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CHAPTER ONE

FINANCIAL MANAGEMENT : AN OVERVIEW

Question : What do you mean by financial management ?

Answer :

Meaning of Financial Management :

The primary task of a Chartered Accountant is to deal with funds, 'Management of Funds' is an important aspect of financial management in a business undertaking or any other institution like hospital, art society, and so on. The term 'Financial Management' has been defined differently by different authors.

According to Solomon "Financial Management is concerned with the efficient use of an important economic resource, namely capital funds." Phillippatus has given a more elaborate definition of the term, as , "Financial Management, is concerned with the managerial decisions that results in the acquisition and financing of short and long term credits for the firm." Thus, it deals with the situations that require selection of specific problem of size and growth of an enterprise. The analysis of these decisions is based on the expected inflows and outflows of funds and their effect on managerial objectives. The most acceptable definition of financial management is that given by S.C.Kuchhal as, "Financial management deals with procurement of funds and their effective utilisation in the business." Thus, there are 2 basic aspects of financial management :

1) procurement of funds :

As funds can be obtained from different sources thus, their procurement is always considered as a complex problem by business concerns. These funds procured from different sources have different characteristics in terms of risk, cost and control that a manager must consider while procuring funds. The funds should be procured at minimum cost, at a balanced risk and control factors.

Funds raised by issue of equity shares are the best from risk point of view for the company, as it has no repayment liability except on winding up of the company, but from cost point of view, it is most expensive, as dividend expectations of shareholders are higher than prevailing interest rates and dividends are appropriation of profits and not allowed as expense under the income tax act. The issue of new equity shares may dilute the control of the existing shareholders.

Debentures are comparatively cheaper since the interest is paid out of profits before tax. But, they entail a high degree of risk since they

have to be repaid as per the terms of agreement; also, the interest payment has to be made whether or not the company makes profits.

Funds can also be procured from banks and financial institutions, they provide funds subject to certain restrictive covenants. These covenants restrict freedom of the borrower to raise loans from other sources. The reform process is also moving in direction of a closer monitoring of 'end use' of resources mobilised through capital markets. Such restrictions are essential for the safety of funds provided by institutions and investors. There are other financial instruments used for raising finance e.g. commercial paper, deep discount bonds, etc. The finance manager has to balance the availability of funds and the restrictive provisions tied with such funds resulting in lack of flexibility.

In the globalised competitive scenario, it is not enough to depend on available ways of finance but resource mobilisation is to be undertaken through innovative ways or financial products that may meet the needs of investors. Multiple option convertible bonds can be sighted as an example, funds can be raised indigenously as also from abroad. Foreign Direct Investment (FDI) and Foreign Institutional Investors (FII) are two major sources of finance from abroad along with American Depository Receipts (ADR's) and Global Depository Receipts (GDR's). The mechanism of procuring funds is to be modified in the light of requirements of foreign investors. Procurement of funds inter alia includes :

- Identification of sources of finance
- Determination of finance mix
- Raising of funds
- Division of profits between dividends and retention of profits i.e. internal fund generation.

2) effective use of such funds :

The finance manager is also responsible for effective utilisation of funds. He must point out situations where funds are kept idle or are used improperly. All funds are procured at a certain cost and after entailing a certain amount of risk. If the funds are not utilised in the manner so that they generate an income higher than cost of procurement, there is no meaning in running the business. It is an important consideration in dividend decisions also, thus, it is crucial to employ funds properly and profitably. The funds are to be employed in the manner so that the company can produce at its optimum level without endangering its financial solvency. Thus, financial implications of each decision to invest in fixed assets are to be properly analysed. For this, the finance manager must possess sound knowledge of techniques of capital budgeting and must keep in view the need of adequate working capital and ensure that while firms enjoy an optimum level of working capital they do not keep too much funds blocked in inventories, book debts, cash, etc.

Fixed assets are to be financed from medium or long term funds, and not short term funds, as fixed assets cannot be sold in short term i.e. within a year, also a large amount of funds would be blocked in stock in hand as the company cannot immediately sell its finished goods.

Question : Explain the scope of financial management ?

Answer : Scope of financial management :

A sound financial management is essential in all type of financial organisations - whether profit oriented or not, where funds are involved and also in a centrally planned economy as also in a capitalist set-up. Firms, as per the commercial history, have not liquidated because their technology was obsolete or their products had no or low demand or due to any other factor, but due to lack of financial management. Even in boom period, when a company makes high profits, there is danger of liquidation, due to bad financial management. The main cause of liquidation of such companies is over-trading or over-expanding without an adequate financial base.

Financial management optimises the output from the given input of funds and attempts to use the funds in a most productive manner. In a country like India, where resources are scarce and demand on funds are many, the need for proper financial management is enormous. If proper techniques are used most of the enterprises can reduce their capital employed and improve return on investment. Thus, as men and machine are properly managed, finances are also to be well managed.

In newly started companies, it is important to have sound financial management, as it ensures their survival, often such companies ignores financial management at their own peril. Even a simple act, like depositing the cheques on the day of their receipt is not performed. Such organisations pay heavy interest charges on borrowed funds, but are tardy in realising their own debtors. This is due to the fact they lack realisation of the concept of time value of money, it is not appreciated that each value of rupee has to be made use of and that it has a direct cost of utilisation. It must be realised that keeping rupee idle even for a day, results into losses. A non-profit organisation may not be keen to make profit, traditionally, but it does need to cut down its cost and use the funds at its disposal to their optimum capacity. A sound sense of financial management has to be cultivated among our bureaucrats, administrators, engineers, educationists and public at large. Unless this is done, colossal wastage of the capital resources cannot be arrested.

Question : What are the objectives of financial management ?

Answer :

Objectives of financial management :

Efficient financial management requires existence of some objectives or goals because judgment as to whether or not a financial decision is efficient is to be made in light of some objective. The two main objectives of financial management are :

1) Profit Maximisation :

It is traditionally being argued, that the objective of a company is to earn profit, hence the objective of financial management is profit maximisation. Thus, each alternative, is to be seen by the finance manager from the view point of profit maximisation. But, it cannot be the only objective of a company, it is at best a limited objective else a number of problems would arise. Some of them are :

a) The term profit is vague and does not clarify what exactly it means. It conveys different meaning to different people.

b) Profit maximisation has to be attempted with a realisation of risks involved. There is direct relation between risk and profit; higher the risk, higher is the profit. For maximising profit, risk is altogether ignored, implying that finance manager accepts highly risky proposals also. Practically, risk is a very important factor to be balanced with profit objective.

c) Profit maximisation is an objective not taking into account the time pattern of returns.

