentures and non-convertible debentures.

The debentures as a source of finance have a number of advantages both to the investors and the company. Since interest on debentures have to be paid on certain predetermined intervals at a fixed rate and also debentures get priority on repayment at the time of liquidation, they are very well suited to cautious investors. The firm issuing debentures also enjoys a number of benefits such as trading on equity, retention of control, tax benefits, etc.

Long-Term Working Capital Source # 3. Public Deposits:

Public deposits are the fixed deposits accepted by a business enterprise directly from the public. This source of raising short term and medium-term finance was very popular in the absence of banking facilities. In the past, generally, public deposits were accepted by textile industries in Ahmadabad and Bombay for periods of 6 months to 1 year. But now-a-days even long-term deposits for 5 to 7 years are accepted by the business houses.

Public deposits as a source of finance have a large number of advantages such as very simple and convenient source of finance, taxation benefits, trading on equity, no need of securities and an inexpensive source of finance.

But it is not free from certain dangers such as it is uncertain, unreliable, unsound and inelastic source of finance. The Reserve Bank of India has also laid down certain limits on public deposits. Non-banking concerns cannot borrow by way of public deposits more than 25% of its paid-up capital and free reserves.

Long-Term Working Capital Source # 4. Ploughing Back of Profits:

Ploughing back of profits means the reinvestments by concern of its surplus earnings in its business. It is an internal source of finance and is most suitable for an established firm for its expansion, modernization and replacement etc.

This method of finance has a number of advantages as it is the cheapest rather cost-free source of finance; there is no need to keep securities; there is no dilution of control; it ensures stable dividend policy and gains confidence of the public. But excessive resort to ploughing back of profits may lead to monopolies, misuse of funds, over capitalization and speculation, etc.

Long-Term Working Capital Source # 5. Loans from Financial Institutions:

Financial institutions such as Commercial Banks, Life Insurance Corporation, Industrial Finance Corporation of India, State Financial Corporations, State Industrial Development Corporations, Industrial Development Bank of India, etc. also provide short-term, medium-term and long-term loans.

This source of finance is more suitable to meet the medium-term demands of working capital. Interest is charged on such loans at a fixed rate and the amount of the loan is to be repaid by way of installments in a number of years.

Financing of Short-Term Working Capital:

Financing of Short-Term Working Capital Source # 1. Indigenous Bankers:

Private money-lenders and other country bankers used to be the only source of finance prior to the establishment of commercial banks. They used to charge very high rates of interest and exploited the customers to the largest extent possible. Now-a-days with the development of commercial banks they have lost their monopoly.

But even today some business houses have to depend upon indigenous bankers for obtaining loans to meet their working capital requirements.

Financing of Short-Term Working Capital Source # 2. Trade Credit:

Trade credit refers to the credit extended by the suppliers of goods in the normal course of business. As present day commerce is built upon credit, the trade credit arrangement of a firm with its suppliers is an important source of short-term finance.

The credit-worthiness of a firm and the confidence of its suppliers are the main basis of securing trade credit. It is mostly granted on an open account basis whereby supplier sends goods to the buyer for the payment to be received in future as per terms of the sales invoice. It may also take the form of bills payable whereby the buyer signs a bill of exchange payable on a specified future date.

When a firm delays the payment beyond the due date as per the terms of sales invoice, it is called stretching accounts payable. A firm may generate additional short-term finances by stretching accounts payable, but it may have to pay penal interest charges as well as to forgo cash discount. If a firm delays the payment frequently, it adversely affects the credit worthiness of the firm and it may not be allowed such credit facilities in future.

The main advantages of trade credit as a source of short-term finance include:

(i) It is an easy and convenient method of finance.

(ii) It is flexible as the credit increases with the growth of the firm.

(iii) It is informal and spontaneous source of finance.

However, the biggest disadvantage of this method of finance is charging of higher prices by the suppliers and loss of cash discount.

Financing of Short-Term Working Capital Source # 3. Installment Credit:

This is another method by which the assets are purchased and the possession of goods is taken immediately but the payment is made in installments over a pre-determined period of time. Generally, interest is charged on the unpaid price or it may be adjusted in the price. But, in any case, it provides funds for some time and

is used as a source of short-term working capital by many business houses which have difficult fund position.

Financing of Short-Term Working Capital Source # 4. Advances:

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

Financing of Short-Term Working Capital Source # 5. Factoring or Accounts Receivable Credit:

Another method of raising short-term finance is through accounts receivable credit offered by commercial banks and factors. A commercial bank may provide finance by discounting the bills or invoices of its customers.

Thus, a firm gets immediate payment for sales made on credit. A factor is a financial institution which offers services relating to management and financing of debts arising out of credit sales. Factoring is becoming popular all over the world on account of various services offered by the institutions engaged in it.

Factors render services varying from bill discounting facilities offered by commercial banks to a total takeover of administration of credit sales including maintenance of sales ledger, collection of accounts receivables, credit control and protection from bad debts, provision of finance and rendering of advisory services to their clients. Factoring may be on a recourse basis, where the risk of bad debts is borne by the client, or on a non-recourse basis, where the risk of credit is borne by the factor.

At present, factoring in India is rendered by only a few financial institutions on a recourse basis. However, the Report of the Working Group on Money Market (Vaghul Committee) constituted by the Reserve

Bank of India has recommended that banks should be encouraged to set up factoring divisions to provide speedy finance to the corporate entities.

In-spite of many services offered by factoring, it suffers from certain limitations. The most critical fall outs of factoring include;

(i) The high cost of factoring as compared to other sources of short-term finance,

(ii) The perception of financial weakness about the firm availing factoring services, and

(iii) Adverse impact of tough stance taken by factor, against a defaulting buyer, upon the borrower resulting into reduced future sales.

Financing of Short-Term Working Capital Source # 6. Accrued Expenses:

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

Wages and salaries are usually paid on monthly, fortnightly or weekly basis for the services already rendered by employees. The longer the payment-period, the greater is the amount of liability towards employees or the funds provided by them. In the same manner, accrued interest and taxes also constitute a short-term source of finance.

Taxes are paid after collection and in the intervening period serve as a good source of finance. Even income-tax is paid periodically much after the profits have been earned. Like taxes, interest is also paid periodically while the funds are used continuously by a firm. Thus, all accrued expenses can be used as a source of finance.

The amount of accruals varies with the change in the level of activity of a firm. When the activity level expands, accruals also increase and hence they provide a

spontaneous source of finance. Further, as no interest is payable on accrued expenses, they represent a free source of financing.

However, it must be noted that it may not be desirable or even possible to postpone these expenses for a long period. The payment period of wages and salaries is determined by provisions of law and practice in industry.

Similarly, the payment dates of taxes are governed by law and delays may attract penalties. Thus, we may conclude that frequency and magnitude of accruals is beyond the control of managements. Even then, they serve as a spontaneous, interest free, limited source of short-term financing.