E.g. Proposal X gives returns higher than that by proposal Y but, the time period is say, 10 years and 7 years respectively. Thus, the overall profit is only considered not the time period, nor the flow of profit.

d) Profit maximisation as an objective is too narrow, it fails to take into account the social considerations and obligations to various interests of workers, consumers, society, as well as ethical trade practices. Ignoring these factors, a company cannot survive for long. Profit maximisation at the cost of social and moral obligations is a short sighted policy.

2) Wealth maximisation :

The companies having profit maximisation as its objective, may adopt policies yielding exorbitant profits in the short run which are unhealthy for the growth, survival and overall interests of the business. A company may not undertake planned and prescribed shut-downs of the plant for maintenance, and so on for maximising profits in the short run. Thus, the objective of a firm should be to maximise its value or wealth.

According to Van Horne, "Value of a firm is represented by the market price of the company's common stock.....the market price of a firm's stock represents the focal judgment of all market participants as to what the value of the particular firm is. It takes into account present as also prospective future earnings per share, the timing and risk of these earnings, the dividend policy of the firm and many other factors having a bearing on the market price of stock. The market price serves as a performance index or report card of the firm's progress. It indicates how well management is doing on behalf of stockholders." Share prices in the share market, at a given point of time, are the result of a mixture of many factors, as general economic outlook, particular outlook of the companies under consideration, technical factors and even mass psychology, but, taken on a long term basis, they reflect the value, which various parties, put on the company.

Normally this value is a function, of :

- the likely rate of earnings per share of the company; and
- the capitalisation rate.

The likely rate of earnings per share (EPS) depends upon the assessment as to the profitably a company is going to operate in the future or what it is likely to earn against each of its ordinary shares.

The capitalisation rate reflects the liking of the investors of a company. If a company earns a high rate of earnings per share through its risky operations or risky financing pattern, the investors will not look upon its share with favour. To that extent, the market value of the shares of such a company will be low. An easy way to determine the capitalisation rate is to start with fixed deposit interest rate of banks, investor would want a higher return if he invests in shares, as the risk increases. How much higher return is expected, depends on the risks involved in the particular share which in turn depends on company policies, past records, type of business and confidence commanded by the management. Thus, capitalisation rate is the cumulative result of the assessment of the various shareholders regarding the risk and other qualitative factors of a company. If a company invests its funds in risky ventures, the investors will put in their money if they get higher return as compared to that from a low risk share.

The market value of a share is thus, a function of earnings per share and capitalisation rate. Since the profit maximisation criteria cannot be applied in real world situations because of its technical limitation the finance manager of a company has to ensure that his decisions are such that the market value of the shares of the company is maximum in the long run. This implies that the financial policy has to be such that it optimises the EPS, keeping in view the risk and other factors. Thus, wealth maximisation is a better objective for a commercial undertaking as compared to return and risk.

There is a growing emphasis on social and other obligations of an enterprise. It cannot be denied that in the case of undertakings, especially those in the public sector, the question of wealth maximisation is to be seen in context of social and other obligations of the enterprise.

It must be understood that financial decision making is related to the objectives of the business. The finance manager has to ensure that there is a positive impact of each financial decision on the furtherance of the business objectives. One of the main objective of an undertaking may be to "progressively build up the capability to undertake the design and development of aircraft engines, helicopters, etc." A finance manager in such cases will allocate funds in a way that this objective is achieved although such an allocation may not necessarily maximise wealth.

Question : What are the functions of a Finance Manager ?

Answer :

Functions of a Finance Manager :

The twin aspects, procurement and effective utilisation of funds are crucial tasks faced by a finance manager. The financial manager is required to look into the financial implications of any decision in the firm. Thus all decisions involve management of funds under the purview of the finance manager. A large number of decisions involve substantial or material changes in value of funds procured or employed. The finance manager, has to manage funds in such a way so as to make their optimum utilisation and to ensure their procurement in a way that the risk, cost and control are properly balanced under a given situation. He may not, be concerned with the decisions, that do not affect the basic financial management and structure.

The nature of job of an accountant and finance manager is different, an accountant's job is primarily to record the business transactions, prepare financial statements showing results of the organisation for a given period and its financial condition at a given point of time. He is to record various happenings in monetary terms to ensure that assets, liabilities, incomes and expenses are properly grouped, classified and disclosed in the financial statements. Accountant is not concerned with management of funds that is a specialised task and in modern times a complex one. The finance manager or controller has a task entirely different from that of an accountant, he is to manage funds. Some of the important decisions as regards finance are as follows :

1) Estimating the requirements of funds : A business requires funds for long term purposes i.e. investment in fixed assets and so on. A careful estimate of such funds is required to be made. An assessment has to be made regarding requirements of working capital involving, estimation of amount of funds blocked in current assets and that likely to be generated for short periods through current liabilities. Forecasting the requirements of funds is done by use of techniques of budgetary control and long range planning. Estimates of requirements of funds can be made only if all the physical activities of the organisation are forecasted. They can be translated into monetary terms.

2) Decision regarding capital structure : Once the requirements of funds is estimated, a decision regarding various sources from where the funds would be raised is to be taken. A proper mix of the various sources is to be worked out, each source of funds involves different issues for consideration. The finance manager has to carefully look into the existing capital structure and see how the various proposals of raising funds will affect it. He is to maintain a proper balance between long and short term funds and to ensure that sufficient long-term funds are raised in order to finance fixed assets and other long-term investments and to provide for permanent needs of working capital. In the overall volume of long-term funds, he is to maintain a proper balance between own and loan funds and to see that the overall capitalisation of the company is such, that the company is able to procure funds at minimum cost and is able to tolerate shocks of lean periods. All these decisions are known as 'financing decisions'.

3) Investment decision : Funds procured from different sources have to be invested in various kinds of assets. Long term funds are used in a project for fixed and also current assets. The investment of funds in a project is to be made after careful assessment of various projects through capital budgeting. A part of long term funds is also to be kept for financing working capital requirements. Asset management policies are to be laid down regarding various items of current assets, inventory policy is to be determined by the production and finance manager, while keeping in mind the requirement of production and future price estimates of raw materials and availability of funds.

4) Dividend decision : The finance manager is concerned with the decision to pay or declare dividend. He is to assist the top management in deciding as to what amount of dividend should be paid to the shareholders and what amount be retained by the company, it involves a large number of considerations. Economically speaking, the amount to be retained or be paid to the shareholders should depend on whether the company or shareholders can make a more profitable use of resources, also considerations like trend of earnings, the trend of share market prices, requirement of funds for future growth, cash flow situation, tax position of share holders, and so on to be kept in mind.

The principal function of a finance manager relates to decisions regarding procurement, investment and dividends.