Financing of Short-Term Working Capital Source # 7. Deferred Incomes:

Deferred incomes are incomes received in advance before supplying goods or services. They represent funds received by a firm for which it has to supply goods or services in future. These funds increase the liquidity of a firm and constitute an important source of short-term finance. However, firms having great demand for its products and services, and those having good reputation in the market can demand deferred incomes.

Financing of Short-Term Working Capital Source # 8. Commercial Paper:

Commercial paper represents unsecured promissory notes issued by firms to raise short-term funds. It is an important money market instrument in advanced countries like U.S.A. In India, the Reserve Bank of India introduced commercial paper in the Indian money market on the recommendations of the Working Group on Money Market (Vaghul Committee).

But only large companies enjoying high credit rating and sound financial health can issue commercial paper to raise short-term funds. The Reserve Bank of India has laid down a number of conditions to determine eligibility of a company for the issue of commercial paper. Only a company which is listed on the stock exchange,

has a net worth of at least Rs 10 crores and a maximum permissible bank finance of Rs 25 crores can issue commercial paper not exceeding 30 per cent of its working capital limit.

The maturity period of commercial paper, in India, mostly ranges from 91 to 180 days. It is sold at a discount from its face value and redeemed at face value on its maturity. Hence, the cost of raising funds, through this source, is a function of the amount of discount and the period of maturity and no interest rate is provided by the Reserve Bank of India for this purpose.

Commercial paper is usually bought by investors including banks, insurance companies, unit trusts and firms to invest surplus funds for a short-period. A credit rating agency, called CRISIL, has been set up in India by ICICI and UTI to rate commercial papers.

Commercial paper is a cheaper source of raising short-term finance as compared to the bank credit and proves to be effective even during period of tight bank credit. However, it can be used as a source of finance only by large companies enjoying high credit rating and sound financial health. Another disadvantage of commercial paper is that it cannot be redeemed before the maturity date even if the issuing firm has surplus funds to pay back.

Financing of Short-Term Working Capital Source # 9. Working Capital Finance by Commercial Banks:

Commercial banks are the most important source of short-term capital. The major portion of working capital loans are provided by commercial banks. They provide a wide variety of loans tailored to meet the specific requirements of a concern.

The different forms in which the banks normally provide loans and advances are as follows:

(a) Loans

(b) Cash Credits

(c) Overdrafts

(d) Purchasing and discounting of bills.

(a) Loans:

When a bank makes an advance in lump-sum against some security it is called a loan. In case of a loan, a specified amount is sanctioned by the bank to the customer. The entire loan amount is paid to the borrower either in cash or by credit to his account. The borrower is required to pay interest on the entire amount of the loan from the date of the sanction.

A loan may be repayable in lump sum or installments. Interest on loans is calculated at quarterly rests and where repayments are stipulated in installments, the interest is calculated at quarterly rests on the reduced balances. Commercial banks generally provide short-term loans up to one year for meeting working capital requirements. But now-a-days term loans exceeding one year are also provided by banks. The term loans may be either medium-term or long- term loans.

(b) Cash Credits:

A cash credit is an arrangement by which a bank allows his customer to borrow money up to a certain limit against some tangible securities or guarantees. The customer can withdraw from his cash credit limit according to his needs and he can also deposit any surplus amount with him.

The interest in case of cash credit is charged on the daily balance and not on the entire amount of the account. For these reasons, it is the most favourite mode of borrowing by industrial and commercial concerns. The Reserve Bank of India issued a directive to all scheduled commercial banks on 28th March 1970, prescribing a commitment charge which banks should levy on the unutilized portion of the credit limits.

(c) Overdrafts:

Overdraft means an agreement with a bank by which a current account-holder is allowed to withdraw more than the balance to his credit up to a certain limit. There are no restrictions for operation of overdraft limits. The interest is charged on daily overdrawn balances. The main difference between cash credit and overdraft is that overdraft is allowed for a short period and is a temporary accommodation whereas the cash credit is allowed for a longer period. Overdraft accounts can either be clean overdrafts, partly secured or fully secured.

(d) Purchasing and Discounting of Bills:

Purchasing and discounting of bills is the most important form in which a bank lends without any collateral security. Present day commerce is built upon credit. The seller draws a bill of exchange on the buyer of goods on credit. Such a bill may be either a clean bill or a documentary bill which is accompanied by documents of title to goods such as a railway receipt.

The bank purchases the bills payable on demand and credits the customer's account with the amount of bill less discount. At the maturity of the bills, bank presents the bill to its acceptor for payment. In case the bill discounted is dishonoured by non-payment, the bank recovers the full amount of the bill from the customer along with expenses in that connection. In addition to the above mentioned forms of direct finance, commercial banks help their customers in obtaining credit from their suppliers through the letter of credit arrangement.

Letter of Credit:

A letter of credit popularly known as L/c is an undertaking by a bank to honour the obligations of its customer up to a specified amount, should the customer fail to do so. It helps its customers to obtain credit from suppliers because it ensures that there is no risk of non-payment. L/c is simply a guarantee by the bank to the suppliers that their bills up to a specified amount would be honoured. In case the customer fails to pay the amount, on the due date, to its suppliers, the bank

assumes the liability of its customer for the purchases made under the letter of credit arrangement.

Cash Management of Working Capital:

The following points highlight the top five models of cash management of working capital.

Model # 1. Operating Cycle Model:

The higher the cash turnover, the lower will be the requirements for cash, and vice versa.

Model # 2. **Optimum Cash Balance using Inventory Model:**

The economic order quantity formula (EOQ) which is used in inventory management provides a useful conceptual foundation for the cash management problem.

When a firm holds too small cash balance, it runs out of costs, i.e., costs of running short of cash, the elements of which are:

(i) Cost of passing up trade discounts;

(ii) Cost of passing up quantity discounts;

(iii) Cost of failure to meet payroll on time, or to make interest and principal payment when due.

However, if there is a shortage of cash, marketable securities are liquidated or fresh borrowing can be made. Both of them require procurement costs which is inclusive of fixed costs related with the transaction.

Because, sometimes, it is cheaper to sell short-term securities while it may be wise to borrow from banks at times. Therefore, if the firm does not possess any short-term securities which can be sold, it can borrow from bank.

Model # 3. **Stochastic Model:**

Where the uncertainty of cash payment is large, i.e.-the future is unknown with certainty, the EOQ models may not be applicable. Naturally, in order to determine optimum behaviour, other models should be used assuming that the demand for cash is stochastic and unknown in advance. Control theory can be applicable where cash balances fluctuate widely.

One can set control limits such that when cash reaches an upper limit a transfer of cash to marketable securities is consummated, when it hits a lower limit a transfer from marketable securities to cash is triggered. Setting the control limits depends upon the fixed cost associated with securities transaction and the opportunity cost of holding in cash.

Model # 4. **Probability Model:**

The EOQ model assumed that cash flows are predictable while the Control-Limit Model assumes that they are random. But, in practice, cash flows are neither completely predictable nor stochastic. On the other hand, they are predictable within a range. In the circumstances, probability distributions may be used for a range of possible outcomes and optimum cash balance may be ascertained accordingly.