5) Supply of funds to all parts of the organisation or cash management :

The finance manager has to ensure that all sections i.e. branches, factories, units or departments of the organisation are supplied with adequate funds. Sections having excess funds contribute to the central pool for use in other sections that needs funds. An adequate supply of cash at all points of time is absolutely essential for the smooth flow of business operations. Even if one of the many branches is short of funds, the whole business may be in danger, thus, cash management and cash disbursement policies are important with a view to supplying adequate funds at all times and points in an organisation. It should ensure that there is no excessive cash.

6) Evaluating financial performance : Management control systems are usually based on financial analysis, e.g. ROI (return on investment) system of divisional control. A finance manager has to constantly review the financial performance of various units of the organisation. Analysis of the financial performance helps the management for assessing how the funds are utilised in various divisions and what can be done to improve it.

7) Financial negotiations : Finance manager's major time is utilised in carrying out negotiations with financial institutions, banks and public depositors. He has to furnish a lot of information to these institutions and persons in order to ensure that raising of funds is within the statutes. Negotiations for outside financing often requires specialised skills.

8) Keeping in touch with stock exchange quotations and behavior of share prices : It involves analysis of major trends in the stock market and judging their impact on share prices of the company's shares.

Question : What are the various methods and tools used for financial management ?

Answer : Finance manager uses various tools to discharge his functions as regards financial management. In the area of financing there are various methods to procure funds from long as also short term sources. The finance manager has to decide an optimum capital structure that can contribute to the maximisation of shareholder's wealth. Financial leverage or trading on equity is an important method by which a finance manager may increase the return to common shareholders.

For evaluation of capital proposals, the finance manager uses capital budgeting techniques as payback, internal rate of return, net present value, profitability index, average rate of return. In the area of current assets management, he uses methods to check efficient utilisation of current resources at the enterprise's disposal. An enterprise can increase its profitability without affecting its liquidity by an efficient management of working capital. For instance, in the area of working capital management, cash management may be centralised or de-centralised; centralised method is considered a better tool of managing the enterprise's liquid resources. In the area of dividend decisions, a firm is faced with the problem of declaration or postponing declaration of dividend, a problem of internal financing.

For evaluation of an enterprise's performance, there are various methods, as ratio analysis. This technique is used by all concerned persons. Different ratios serving different objectives. An investor uses various ratios to evaluate the profitability of investment in a particular company. They enable the investor, to judge the profitability, solvency, liquidity and growth aspects of the firm. A short-term creditor is more interested in the liquidity aspect of the firm, and it is possible by a study of liquidity ratios - current ratio, quick ratios, etc. The main concern of a finance manager is to provide adequate funds from best possible source, at the right time and at minimum cost and to ensure that the funds so acquired are put to best possible use. Funds flow and cash flow statements and projected financial statements help a lot in this regard.

Question : Discuss the role of a finance manager ?

Answer : In the modern enterprise, a finance manager occupies a key position, he being one of the dynamic member of corporate managerial team. His role, is becoming more and more pervasive and significant in solving complex managerial problems. Traditionally, the role of a finance

manager was confined to raising funds from a number of sources, but due to recent developments in the socio-economic and political scenario throughout the world, he is placed in a central position in the organisation. He is responsible for shaping the fortunes of the enterprise and is involved in the most vital decision of allocation of capital like mergers, acquisitions, etc. A finance manager, as other members of the corporate team cannot be averse to the fast developments, around him and has to take note of the changes in order to take relevant steps in view of the dynamic changes in circumstances. E.g. introduction of Euro - as a single currency of Europe is an international level change, having impact on the corporate financial plans and policies world-wide.

Domestic developments as emergence of financial services sectors and SEBI as a watch dog for investor protection and regulating body of capital markets is contributing to the importance of the finance manager's job. Banks and financial institutions were the major sources of finance, monopoly was the state of affairs of Indian business, shareholders satisfaction was not the promoter's concern as most of the companies, were closely held. Due to the opening of economy, competition increased, seller's market is being converted into buyer's market. Development of internet has brought new challenges before the managers. Indian concerns no longer have to compete only nationally, it is facing international competition. Thus a new era is ushered during the recent years, in financial management, specially, with the development of financial tools, techniques, instruments and products. Also due to increasing emphasis on public sector undertakings to be self-supporting and their dependence on capital market for fund requirements and the increasing significance of liberalisation, globalisation and deregulation.

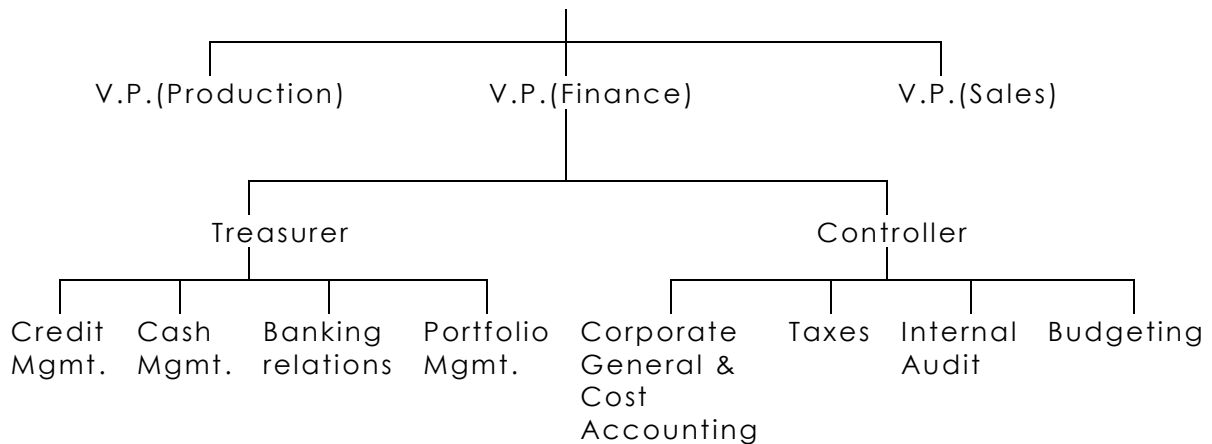
Question : Draw a typical organisation chart highlighting the finance function of a company ?

Answer : The finance function is the same in all enterprises, details may differ, but major features are universal in nature. The finance function occupies a significant position in an organisation and is not the responsibility of a sole executive. The important aspects of finance manager are to be carried on by top management i.e. managing director, chairman, board of directors. The board of directors takes decisions involving financial considerations, the financial controller is basically meant for assisting the top management and has an important role of contributing to good decision making on issues involving all functional areas of business. He is to bring out financial implications of all decisions and make them understood. He may be called as the financial controller, vice-president (finance), chief accountant, treasurer, or by any other designation, but has the primary responsibility of performing finance functions. He is to discharge the responsibility keeping in view the overall outlook of the organisation.

BOARD OF DIRECTORS

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PRESIDENT



Organisation chart of finance function

The Chief finance executive works directly under the President or Managing Director of the company. Besides routine work, he keeps the Board informed about all phases of business activity, inclusive of economic, social and political developments affecting the business behaviour and from time to time furnishes information about the financial status of the company. His functions are : (i) Treasury functions and (ii) Control functions.

Relationship Between financial management and other areas of management : There is close relationship between the areas of financial and other management like production, sales, marketing, personnel, etc. All activities directly or indirectly involve acquisition and use of funds. Determination of production, procurement and marketing strategies are the important prerogatives of the respective department heads, but for implementing, their decisions funds are required. Like, replacement of fixed assets for improving production capacity requires funds. Similarly, the purchase and sales promotion policies are laid down by the purchase and marketing divisions respectively, but again procurement of raw materials, advertising and other sales promotion require funds. Same is for, recruitment and promotion of staff by the personnel department would require funds for payment of salaries, wages and other benefits. It may, many times, be difficult to demarcate where one function ends and other starts. Although, finance function has a significant impact on the other functions, it need not limit or obstruct the general functions of the business. A firm facing financial difficulties, may give weightage to financial considerations and devise its own production and marketing strategies to suit the situation. While a firm having surplus finance, would have comparatively lower rigidity as regards the financial considerations vis-a-vis other functions of the management.

Pervasive Nature of Finance Function : Finance is the life blood of of an organisation, it is the common thread binding all organisational functions. This interface can be explained as below :

* **Production - Finance** : Production function requires a large investment. Productive use of resources ensures a cost advantage for the firm. Optimum investment in inventories improves profit margins. Many parameters of production have an impact on cost and can possibly be controlled through internal management, thus enhancing profits. Important production decisions like make or buy can be taken only after the financial implications are considered.

* **Marketing - Finance** : Various aspects of marketing management have financial implications, decisions to hold inventories on large scale to provide off the shelf service to customers increases inventory holding cost and at the same time may increase sales, similar with extension of credit facility to customers. Marketing strategies to increase sale in most cases, have additional costs that are to be weighted carefully against incremental revenue before taking decision.

* **Personnel - Finance** : In the globalised competitive scenario, business organisations are moving to a flatter organisational structure. Investments in human resource developments are also increasing. Restructuring of remuneration structure, voluntary retirement schemes, sweat equity, etc. have become major financial decisions in the human resource management.

Question : Discuss some of the instances indicating the changing scenario of financial management in India ?

Answer : Modern financial management has come a long way from traditional corporate finance, the finance manager is working in a challenging environment that is changing continuously. Due to the opening of the economies, global resources are being tapped, the opportunities available to finance managers virtually have no limits, he must also understand the risks entailing all his decisions. Financial management is passing through an era of experimentation and excitement is a part of finance activities now a days. A few instances are as below :

i) Interest rates have been freed from regulation, treasury operations thus, have to be more sophisticated due to fluctuating interest rates. Minimum cost of capital necessitates anticipating interest rate movements.

ii) The rupee had become fully convertible on current account.

iii) Optimum debt equity mix is possible. Firms have to take advantage of the financial leverage to increase the shareholder's wealth, however, using financial leverage necessarily makes business vulnerable to financial risk. Finding a correct trade off between risk and improved return to shareholders is a challenging task for a finance manager.

iv) With free pricing of issues, the optimum price determination of new issues is a daunting task as overpricing results in under subscription and loss of investor confidence, while under pricing leads to unwarranted increase in number of shares thereby reducing the EPS.

v) Maintaining share prices is crucial. In the liberalised scenario the capital markets is the important avenue of funds for business. Dividend and bonus policies framed by finance managers have a direct bearing on the share prices.

vi) Ensuring management control is vital especially in light of foreign participation in equity, backed by huge resources making the firm an easy takeover target. Existing managements might lose control in the eventuality of being unable to take up share entitlements, financial strategies, are vital to prevent this.

In a resources constraint situation, the importance of financial management is highlighted as financial strategies are required to get the company through the constraints position. The reasons for it, may be lack of demand, scarcity of raw materials, labour constraints, etc. If the problem is not properly dealt with at initial stages, it could lead ultimately to bankruptcy and sickness. The financial manager's role in such situations, would be first to ascertain, whether under the circumstances, the organisation is viable or not. If the viability of the organisation, itself is in doubt, then the alternative of closing down operations must be explored. But, in major cases the problem can be solved with proper strategies.

Question : What is the relevance of time value of money in financial decision making ?

Answer : A finance manager is required to make decisions on investment, financing and dividend in view of the company's objectives. The decisions as purchase of assets or procurement of funds i.e. the investment/financing decisions affect the cash flow in different time periods. Cash outflows would be at one point of time and inflow at some other point of time, hence, they are not comparable due to the change in rupee value of money. They can be made comparable by introducing the interest factor. In the theory of finance, the interest factor is one of the crucial and exclusive concept, known as the time value of money.

Time value of money means that worth of a rupee received today is different from the same received in future. The preference for money now as compared to future is known as time preference of money. The concept is applicable to both individuals and business houses.

Reasons of time preference of money :

1) Risk :

There is uncertainty about the receipt of money in future.

2) Preference for present consumption :

Most of the persons and companies have a preference for present consumption may be due to urgency of need.

3) Investment opportunities :

Most of the persons and companies have preference for present money because of availabilities of opportunities of investment for earning additional cash flows.

Importance of time value of money :

The concept of time value of money helps in arriving at the comparable value of the different rupee amount arising at different points of time into equivalent values of a particular point of time, present or future. The cash flows arising at different points of time can be made comparable by using any one of the following :

- by compounding the present money to a future date i.e. by finding out the value of present money.
- by discounting the future money to present date i.e. by finding out the present value(PV) of future money.

1) Techniques of compounding :

i) Future value (FV) of a single cash flow :

The future value of a single cash flow is defined as :

$$FV = PV (1 + r)^n$$

Where, FV = future value

PV = Present value

r = rate of interest per annum

n = number of years for which compounding is done.

If, any variable i.e. PV, r, n varies, then FV also varies. It is very tedious to calculate the value of

$(1 + r)^n$ so different combinations are published in the form of tables.