Estimation of Cash Requirements:

No doubt the primary step in cash management is to estimate the requirement of Cash. For this purpose (a) Cash flows, and (b) Cash Budgets, are required to be prepared (which have been highlighted in details in the subsequent part of this volume. Cash Management and Working Capital

Cash is the medium of exchange on the common purchasing power and which is the most important component of working capital. It includes coins, currency, cheques held by the firm and the balances in its bank accounts. Sometimes near-

cash items also are included.' Cash is the basic input required to keep the firm running on a continuous basis.

At the same time it is the ultimate output expected to be realized by selling goods and services A firm should hold sufficient cash, neither more, not less. Excessive cash remains idle which simply increases the cost without contributing anything towards the profitability of the firm and in the opposite case, trading and/ or manufacturing operation will be disrupted.

Not only that, it largely upholds, under given condition, the quantum of other ingredients of working capital, viz., inventories and debtors, that may be needed for a given scale and type of operation.

Cash is, no doubt, a most important asset and that is why a firm wants to get hold of it in the shortest time possible. In the absence of sufficient quantity of cash at the proper time, payment of bills including dividend and others, may not have to be made.

It is interesting to note that cash management involves the three following factors:

(i) Ascertainment of the minimum cash balance;

(ii) Proper arrangement to be made for collection and payment of cash in such a way so that minimum balance can be maintained; and

(iii) Surplus cash to be invested in temporary investments or to be invested in fixed assets.

Apart from the fact that it is the most liquid current asset, cash is the common denominator to which all current assets can be reduced because the other major current/liquid assets, viz., receivables, inventories etc., get eventually converted into cash.

It is the significance of cash management which is the key area of working capital management Cash management is important since it is very difficult to estimate correctly the inflow of cash. Practically, it is not so easy to make a proper synchronization of inflows and outflows of cash.

For this purpose, the firm should develop some strategies for cash management for the following:

(a) Cash Planning:

A cash budget should be prepared for ascertaining the cash surplus or deficit for each period of planning through the inflows and outflows of cash.

(b) Managing the Cash flows:

The flow of cash (inflow and outflow) should properly be managed

(c) Optimum Cash Level:

The optimum level of cash should always be maintained, i.e., the appropriate level of cash balances should be determined.

(d) Investing Idle Cash:

The excess or idle cash should properly be invested in order to earn profit.

Motives for Holding Cash:

Keynes has identified three following motives for cash:

(i) The transactions motive;

(ii) The precautionary motive, and

(iii) The speculative motive

(i) The Transactions Motive:

This motive refers to the holding of cash in order meet the day-to-day transactions which a firm carries on in the ordinary course of the business. Primarily, these transactions include purchase of raw materials, wages, operating expenses, taxes, dividends etc. We all know that a firm may enter into a variety of transactions to accomplish its objectives. Similarly, there is regular inflow of cash from revenues.

Thus, the receipts and payments constitute a continuous two-way flow of cash Since the inflows and outflows of cash do not perfectly synchronize, an adequate or a minimum cash balance is required to uphold the operations if outflows exceed the inflows. Therefore, in order to meet the day-to-day transactions, the requirement of cash is known as transaction motive.

So, it refers to the holding of cash to meet anticipated obligations when timing is not perfectly synchronized with the inflows of cash. Although, a major part of transactions balances is held in cash, a part may also be held in the form of marketable securities whose maturity conforms to the timing of the anticipated payments, such as payment of taxes, dividends etc.

(ii) The Precautionary Motive:

This motive for holding cash has to do with maintaining a cushion or buffer to meet unexpected contingencies. The unexpected cash needs at short notice may be the result of

(a) Uncontrollable circumstances, such as, floods, strikes, droughts etc.;

(b) Bills which may be presented for settlement earlier than expected;

(c) Unexpected delay in collection of trade dues;

(d) Cancellation of some order for goods due to inferior quality; and

(e) Increase in the cost of material, labour etc.

Precautionary balances are the cash balances which are held as reserve for random and unforeseen fluctuations in cash flows, i.e., this motive implies the need to hold cash to meet unpredictable obligations. The more predictable the cash flows, the less precautionary balances that are needed and vice-versa.

Moreover, the need for this types of cash balance may be reduced if there is already borrowing power in order to meet the emergency cash outflows. Sometimes a portion of such cash balances may be held in marketable securities, i.e., near-money assets.

(iii) The Speculative Motive:

This motive refers to the holding of cash for taking advantages of expected changes in security price In other words, when the rates of interest are expected to fall, cash may be invested in different securities so that the firm will benefit by any subsequent fall in interest rates and rise in security prices.

On the other hand, when the rates of interest are expected to rise, the firm should hold cash until the rise in interest rates ceases. The precautionary motive is defensive in nature while speculative motive represents a positive and aggressive approach.

The speculative motive helps to take advantages of:

(i) An opportunity to purchase raw materials at a reduced price against immediate payment, i.e., benefit of cash discounts;

(ii) A change to speculate of interest rate movements by purchasing securities when rates of interest are expected to decline;

(iii) The purchase at favorable prices.

Estimation of Cash Requirements:

No doubt, the primary step in cash management is to estimate the requirement of Cash.

For this purpose,

(a) Cash Flows and

(b) Cash Budgets are required to be prepared,

Cash Management:

Synchronization of Cash flows:

Now, the various collection and disbursement methods by which a firm can increase its efficiency in cash management are discussed in the present column Practically, these methods constitute two sides of same coin, they exercise a joint impact on the overall efficiency of cash management.

However, the efficiency of cash management depends upon:

(1) Speeding up collections of accounts receivables; and

(2) Delaying payments on accounts payable, i.e. deferring disbursements.

(1) Speeding up collections of accounts receivables:

In order to manage cash efficiently, the process of cash inflow can be accelerated through systematic planning and refined techniques. There are, however, two broad approaches to do this.

They are:

(a) The customers should be encouraged to pay as quickly as possible by introducing cash discounts;

(b) The payment from customers should be converted into cash without any delay, i.e., managing float to speed up collection.

(a) Prompt Payment by Customers:

Prompt billing is one of the ways for ensuring prompt payment by customers, i.e., the bill should be prepared correctly and notified to the customer concerned in advance mentioning the date of payment Mechanical devices for billing may be used for this purpose.

The other important technique for encouraging prompt payment is the practice of introducing cash discounts which is nothing but a saving to the customer.

Techniques to Overcome the Difficulties of Cash Management:

In order to overcome the difficulties discussed above, i.e., in reducing the span between the time a customer makes payment and the time such funds are available for use by a firm, two techniques are now-a-days used.

They are:

(1) Concentration Banking; and

(2) Lock-box System.

(1) Concentration Banking:

Under this system, the firms which have a large number of branches at different places, may select some of these which are strategically located as collection centres for recurring payment from different customers, i.e., multiple collection centres are established instead of a single collection centre.