These may be referred for computation, otherwise one should use the knowledge of logarithms.

ii) Future value of an annuity :

An annuity is a series of periodic cash flows, payments or receipts, of equal amount. The premium payments of a life insurance policy, for instance are an annuity. In general terms the future value of an annuity is given as :

$$FVA_n = A * [(1 + r)^n - 1]/r$$

Where,

FVA_n = Future value of an annuity which has duration of n years.

A = Constant periodic flow

r = Interest rate per period

n = Duration of the annuity

Thus, future value of an annuity is dependent on 3 variables, they being, the annual amount, rate of interest and the time period, if any of these variable changes it will change the future value of the annuity. A published table is available for various combination of the rate of interest 'r' and the time period 'n'.

2) Techniques of discounting :

i) Present value of a single cash flow :

The present value of a single cash flow is given as :

$$PV = FV_n \left(\frac{1}{1 + r} \right)^n$$

Where,

FV_n = Future value n years hence

r = rate of interest per annum

n = number of years for which discounting is done.

From above, it is clear that present value of a future money depends upon 3 variables i.e. FV, the rate of interest and time period. The published tables for various combinations of $\left(\frac{1}{1 + r} \right)^n$

$$\frac{1}{1 + r}$$

are available.

ii) Present value of an annuity :

Sometimes instead of a single cash flow, cash flows of same amount is received for a number of years. The present value of an annuity may be expressed as below :

$$\begin{aligned} PVA_n &= A/(1 + r)^1 + A/(1 + r)^2 + + A/(1 + r)^{n-1} + A/(1 + r)^n \\ &= A [1/(1 + r)^1 + 1/(1 + r)^2 + + 1/(1 + r)^{n-1} + 1/(1 + r)^n] \\ &= A \left[\frac{(1 + r)^n - 1}{r(1 + r)^n} \right] \end{aligned}$$

Where,

PVA_n = Present value of annuity which has duration of n years

A = Constant periodic flow

r = Discount rate.

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Funds can also be procured from banks and financial institutions, they provide funds subject to certain restrictive covenants. These covenants restrict freedom of the borrower to raise loans from other sources. The reform process is also moving in direction of a closer monitoring of 'end use' of resources mobilised through capital markets.

Such restrictions are essential for the safety of funds provided by institutions and investors. There are other financial instruments used for raising finance e.g. commercial paper, deep discount bonds, etc. The finance manager has to balance the availability of funds and the restrictive provisions tied with such funds resulting in lack of flexibility.

In the globalised competitive scenario, it is not enough to depend on available ways of finance but resource mobilisation is to be undertaken through innovative ways or financial products that may meet the needs of investors. Multiple option convertible bonds can be sighted as an example, funds can be raised indigenously as also from abroad. Foreign Direct Investment (FDI) and Foreign Institutional Investors (FII) are two major sources of finance from abroad along with American Depository Receipts (ADR's) and Global Depository Receipts (GDR's). The mechanism of procuring funds is to be modified in the light of requirements of foreign investors. Procurement of funds inter alia includes :

- Identification of sources of finance
- Determination of finance mix
- Raising of funds
- Division of profits between dividends and retention of profits i.e. internal fund generation.

2) effective use of such funds :

The finance manager is also responsible for effective utilisation of funds. He must point out situations where funds are kept idle or are used improperly. All funds are procured at a certain cost and after entailing a certain amount of risk. If the funds are not utilised in the manner so that they generate an income higher than cost of procurement, there is no meaning in running the business. It is an important consideration in dividend decisions also, thus, it is crucial to employ funds properly and profitably. The funds are to be employed in the manner so that the company can produce at its optimum level without endangering its financial solvency. Thus, financial implications of each decision to invest in fixed assets are to be properly analysed. For this, the finance manager must possess sound knowledge of techniques of capital budgeting and must keep in view the need of adequate working capital and ensure that while firms enjoy an optimum level of working capital they do not keep too much funds blocked in inventories, book debts, cash, etc.

Fixed assets are to be financed from medium or long term funds, and not short term funds, as fixed assets cannot be sold in short term i.e. within a year, also a large amount of funds would be blocked in stock in hand as the company cannot immediately sell its finished goods.

Question : Explain the scope of financial management ?

Answer : Scope of financial management :

A sound financial management is essential in all type of financial organisations - whether profit oriented or not, where funds are involved and also in a centrally planned economy as also in a capitalist set-up. Firms, as per the commercial history, have not liquidated because their technology was obsolete or their products had no or low demand or due to any other factor, but due to lack of financial management. Even in boom period, when a company makes high profits, there is danger of liquidation, due to bad financial management. The main cause of liquidation of such companies is over-trading or over-expanding without an adequate financial base.

Financial management optimises the output from the given input of funds and attempts to use the funds in a most productive manner. In a country like India, where resources are scarce and demand on funds are many, the need for proper financial management is enormous. If proper techniques are used most of the enterprises can reduce their capital employed and improve return on investment. Thus, as men and machine are properly managed, finances are also to be well managed.

In newly started companies, it is important to have sound financial management, as it ensures their survival, often such companies ignores financial management at their own peril. Even a simple act, like depositing the cheques on the day of their receipt is not performed. Such organisations pay heavy interest charges on borrowed funds, but are tardy in realising their own debtors. This is due to the fact they lack realisation of the concept of time value of money, it is not appreciated that each value of rupee has to be made use of and that it has a direct cost of utilisation. It must be realised that keeping rupee idle even for a day, results into losses. A non-profit organisation may not be keen to make profit, traditionally, but it does need to cut down its cost and use the funds at its disposal to their optimum capacity. A sound sense of financial management has to be cultivated among our bureaucrats, administrators, engineers, educationists and public at large. Unless this is done, colossal wastage of the capital resources cannot be arrested.

Question : What are the objectives of financial management ?

Answer :

Objectives of financial management :

Efficient financial management requires existence of some objectives or goals because judgment as to whether or not a financial decision is efficient is to be made in light of some objective. The two main objectives of financial management are :

1) Profit Maximisation :

It is traditionally being argued, that the objective of a company is to earn profit, hence the objective of financial management is profit maximisation. Thus, each alternative, is to be seen by the finance manager from the view point of profit maximisation. But, it cannot be the

only objective of a company, it is at best a limited objective else a number of problems would arise. Some of them are :

a) The term profit is vague and does not clarify what exactly it means. It conveys different meaning to different people.

b) Profit maximisation has to be attempted with a realisation of risks involved. There is direct relation between risk and profit; higher the risk, higher is the profit. For maximising profit, risk is altogether ignored, implying that finance manager accepts highly risky proposals also. Practically, risk is a very important factor to be balanced with profit objective.

c) Profit maximisation is an objective not taking into account the time pattern of returns.