The purpose of this system is to speed up the time in the collection process from customers. Customers in a particular geographic area are instructed to remit their payments to the specific collection centre in that area.

The establishment and the selection of collection centres, however, depends upon the volume of business and geographic areas served. Under this system, when payments are received, they are deposited in the local account of the concerned collection centre after meeting local expenses.

Surplus funds are then transferred from these local bank accounts to a central or disbursing or concentration bank. In short, a concentration bank is one with which the company has a major account— usually a disbursement account. In other words, collections are decentralized but disbursements are centralised.

The transfer of surplus funds may be made either by a wire or by a mail.

The choice between them, of course, depends on:

(i) The amount involved, and

(ii) Cost of finance.

It should be mentioned that wire transfers are economical when large sums are involved and the firm earn a reasonable return on short-term, low-risk and highly liquid investment.

The advantages of concentration banking are:

(i) The time required for mailing is reduced. Since the local collection centre prepares bills against the customers, the customer usually receives the bills earlier than if the bills were sent by the head office directly from a distant place.

At the same time, when customers pay their bills at the local collection centre instead of mailing the same to the head office, it will also reduce time. Thus, in this way, it is estimated that there will be a saving of approximately one day in mailing time.

(2) Lock-Box System:

The alternative means of accelerating the flow of funds is a lock-box arrangement. In concentration banking, cheques are received by collection centres and deposited in the bank after processing so that mailing float is reduced. But there remains the cheque processing float.

It is needless to mention that lock-box system will eliminate the cheque processing float. Under this system, the firms hire a post office box under the control of a bank at important collection centres.

The customers are directed to remit their payments to the lock-box. The local banks are authorized to open the box and collect the remittances/cheques received from the customers. Normally, the bank so authorized to collect the cheques, pick up the cheques several times a day and deposits the same to the firm's accounts.

The banks send a deposit slip together with the list of payments and other enclosures to the firm by way of proof record and information after crediting the respective account of the firm. After the realisation of cheques, surplus funds are transferred to the central account of the firm.

Lock-box system, in a sense, is like concentration banking since the collection is decentralized. One significant difference between the two is that, under a

concentration banking system, the customers send the cheques to the collection centre, while, under lock-box system, they send them to a post office box.

Thus, lock-box system is, no doubt, an improvement over the concentration banking system since under the former, one step in the collection process is being eliminated In short, processing time within the firm is eliminated before the actual deposit of a cheque into a bank. Therefore, extra saving in mailing time is possible as direct collection is made by bank

(ii) Delaying payments on accounts payable or, deferring disbursement:

Various items of payments may be differed till they affect the smooth running of the operation and at the same time, damage the goodwill of the firm. There are certain items, viz. Wages, Salaries etc., which are very difficult to defer payments. But the most significant item is the payment to creditors for this purpose.

Deferring disbursement (to the creditors) includes:

(a) Stretching the period of credit granted; and

(b) Using float

The first one which is granted by the creditors is considered unfit as it affects the credit reputation of the firm. Of course, in the absence of cash discounts, there is a good possibility that such costs are hidden in the prices of the goods which may be impossible to measure'. If discounts are available, the said amount of discount may be compared with the benefits which may accrue if the said payments are diverted elsewhere.

Management of Receivable

❖ Accounts receivable typically comprise more than 25 percent of a firm's assets.

The term receivables are described as debt owed to the firm by the customers resulting from the sale of goods or services in the ordinary course of business.

There are the funds blocked due to credit sales. Receivables management

denotes to the decision a business makes regarding to the overall credit, collection policies and the evaluation of individual credit applicants. Receivables Management is also known as trade credit management. Robert N. Anthony, explained it as "Accounts receivables are amounts owed to the business enterprise, usually by its customers. Sometimes it is broken down into trade accounts receivables; the former refers to amounts owed by customers, and the latter refers to amounts owed by employees and others".

- Receivables are forms of investment in any enterprise manufacturing and selling goods on credit basis, large sums of funds are tied up in trade debtors. When company sells its products, services on credit, and it does not receive cash for it immediately, but would be collected in near future, it is termed as receivables. However, no receivables are created when a firm conducts cash sales as payments are received immediately. A firm conducts credit sales to shield its sales from the rivals and to entice the potential clienteles to buy its products at favourable terms. Generally, the credit sales are made on open account which means that no formal reactions of debt obligations are received from the buyers. This enables business transactions and reduces the paperwork essential in connection with credit sales.
- Accounts Receivables Management denotes to make decisions relating to the investment in the current assets as vital part of operating process, the objective

being maximization of return on investment in receivables. It can be established that accounts receivables management involves maintenance of receivables of optimal level, the degree of credit sales to be made, and the debtors' collection.

- Receivables are useful for clients as it increases their resources. It is preferred particularly by those customers, who find it expensive and burdensome to borrow from other resources. Thus, not only the present customers but also the Potential creditors are attracted to buy the firm's product at terms and conditions favourable to them.
- Receivables has vial function in quickening distributions. As a middleman would act fast enough in mobilizing his quota of goods from the productions place for distribution without any disturbance of immediate cash payment. As, he can pay the full amount after affecting his sales. Likewise, the customers would panic for purchasing their needful even if they are not in a position to pay cash immediately. It is for these receivables are regarded as a connection for the movement of goods from production to distributions among the ultimate consumer.
- Advantages of accounts receivable management:

Accounts Receivables Management has numerous benefits. These include:

1. **Increased Sales**: Offering goods or services on credit enhances sales, by holding old customers and attraction potential customers.

2. **Increased Market Share**: When the firm is able to maintain old customers and attract new customers automatically market share will be bigger to the extent new sales.
3. **Increase in profits**: Increase sales, leads to increase in profits, because it need to produce more products with a given fixed cost and sales of products with a given sales network in both cost per unit comes down and the profit will be better.

Management of Inventory

Inventory management is basically related to task of controlling the assets that are produced to be sold in the normal course of the firm's procedures. In supply chain management, major variable is to effectively manage inventory. The significance of inventory management to the company depends on the extent of its inventory investment.

The objectives of inventory management are of twofold:

1. The operational objective is to uphold enough inventory, to meet demand for product by efficiently organizing the firm's production and sales operations.
2. Financial interpretation is to minimize unproductive inventory and reduce inventory, carrying costs.

Effective inventory management is to make good balance between stock availability and the cost of holding inventory.

Components of inventory management:

Inventories exist in different forms in a manufacturing company. These include:

1. **Raw materials**: Raw materials are those inputs that are transformed into completed goods throughout manufacturing process. Those form a major input for manufacturing a product. In other words, they are very much needed for uninterrupted production.
2. **Work-in-process**: Work-in-process is a stage of stocks between raw materials and finished goods. Work-in-process inventories are semi-finished products. They signify products that need to undergo some other process to become finished goods.
3. **Finished products**: Finished products are those products which are totally manufactured and company can immediately sell to customers. The stock of finished goods provides a buffer between production and market.
4. **Stores and spares**: It comprises of office and plant cleaning materials like soap, brooms, oil, fuel, light, bulbs and are purchased and stored for the purpose of maintenance of machinery.

Types of Inventory

The aim of carrying inventories is to separate the operations of the firm. It means to make each function of the business independent of each other function so that delays or closures in one area do not affect the production and sale of the final product. Because production cessations result in increased costs, and because delays in delivery can lose customers, the management and control of inventory are important duties of the financial manager. There are many types of inventory. The common categories of inventory include raw materials inventory, work-in-process inventory, and finished-goods inventory.

Raw-Materials Inventory: Raw materials inventory include basic materials purchased from other firms to be used in the firm's production operations. These goods may include steel, lumber, petroleum, or manufactured items such as wire, ball bearings, or tires that the firm does not produce itself. Regardless of the specific form of the raw-materials inventory, all manufacturing firms maintain a raw-materials inventory. The intention is to separate the production function from the purchasing function that is, to make these two functions independent of each other so delays in the delivery of raw materials do not cause production delays. If there is a delay, the firm can satisfy its need for raw materials by liquidating its inventory.

Work-in-Process Inventory: Work-in-process inventory comprises of partly finished goods requiring additional work before they become finished goods. The more difficult and lengthy the production process, the larger the investment in work-in-process inventory. The main aim of work-in-process inventory is to disengage the various operations in the production process so that machine failures and work stoppages in one operation will not affect other operations.

Finished-Goods Inventory: Finished-goods inventory includes goods on which production has been completed but that are not yet sold. The purpose of a finished-goods inventory is to separate the production and sales functions so that it is not required to produce the goods before a sale can occur and sales can be made directly out of inventory.

Motives of inventory management:

1. **The transaction motive:**

   Firm may hold the inventories in order to facilitate the smooth and continuous production and sales operations. It may not be possible for the company to obtain raw material whenever necessary. There may be a time lag between the demand for the material and its supply. Therefore, it is needed to hold the raw material inventory. Similarly, it may not be possible to produce the goods instantly after they are demanded by the customers. Hence, it is needed to hold

the finished goods inventory. The need to hold work-in-progress may arise due to production cycle.

2. **The precautionary motive:**

   Firms also prefer to hold them to protect against the risk of unpredictable changes in demand and supply forces. ***For example, the supply of raw material may get delayed due to the factors like strike, transport disruption, short supply, lengthy processes involved in import of the raw materials.***

3. **The speculative motive:**

   Firms may like to buy and stock the inventory in the quantity which is more than needed for production and sales purposes. It is done to get the advantages in terms of quantity discounts connected with bulk purchasing or expected price rise.

Merits of Inventory Management

There are several advantages of managing inventory in proper way.

1. Inventory management guarantees adequate supply of materials and stores to minimize stock outs and shortages and avoid costly interruption in operations.
2. It keeps down investment in inventories, inventory carrying costs, and obsolescence losses to the minimum.
3. It eases purchasing economies throughout the measurement of requirements on the basis of recorded experience.

4. It removes duplication in ordering stock by centralizing the source from which purchase requisition emanate.
5. It allows better utilization of available stock by enabling inter-department transfers within a firm.
6. It offers a check against the loss of materials through carelessness or pilferage.
7. Perpetual inventory values provide a stable and reliable basis for preparing financial statements a better utilization.

Demerits of Holding Inventory

Besides several benefits, there are some drawbacks of holding inventory.

1. **Price decline:**

   It is a major disadvantage of inventory holding. Price decline is the result of more supply and less demand. It can be said that it may be due to introduction of competitive product. Generally, prices are not controllable in the short term by the individual firm. Controlling inventory is the only way that a firm can counter act with these risks. On the demand side, a decrease in the general market demand when supply remains the same may also cause price to increase. This is also long-lasting management problem, because reduction in demand may be due to change in customer buying habits, tastes and incomes.

2. **Product deterioration:**

It is also serious demerits of inventory holding. Holding of finished completed goods for a long period or shortage under inappropriate conditions of light, heat, humidity and pressures lead to product worsening.

3. **Product obsolescence:**

If items are hold for long time, it may become outdated. Product may become outmoded due to improved products, changes in customer choices, particularly in high style merchandise, changes in requirements. Then this is a major risk and it may affect in terms of huge revenue loss. It is costly for the firms whose resources are limited and tied up in slow moving inventories.

In final words, the notion of inventory management has been one of the many analytical characteristics of management. It involves optimization of resources available for holding stock of various materials. If there is shortage of inventory, it leads to stock-outs, causing stoppage of production and a very high inventory will result in increased cost due to cost of carrying inventory.

Managing Current Liabilities

A current liability is an obligation that is payable within one year. The collection of liabilities comprising current liabilities is closely watched, a business must have enough liquidity to guarantee that they can be paid off when due. In accounting area, current liabilities are often understood as all liabilities of the business that are to be settled in cash within the financial year or the operating cycle of a given firm, whichever period is longer.

In exceptional cases where the operating cycle of a business is longer than one year, a current liability is described as being payable within the term of the operating cycle. The operating cycle is the time period required for a business to acquire inventory, sell it, and convert the sale into cash. In most cases, the one-year rule will apply.

Since current liabilities are normally paid by liquidating current assets, the presence of a large amount of current liabilities calls attention to the size and prospective liquidity of the offsetting amount of current assets listed on a company's balance sheet. Current liabilities may also be settled through their replacement with other liabilities, such as with short-term debt.

Important MCQ

1. Investment can be defined.
A) Person’s dedication to purchasing a house or flat
B) Use of capital on assets to receive returns
C) Usage of money on a production process of products and services
D) Net additions made to the nation’s capital stocks
Answer: B

2. The concept of Financial management is.

A) Profit maximization

B) All features of obtaining and using financial resources for company operations

C) Organization of funds

D) Effective Management of every company

Answer: B

3. What is the primary goal of financial management?

A) To minimize the risk

B) To maximize the return

C) To maximize the owner's wealth

D) To raise profit

Answer: B

4. GST is a consumption of goods and service tax based on.

A) Development

B) Dividend

C) Destiny

D) Duration

E) Destination

Answer: E

5. The finance manager is accountable for.

A) Earning capital assets of the company

B) Effective management of a fund

C) Arrangement of financial resources

D) Proper utilization of funds

Answer: C

6. The market value of a share is responsible for.

A) The investment market

B) The government

C) Shareholders

D) The respective companies

Answer: A

7. The capital budget is associated with.

A) Long terms and short terms assets

B) Fixed assets

C) Long terms assets

D) Short term assets

Answer: C

8. CAPM stands for.

A) Capital asset pricing model.

B) Capital amount printing model.

C) Capital amount pricing model.

D) Capital asset printing model.