E.g. Proposal X gives returns higher than that by proposal Y but, the time period is say, 10 years and 7 years respectively. Thus, the overall profit is only considered not the time period, nor the flow of profit.

d) Profit maximisation as an objective is too narrow, it fails to take into account the social considerations and obligations to various interests of workers, consumers, society, as well as ethical trade practices. Ignoring these factors, a company cannot survive for long. Profit maximisation at the cost of social and moral obligations is a short sighted policy.

2) Wealth maximisation :

The companies having profit maximisation as its objective, may adopt policies yielding exorbitant profits in the short run which are unhealthy for the growth, survival and overall interests of the business. A company may not undertake planned and prescribed shut-downs of the plant for maintenance, and so on for maximising profits in the short run. Thus, the objective of a firm should be to maximise its value or wealth.

According to Van Horne, "Value of a firm is represented by the market price of the company's common stock.....the market price of a firm's stock represents the focal judgment of all market participants as to what the value of the particular firm is. It takes into account present as also prospective future earnings per share, the timing and risk of these earning, the dividend policy of the firm and many other factors having a bearing on the market price of stock. The market price serves as a performance index or report card of the firm's progress. It indicates how well management is doing on behalf of stockholders." Share prices in the share market, at a given point of time, are the result of a mixture of many factors, as general economic outlook, particular outlook of the companies under consideration, technical factors and even mass psychology, but, taken on a long term basis, they reflect the value, which various parties, put on the company.

Normally this value is a function, of :

- the likely rate of earnings per share of the company; and
- the capitalisation rate.

The likely rate of earnings per share (EPS) depends upon the assessment as to the profitability a company is going to operate in the future or what it is likely to earn against each of its ordinary shares.

The capitalisation rate reflects the liking of the investors of a company. If a company earns a high rate of earnings per share through its risky operations or risky financing pattern, the investors will not look upon its share with favour. To that extent, the market value of the shares of such a company will be low. An easy way to determine the capitalisation rate is to start with fixed deposit interest rate of banks, investor would want a higher return if he invests in shares, as the risk increases. How much higher return is expected, depends on the risks involved in the particular share which in turn depends on company policies, past records, type of business and confidence commanded by the management. Thus, capitalisation rate is the cumulative result of the assessment of the various shareholders regarding the risk and other qualitative factors of a company. If a company invests its funds in risky ventures, the investors will put in their money if they get higher return as compared to that from a low risk share.

The market value of a share is thus, a function of earnings per share and capitalisation rate. Since the profit maximisation criteria cannot be applied in real world situations because of its technical limitation the finance manager of a company has to ensure that his decisions are such that the market value of the shares of the company is maximum in the long run. This implies that the financial policy has to be such that it optimises the EPS, keeping in view the risk and other factors. Thus, wealth maximisation is a better objective for a commercial undertaking as compared to return and risk.

There is a growing emphasis on social and other obligations of an enterprise. It cannot be denied that in the case of undertakings, especially those in the public sector, the question of wealth maximisation is to be seen in context of social and other obligations of the enterprise.

It must be understood that financial decision making is related to the objectives of the business. The finance manager has to ensure that there is a positive impact of each financial decision on the furtherance of the business objectives. One of the main objective of an undertaking may be to "progressively build up the capability to undertake the design and development of aircraft engines, helicopters, etc." A finance manager in such cases will allocate funds in a way that this objective is achieved although such an allocation may not necessarily maximise wealth.

Question : What are the functions of a Finance Manager ?

Answer :

Functions of a Finance Manager :

The twin aspects, procurement and effective utilisation of funds are crucial tasks faced by a finance manager. The financial manager is required to look into the financial implications of any decision in the firm.

Thus all decisions involve management of funds under the purview of the finance manager. A large number of decisions involve substantial or material changes in value of funds procured or employed. The finance manager, has to manage funds in such a way so as to make their optimum utilisation and to ensure their procurement in a way that the risk, cost and control are properly balanced under a given situation. He may not, be concerned with the decisions, that do not affect the basic financial management and structure.

The nature of job of an accountant and finance manager is different, an accountant's job is primarily to record the business transactions, prepare financial statements showing results of the organisation for a given period and its financial condition at a given point of time. He is to record various happenings in monetary terms to ensure that assets, liabilities, incomes and expenses are properly grouped, classified and disclosed in the financial statements. Accountant is not concerned with management of funds that is a specialised task and in modern times a complex one. The finance manager or controller has a task entirely different from that of an accountant, he is to manage funds. Some of the important decisions as regards finance are as follows :

1) Estimating the requirements of funds : A business requires funds for long term purposes i.e. investment in fixed assets and so on. A careful estimate of such funds is required to be made. An assessment has to be made regarding requirements of working capital involving, estimation of amount of funds blocked in current assets and that likely to be generated for short periods through current liabilities. Forecasting the requirements of funds is done by use of techniques of budgetary control and long range planning. Estimates of requirements of funds can be made only if all the physical activities of the organisation are forecasted. They can be translated into monetary terms.

2) Decision regarding capital structure : Once the requirements of funds is estimated, a decision regarding various sources from where the funds would be raised is to be taken. A proper mix of the various sources is to be worked out, each source of funds involves different issues for consideration. The finance manager has to carefully look into the existing capital structure and see how the various proposals of raising funds will affect it. He is to maintain a proper balance between long and short term funds and to ensure that sufficient long-term funds are raised in order to finance fixed assets and other long-term investments and to provide for permanent needs of working capital. In the overall volume of long-term funds, he is to maintain a proper balance between own and loan funds and to see that the overall capitalisation of the company is such, that the company is able to procure funds at minimum cost and is able to tolerate shocks of lean periods. All these decisions are known as 'financing decisions'.

3) Investment decision : Funds procured from different sources have to be invested in various kinds of assets. Long term funds are used in a project for fixed and also current assets. The investment of funds in a project is to be made after careful assessment of various projects through capital budgeting. A part of long term funds is also to be kept for financing

working capital requirements. Asset management policies are to be laid down regarding various items of current assets, inventory policy is to be determined by the production and finance manager, while keeping in mind the requirement of production and future price estimates of raw materials and availability of funds.

4) Dividend decision : The finance manager is concerned with the decision to pay or declare dividend. He is to assist the top management in deciding as to what amount of dividend should be paid to the shareholders and what amount be retained by the company, it involves a large number of considerations. Economically speaking, the amount to be retained or be paid to the shareholders should depend on whether the company or shareholders can make a more profitable use of resources, also considerations like trend of earnings, the trend of share market prices, requirement of funds for future growth, cash flow situation, tax position of share holders, and so on to be kept in mind.

The principal function of a finance manager relates to decisions regarding procurement, investment and dividends.