Answer: A

9. What does financial leverage measure?

A) No change with EBIT and EPS

B) The sensibility of EBIT with % change with respect to output

C) The sensibility of EPS with % change in the EBIT level

D) % variation in the level of production

Answer: C

10. From the below-mentioned items which are financial assets?

A) Machines

B) Bonds

C) Stocks

D) B and C

Answer: B

TIME VALUE OF MONEY

1. Which theory describes money received in the current time it has more worth than money received in future

A) Cash value of money

B) Time value of money

C) Storage value of money

D) Lead value of money

Answer: B

2. A project assumed monetary gain or loss by discounting entire cash inflows and outflows by utilising the necessary rate of return is listed as

A) Net recorded cash value

B) Net discounted value

C) Net future value

D) Net present value

Answer: D

3. As per the net present value, any projects to be acceptable should have a

A) Positive net present value

B) Zero net present value

C) Negative net present value

D) Both A and B

Answer: D

4. The cash flows method, utilized by the internal rate of return and net present value method are

A) Future cash flows

B) Lean cash flows

C) Discounted cash flows

D) Vertical cash flows

Answer: C

5. Which method in a capital budgeting is based on the discounted cash flow?

A) Net equity budgeting method

B) Net capital budgeting method

C) Net future value method

D) Net present value method

Answer: D

6. Cash flows are a project's revenue and are indicated by

A) Positive numbers

B) Negative numbers

C) Relative number

D) Hurdle number

Answer: A

7. In which payback period a due cash flows are discounted with the cost of capital of the project is categorised as

A) Discounted project cost

B) Discounted cash flows

C) Discounted rate of return

D) Discounted payback period

Answer: A

8. Which of the option is not a part of the three primary procedure of firm valuation?

A) Market Share

B) Balance sheet

C) Income or earnings

D) Discounted Cashflow

Answer: A

9. Internal rate of return is

A) The rate at which discounted cash inflow is equal to the discounted cash outflow

B) The rate at which discounted cash inflow is less than discounted cash outflow

C) The rate at which discounted cash inflow is more than discounted cash outflow

D) None of the above

Answer: A

10. Which cash flow is accessible for a firm's investors?

A) Free cash flow

B) Investing cash

C) Intrinsic stock

D) Extrinsic stock

Answer: A

COST OF CAPITAL & CAPITAL STRUCTURE

1. The use of personal borrowing to change the overall amount of financial leverage to which an individual is exposed is called:
   A. **homemade leverage.**
   B. dividend recapture.
   C. the weighted average cost of capital.
   D. private debt placement.
   E. personal offset

2. The proposition that the value of the firm is independent of its capital structure is called:
   A. the capital asset pricing model.
   B. **MM Proposition I.**
   C. MM Proposition II.
   D. the law of one price.
   E. the efficient markets hypothesis.

3. The proposition that the cost of equity is a positive linear function of capital structure is called:
   A. the capital asset pricing model.
   B. MM Proposition I.
   C. **MM Proposition II.**
   D. the law of one price.
   E. the efficient markets hypothesis.

4. The tax savings of the firm derived from the deductibility of interest expense is called the:

A. **interest tax shield.**
B. depreciable basis.
C. financing umbrella.
D. current yield.
E. tax-loss carryforward savings.

5. The unlevered cost of capital is:
   A. the cost of capital for a firm with no equity in its capital structure.
   B. **the cost of capital for a firm with no debt in its capital structure.**
   C. the interest tax shield times pretax net income.
   D. the cost of preferred stock for a firm with equal parts debt and common stock in its capital structure.
   E. equal to the profit margin for a firm with some debt in its capital structure.

6. The cost of capital for a firm, WACC, in a zero tax environment is:
   A. equal to the expected earnings divided by market value of the unlevered firm.
   B. equal to the rate of return for that business risk class.
   C. equal to the overall rate of return required on the levered firm.
   D. is constant regardless of the amount of leverage.
   E. **All of the above.**

7. The difference between a market value balance sheet and a book value balance sheet is that a market value balance sheet:
   A. places assets on the right hand side.
   B. places liabilities on the left hand side.
   C. does not equate the right hand with the left hand side.
   D. **lists items in terms of market values, not historical costs.**
   E. uses the market rate of return.

8. The firm's capital structure refers to:
   A. the way a firm invests its assets.

B. the amount of capital in the firm.
C. the amount of dividends a firm pays.
D. **the mix of debt and equity used to finance the firm's assets.**
E. how much cash the firm holds.

9. A general rule for managers to follow is to set the firm's capital structure such that:
   A. the firm's value is minimized.
   B. **the firm's value is maximized.**
   C. the firm's bondholders are made well off.
   D. the firms suppliers of raw materials are satisfied.
   E. the firms dividend payout is maximized.

10. A levered firm is a company that has:
   A. Accounts Payable as the only liability on the balance sheet.
   B. **has some debt in the capital structure.**
   C. has all equity in the capital structure.
   D. All of the above.
   E. None of the above.

11. A manager should attempt to maximize the value of the firm by:
   A. **changing the capital structure if and only if the value of the firm increases.**
   B. changing the capital structure if and only if the value of the firm increases to the benefits to inside management.
   C. changing the capital structure if and only if the value of the firm increases only to the benefits the debtholders.
   D. changing the capital structure if and only if the value of the firm increases although it decreases the stockholders' value.
   E. changing the capital structure if and only if the value of the firm increases and stockholder wealth is constant.

12. The effect of financial leverage depends on the operating earnings of the company. Which of the following is not true?
    A. Below the indifference or break-even point in EBIT the non-levered structure is superior.
    B. Financial leverage increases the slope of the EPS line.
    C. Above the indifference or break-even point the increase in EPS for all equity plans is less than debt-equity plans.
    D. **Above the indifference or break-even point the increase in EPS for all equity plans is greater than debt-equity plans.**
    E. The rate of return on operating assets is unaffected by leverage.

13. The Modigliani-Miller Proposition I without taxes states:
    A. **a firm cannot change the total value of its outstanding securities by changing its capital structure proportions.**
    B. when new projects are added to the firm the firm value is the sum of the old value plus the new.
    C. managers can make correct corporate decisions that will satisfy all shareholders if they select projects that maximize value.
    D. the determination of value must consider the timing and risk of the cash flows.
    E. None of the above.

14. MM Proposition I without taxes is used to illustrate:
    A. the value of an unlevered firm equals that of a levered firm.
    B. that one capital structure is as good as another.
    C. leverage does not affect the value of the firm.
    D. capital structure changes have no effect stockholder's welfare.
    E. **All of the above.**

15. A key assumption of MM's Proposition I without taxes is:
    A. that financial leverage increases risk.
    B. that individuals can borrow on their own account at rates less than the firm.
    C. **that individuals must be able to borrow on their own account at rates equal to the firm.**

D. managers are acting to maximize the value of the firm.
E. All of the above.

16. In an EPS-EBI graphical relationship, the slope of the debt ray is steeper than the equity ray. The debt ray has a lower intercept because:
    A. more shares are outstanding for the same level of EBI.
    B. the break-even point is higher with debt.
    C. **a fixed interest charge must be paid even at low earnings.**
    D. the amount of interest per share has only a positive effect on the intercept.
    E. the higher the interest rate the greater the slope.

17. In an EPS-EBI graphical relationship, the debt ray and equity ray cross. At this point the equity and debt are:
    A. equivalent with respect to EPS but above and below this point equity is always superior.
    B. **at breakeven in EPS but above this point debt increases EPS via leverage and decreases EPS below this point.**
    C. equal but away from breakeven equity is better as fewer shares are outstanding.
    D. at breakeven and MM Proposition II states that debt is the better choice.
    E. at breakeven and debt is the better choice below breakeven because small payments can be made.

18. When comparing levered vs. unlevered capital structures, leverage works to increase EPS for high levels of EBIT because:
    A. interest payments on the debt vary with EBIT levels.
    B. interest payments on the debt stay fixed, leaving less income to be distributed over less shares.
    C. **interest payments on the debt stay fixed, leaving more income to be distributed over less shares.**
    D. interest payments on the debt stay fixed, leaving less income to be distributed over more shares.

E. interest payments on the debt stay fixed, leaving more income to be distributed over more shares.

19. Financial leverage impacts the performance of the firm by:
    A. increasing the volatility of the firm's EBIT.
    B. decreasing the volatility of the firm's EBIT.
    C. decreasing the volatility of the firm's net income.
    D. **increasing the volatility of the firm's net income**
    E. None of the above.

20. The increase in risk to equityholders when financial leverage is introduced is evidenced by:
    A. higher EPS as EBIT increases.
    B. **a higher variability of EPS with debt than all equity.**
    C. increased use of homemade leverage.
    D. equivalence value between levered and unlevered firms in the presence of taxes.
    E. None of the above.

21. The reason that MM Proposition I does not hold in the presence of corporate taxation is because:
    A. **levered firms pay less taxes compared with identical unlevered firms.**
    B. bondholders require higher rates of return compared with stockholders.
    C. earnings per share are no longer relevant with taxes.
    D. dividends are no longer relevant with taxes.
    E. All of the above.

22. MM Proposition I with corporate taxes states that:
    A. capital structure can affect firm value.
    B. by raising the debt-to-equity ratio, the firm can lower its taxes and thereby increase its total value.

C. firm value is maximized at an all debt capital structure.
D. **All of the above.**
E. None of the above.

23. The change in firm value in the presence of corporate taxes only is:
A. positive as equityholders face a lower effective tax rate.
B. **positive as equityholders gain the tax shield on the debt interest.**
C. negative because of the increased risk of default and fewer shares outstanding.
D. negative because of a reduction of equity outstanding.
E. None of the above.

24. A firm should select the capital structure which:
A. produces the highest cost of capital.
B. **maximizes the value of the firm.**
C. minimizes taxes.
D. is fully unlevered.
E. has no debt.

25. In a world of no corporate taxes if the use of leverage does not change the value of the levered firm relative to the unlevered firm this is known as:
A. MM Proposition III that the cost of stock is less than the cost of debt.
B. MM Proposition I that leverage is invariant to market value.
C. MM Proposition II that the cost of equity is always constant.
D. **MM Proposition I that the market value of the firm is invariant to the capital structure.**
E. MM Proposition III that there is no risk associated with leverage in a no tax world.

26. Mr. A invested in Stock of X Ltd. when the firm was financed solely with equity. The firm is now utilizing debt in its capital structure. To unlever his position, Mr. A needs to:
A. borrow some money and purchase additional shares of X ltd.

B. maintain his current position as the debt of the firm did not affect his personal leverage position.
C. sell some shares of X ltd. and hold the proceeds in cash.
D. **sell some shares of X ltd. and loan it out such that he creates a personal debt-equity ratio equal to that of the firm.**
E. create a personal debt-equity ratio that is equal to exactly 50% of the debt-equity ratio of the firm.

27. The capital structure chosen by a firm doesn't really matter because of:
A. taxes.
B. the interest tax shield.
C. the relationship between dividends and earnings per share.
D. the effects of leverage on the cost of equity.
E. **homemade leverage.**

28. MM Proposition I with no tax supports the argument that:
A. business risk determines the return on assets.
B. the cost of equity rises as leverage rises.
C. **it is completely irrelevant how a firm arranges its finances.**
D. a firm should borrow money to the point where the tax benefit from debt is equal to the cost of the increased probability of financial distress.
E. financial risk is determined by the debt-equity ratio.

29. The proposition that the value of a levered firm is equal to the value of an unlevered firm is known as:
A. **MM Proposition I with no tax.**
B. MM Proposition II with no tax.
C. MM Proposition I with tax.
D. MM Proposition II with tax.
E. static theory proposition

30. The concept of homemade leverage is most associated with:

A. **MM Proposition I with no tax.**
B. MM Proposition II with no tax.
C. MM Proposition I with tax.
D. MM Proposition II with tax.
E. static theory proposition.

31. Which of the following statements are correct in relation to MM Proposition II with no taxes? I) The return on assets is equal to the weighted average cost of capital. II) Financial risk is determined by the debt-equity ratio. III) Financial risk determines the return on assets. IV) The cost of equity declines when the amount of leverage used by a firm rises.
    A. I and III only
    B. II and IV only
    C. **I and II only**
    D. III and IV only
    E. I and IV only

32. A company has a financial structure where equity is 70% of its total debt plus equity. Its cost of equity is 10% and gross loan interest is 5%. Corporation tax is paid at 30%. What is the company's weighted average cost of capital (WACC)?
    A. 7.45%
    B. 7.50%
    C. **8.05%**
    D. 8.50%

33. When sequential long-term financing is involved, the choice of debt or equity influences the future financial ____ of the firm.
    A. timing
    B. **flexibility**
    C. liquidity

34. The CAPM considers risk using the:

A. $\boldsymbol{\alpha}$ factor
B. **$\boldsymbol{\beta}$ factor**
C. $\boldsymbol{\mu}$ factor
D. $\boldsymbol{\eta}$ factor

35.Which of the following items is not allowable for corporation tax?
A. **dividend**
B. interest
C. distribution cost
D. administrative cost

LEVERAGES AND EBIT EPS ANALYSIS

1.Degree of total leverage can be applied in measuring change in

A. EBIT to a percentage change in quantity

B. EPS to a percentage change in EBIT

C. EPS to a percentage change in quantity

D. Quantity to a percentage change in EBIT

ANS. C

2. Investors can normally afford to assume larger risks in the ____ phase of the life- cycle.

A. Accumulation

B. Consolidation

C. Spending

D. gifting

ANS B

3.The measure of business risk is _____.

A. operating leverage

B.financial leverage

C.total leverage

D.working capital leverage

ANS.A

4._____ is the most important investment decision because it determines the risk-return characteristics of the portfolio.