5) Supply of funds to all parts of the organisation or cash management :

The finance manager has to ensure that all sections i.e. branches, factories, units or departments of the organisation are supplied with adequate funds. Sections having excess funds contribute to the central pool for use in other sections that needs funds. An adequate supply of cash at all points of time is absolutely essential for the smooth flow of business operations. Even if one of the many branches is short of funds, the whole business may be in danger, thus, cash management and cash disbursement policies are important with a view to supplying adequate funds at all times and points in an organisation. It should ensure that there is no excessive cash.

6) Evaluating financial performance : Management control systems are usually based on financial analysis, e.g. ROI (return on investment) system of divisional control. A finance manager has to constantly review the financial performance of various units of the organisation. Analysis of the financial performance helps the management for assessing how the funds are utilised in various divisions and what can be done to improve it.

7) Financial negotiations : Finance manager's major time is utilised in carrying out negotiations with financial institutions, banks and public depositors. He has to furnish a lot of information to these institutions and persons in order to ensure that raising of funds is within the statutes. Negotiations for outside financing often requires specialised skills.

8) Keeping in touch with stock exchange quotations and behavior of share prices : It involves analysis of major trends in the stock market and judging their impact on share prices of the company's shares.

Question : What are the various methods and tools used for financial management ?

Answer : Finance manager uses various tools to discharge his functions as regards financial management. In the area of financing there are various methods to procure funds from long as also short term sources. The finance manager has to decide an optimum capital structure that can contribute to the maximisation of shareholder's wealth. Financial leverage or trading on equity is an important method by which a finance manager may increase the return to common shareholders.

For evaluation of capital proposals, the finance manager uses capital budgeting techniques as payback, internal rate of return, net present value, profitability index, average rate of return. In the area of current assets management, he uses methods to check efficient utilisation of current resources at the enterprise's disposal. An enterprise can increase its profitability without affecting its liquidity by an efficient management of working capital. For instance, in the area of working capital management, cash management may be centralised or de-centralised; centralised method is considered a better tool of managing the enterprise's liquid resources. In the area of dividend decisions, a firm is faced with the problem of declaration or postponing declaration of dividend, a problem of internal financing.

For evaluation of an enterprise's performance, there are various methods, as ratio analysis. This technique is used by all concerned persons. Different ratios serving different objectives. An investor uses various ratios to evaluate the profitability of investment in a particular company. They enable the investor, to judge the profitability, solvency, liquidity and growth aspects of the firm. A short-term creditor is more interested in the liquidity aspect of the firm, and it is possible by a study of liquidity ratios - current ratio, quick ratios, etc. The main concern of a finance manager is to provide adequate funds from best possible source, at the right time and at minimum cost and to ensure that the funds so acquired are put to best possible use. Funds flow and cash flow statements and projected financial statements help a lot in this regard.

Question : Discuss the role of a finance manager ?

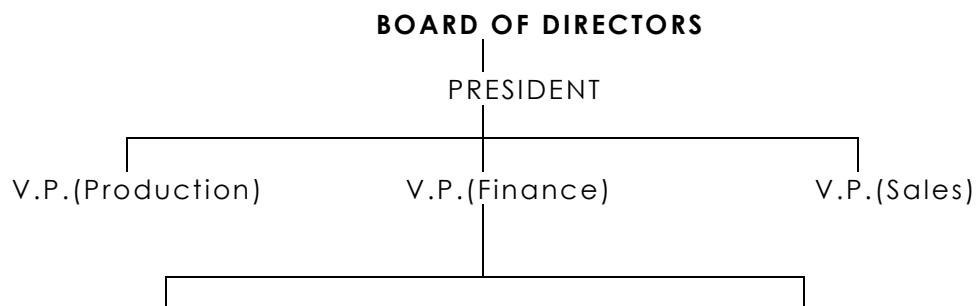
Answer : In the modern enterprise, a finance manager occupies a key position, he being one of the dynamic member of corporate managerial team. His role, is becoming more and more pervasive and significant in solving complex managerial problems. Traditionally, the role of a finance manager was confined to raising funds from a number of sources, but due to recent developments in the socio-economic and political scenario throughout the world, he is placed in a central position in the organisation. He is responsible for shaping the fortunes of the enterprise and is involved in the most vital decision of allocation of capital like mergers, acquisitions, etc. A finance manager, as other members of the corporate team cannot be averse to the fast developments, around him

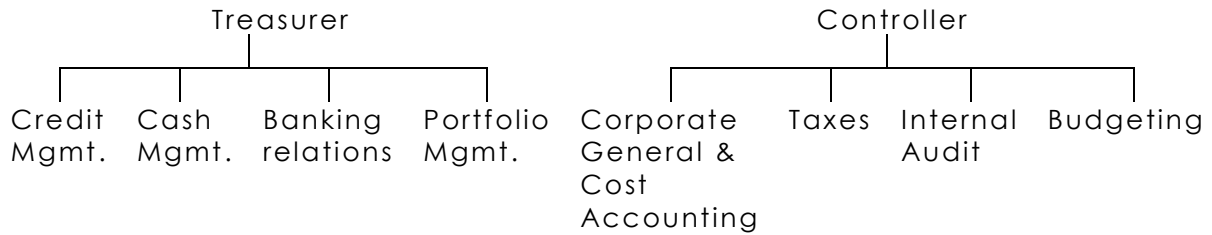
and has to take note of the changes in order to take relevant steps in view of the dynamic changes in circumstances. E.g. introduction of Euro - as a single currency of Europe is an international level change, having impact on the corporate financial plans and policies world-wide.

Domestic developments as emergence of financial services sectors and SEBI as a watch dog for investor protection and regulating body of capital markets is contributing to the importance of the finance manager's job. Banks and financial institutions were the major sources of finance, monopoly was the state of affairs of Indian business, shareholders satisfaction was not the promoter's concern as most of the companies, were closely held. Due to the opening of economy, competition increased, seller's market is being converted into buyer's market. Development of internet has brought new challenges before the managers. Indian concerns no longer have to compete only nationally, it is facing international competition. Thus a new era is ushered during the recent years, in financial management, specially, with the development of financial tools, techniques, instruments and products. Also due to increasing emphasis on public sector undertakings to be self-supporting and their dependence on capital market for fund requirements and the increasing significance of liberalisation, globalisation and deregulation.

Question : Draw a typical organisation chart highlighting the finance function of a company ?