A.Hedging

B.Market timing

C.Performance measurement

D.Asset allocation

ANS D

5. The value of EBIT at which EPS is equal to zero is known as _____.

A.Break-even point

B.Financial break-even point

C.Operating break-even point

D. Overall break-even point

ANS B

6. Degree of financial leverage is a measure of relationship between _____.

A.EPS and EBIT

B.EBIT and quantity produced

C.EPS and quantity produced

D.EPS and sales

ANS A

7.Operating leverage examines.

A.The effect of the change in the quantity on EBIT

B.The effect of the change in EBIT on the EPS of the company

C.The effect of the change in output to the EPS of the company

D.The effect of change in EPS on the output of the company

ANS. A

8.Which of the following is the expression for operating leverage?

A.Contribution/EBIT

B.EBT/Contribution

C.Contribution/EAT

D.Contribution/Quantity

ANS A

9.Operating Leverage is the response of changes in _____

A.EBIT to the changes in sales

B.EPS to the changes in EBIT

C.Production to the changes in sales

D.None of the above

ANS A

10._____ is example of financial intermediaries.

A.Commercial banks

B.Investment bank

C.Insurance companies

D.All of the above

ANS. D

Capital budgeting

1-The span of time within which the investment made for the project will be recovered by the net returns of the project is known as
(A) Period of return

(B) Payback period

(C) Span of return

(D) None of the above

2-Projects with _____ are preferred

(A) Lower payback period

(B) Normal payback period

(C) Higher payback period

(D) Any of the above

3-_____ on capital is called 'Cost of capital'.

(A) Lower expected return

(B) Normally expected return

(C) Higher expected return

(D) None of the above

4-The values of the future net incomes discounted by the cost of capital are called

(A) Average capital cost

(B) Discounted capital cost

(C) Net capital cost

(D) Net present values

5-Under Net present value criterion, a project is approved if

(A) Its net present value is positive

(B) The funds are unlimited

(C) Both (A) and (B)

(D) None of the above

6-The internal Rate of Return (IRR) criterion for project acceptance, under theoretically infinite funds is: accept all projects which have
(A) IRR equal to the cost of capital

(B) IRR greater than the cost of capital

(C) IRR less than the cost of capital

(D) None of the above

7-Which of the following criterion is often preferred
(A) Net present value

(B) Profitability index

(C) Internal Rate of Return

(D) All of the above

8-The project is accepted of
(A) if the profitability index is equal to one

(B) The funds are unlimited

(C) If the profitability index is greater than one

(D) Both (B) and (C)

9-Where capital availability is unlimited and the projects are not mutually exclusive, for the same cost of capital, following criterion is used
(A) Net present value

(B) Internal Rate of Return

(C) Profitability Index

(D) Any of the above

10-A project is accepted when

(A) Net present value is greater than zero

(B) Internal Rate of Return will be greater than cost of capital

(C) Profitability index will be greater than unity

(D) Any of the above

ANSWERS:
1-(B), 2-(A), 3-(B), 4-(D), 5-(C), 6-(B), 7-(C), 8-(D), 9-(D), 10-(D)

Important long Ques:

1. What is meant by financial leverage? How does it affect the capital structure of the company?

2. What is the importance of financial management?

3. Explain the objectives of financial management.

4. Explain briefly the functions of finance manager.

5. Explain in brief the long and short term of finance.

6. Why is the cost of capital important?

7. What is cost of debt capital?

8. Illustrate the method of computing cost of preference shares with the help of an example.

9. How many approaches are there for estimating cost of equity?

10. What points should be taken into consideration in order to calculate the cost of capital?

11. List any 5 factors determining the capital structure?

12. Distinguish between over – capitalization and under capitalization

13.. Explain The Relevance Of Time Value Of Money In Financial Decisions

14. What Do You Understand By Weighted Average Cost Of Capital?

15. What Is Optimum Capital Structure? Explain.

16. Explain The Assumptions Of Net Operating Income Approach (noi) Theory Of Capital Structure?

17. Explain the strength and weakness of company adding debt in their capital structure.

18. Critically evaluate various approaches in the finance function.

19. Explain the scope of financial management.

20. Discuss the significance of various financial decisions.

Capital Budgeting long ques.

1. What is capital budgeting?

2. Define the following capital budgeting methods?

a. Payback period

b. Return on Investment (ROI)

c. Net Present Value (NPV)

3. What is the biggest shortcoming of payback period?

4. Why is the NPV method considered a better capital budgeting method than the payback and ROI methods?

5. If you are CEO of a company and you are analyzing a given project with prospective revenues, what are some of the qualitative factors you will consider besides the quantitative capital budgeting methods?

6. Explain briefly how to make a decision of a given investment based on its positive or negative NPV?

7. Ginger Manufacturers wants to invest in a new machine costing $60,000. The company expects a regular annual net cash flow of $10,000 per year for 8 years after which, they expect to sell the machine for $20,000. Calculate;

a. Payback period

b. Return on investment

8. Washington Tenters Inc. specializes in making advanced camping tents. The company is expanding its operations and wants to open a new plant costing $600,000. The company expects varying annual net cash flows as follows;

Year	Year 1	Year 2	Year 3	Year 4	Year 5
Net Cash Flow	$120,000	$150,000	$160,000	$170,000	$100,000

Please Calculate:

a. Payback period

b. Net Present Value. (Assume the company expected 15% rate of return).

9. Kimco LLC. is tossing the idea of investing in a given project. Kimco wants to invest in a project worthy $250,000 and wants its money back within five years and nothing more than 5 years. What is the expected annual cash flows that Kimco will get in order to accept the project?

10. Medical Experts Inc. is considering contracting an outside company to supply medical equipments for its clients. Medical Experts' managers want to make a decision of choosing between two suppliers who will be contracted for a period of 4 years. The following are the details of the two options:

Supplier	Initial Investment	Annual Cash Flow	Period in years
Supplier 1	$150,000	$50,000	4
Supplier 2	$100,000	$25,000	4

Please answer the following questions:

a. What is the Payback period for each of the two options?

b. What is the Net Present Value for each of the two options if the expected rate of return is 10%?

c. Which supplier do you think Medical Experts Inc. should choose?

Working capital management

1. Explain the term working capital. What is the primary objective of working capital management?
2. What factors affect working capital requirement?
3. What are the sources used for financing temporary requirement of working capital?
4. What is working capital cycle?
5. Define a.) Fixed working capital

   b.) Variable working capital

Cash management

1. What is management of cash?
2. What are the motives of a company behind holding the cash?
3. What are the principles of cash management?
4. What are delay cash payments? What techniques are used for this?
5. What factors are considered for final selection of avenue for investing cash balance?

Inventory management

1. What is Lead Time?
2. What is The EOQ Formula?
3. What Are The Important Considerations In Inventory Control?
4. What is Weighted Average Cost?
5. What Are Finished Goods?

Receivable management

1. What is management of receivables? What are its objects?
2. What is float in receivables management?
3. What is Factoring? What is the procedure for factoring?
4. What steps are involved in Factoring operations?
5. What are the advantages and disadvantages of Factoring?

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3. **USOL NOTES**