Answer : The finance function is the same in all enterprises, details may differ, but major features are universal in nature. The finance function occupies a significant position in an organisation and is not the responsibility of a sole executive. The important aspects of finance manager are to carried on by top management i.e. managing director, chairman, board of directors. The board of directors takes decisions involving financial considerations, the financial controller is basically meant for assisting the top management and has an important role of contributing to good decision making on issues involving all functional areas of business. He is to bring out financial implications of all decisions and make them understood. He may be called as the financial controller, vice-president (finance), chief accountant, treasurer, or by any other designation, but has the primary responsibility of performing finance functions. He is to discharge the responsibility keeping in view the overall outlook of the organisation.





Organisation chart of finance function

The Chief finance executive works directly under the President or Managing Director of the company. Besides routine work, he keeps the Board informed about all phases of business activity, inclusive of economic, social and political developments affecting the business behaviour and from time to time furnishes information about the financial status of the company. His functions are : (i) Treasury functions and (ii) Control functions.

Relationship Between financial management and other areas of management : There is close relationship between the areas of financial and other management like production, sales, marketing, personnel, etc. All activities directly or indirectly involve acquisition and use of funds. Determination of production, procurement and marketing strategies are the important prerogatives of the respective department heads, but for implementing, their decisions funds are required. Like, replacement of fixed assets for improving production capacity requires funds. Similarly, the purchase and sales promotion policies are laid down by the purchase and marketing divisions respectively, but again procurement of raw materials, advertising and other sales promotion require funds. Same is for, recruitment and promotion of staff by the personnel department would require funds for payment of salaries, wages and other benefits. It may, many times, be difficult to demarcate where one function ends and other starts. Although, finance function has a significant impact on the other functions, it need not limit or obstruct the general functions of the business. A firm facing financial difficulties, may give weightage to financial considerations and devise its own production and marketing strategies to suit the situation. While a firm having surplus finance, would have comparatively lower rigidity as regards the financial considerations vis-a-vis other functions of the management.

Pervasive Nature of Finance Function : Finance is the life blood of of an organisation, it is the common thread binding all organisational functions. This interface can be explained as below :

* **Production - Finance** : Production function requires a large investment. Productive use of resources ensures a cost advantage for the firm. Optimum investment in inventories improves profit margins. Many parameters of production have an impact on cost and can possibly be controlled through internal management, thus enhancing profits. Important production decisions like make or buy can be taken only after the financial implications are considered.

* **Marketing - Finance** : Various aspects of marketing management have financial implications, decisions to hold inventories on large scale to provide off the shelf service to customers increases inventory holding cost and at the same time may increase sales, similar with extension of credit facility to customers. Marketing strategies to increase sale in most cases, have additional costs that are to be weighted carefully against incremental revenue before taking decision.

* **Personnel - Finance** : In the globalised competitive scenario, business organisations are moving to a flatter organisational structure. Investments in human resource developments are also increasing. Restructuring of remuneration structure, voluntary retirement schemes, sweat equity, etc. have become major financial decisions in the human resource management.

Question : Discuss some of the instances indicating the changing scenario of financial management in India ?

Answer : Modern financial management has come a long way from traditional corporate finance, the finance manager is working in a challenging environment that is changing continuously. Due to the opening of the economies, global resources are being tapped, the opportunities available to finance managers virtually have no limits, he must also understand the risks entailing all his decisions. Financial management is passing through an era of experimentation and excitement is a part of finance activities now a days. A few instances are as below :

i) Interest rates have been freed from regulation, treasury operations thus, have to be more sophisticated due to fluctuating interest rates. Minimum cost of capital necessitates anticipating interest rate movements.

ii) The rupee had become fully convertible on current account.

iii) Optimum debt equity mix is possible. Firms have to take advantage of the financial leverage to increase the shareholder's wealth, however, using financial leverage necessarily makes business vulnerable to financial risk. Finding a correct trade off between risk and improved return to shareholders is a challenging task for a finance manager.

iv) With free pricing of issues, the optimum price determination of new issues is a daunting task as overpricing results in under subscription and loss of investor confidence, while under pricing leads to unwarranted increase in number of shares thereby reducing the EPS.

v) Maintaining share prices is crucial. In the liberalised scenario the capital markets is the important avenue of funds for business. Dividend and bonus policies framed by finance managers have a direct bearing on the share prices.

vi) Ensuring management control is vital especially in light of foreign participation in equity, backed by huge resources making the firm an easy takeover target. Existing managements might lose control in the eventuality of being unable to take up share entitlements, financial strategies, are vital to prevent this.

In a resources constraint situation, the importance of financial management is highlighted as financial strategies are required to get the company through the constraints position. The reasons for it, may be lack of demand, scarcity of raw materials, labour constraints, etc. If the problem is not properly dealt with at initial stages, it could lead ultimately to bankruptcy and sickness. The financial manager's role in such situations, would be first to ascertain, whether under the circumstances, the organisation is viable or not. If the viability of the organisation, itself is in doubt, then the alternative of closing down operations must be explored. But, in major cases the problem can be solved with proper strategies.

Question : What is the relevance of time value of money in financial decision making ?

Answer : A finance manager is required to make decisions on investment, financing and dividend in view of the company's objectives. The decisions as purchase of assets or procurement of funds i.e. the investment/financing decisions affect the cash flow in different time periods. Cash outflows would be at one point of time and inflow at some other point of time, hence, they are not comparable due to the change in rupee value of money. They can be made comparable by introducing the interest factor. In the theory of finance, the interest factor is one of the crucial and exclusive concept, known as the time value of money.

Time value of money means that worth of a rupee received today is different from the same received in future. The preference for money now as compared to future is known as time preference of money. The concept is applicable to both individuals and business houses.

Reasons of time preference of money :

1) Risk :

There is uncertainty about the receipt of money in future.

2) Preference for present consumption :

Most of the persons and companies have a preference for present consumption may be due to urgency of need.

3) Investment opportunities :

Most of the persons and companies have preference for present money because of availabilities of opportunities of investment for earning additional cash flows.

Importance of time value of money :

The concept of time value of money helps in arriving at the comparable value of the different rupee amount arising at different points of time into equivalent values of a particular point of time, present or future. The cash flows arising at different points of time can be made comparable by using any one of the following :

- by compounding the present money to a future date i.e. by finding out the value of present money.
- by discounting the future money to present date i.e. by finding out the present value(PV) of future money.

1) Techniques of compounding :

i) Future value (FV) of a single cash flow :

The future value of a single cash flow is defined as :

$$FV = PV (1 + r)^n$$

Where, FV = future value

PV = Present value

r = rate of interest per annum

n = number of years for which compounding is done.

If, any variable i.e. PV, r, n varies, then FV also varies. It is very tedious to calculate the value of

$(1 + r)^n$ so different combinations are published in the form of tables.

These may be referred for computation, otherwise one should use the knowledge of logarithms.

ii) Future value of an annuity :

An annuity is a series of periodic cash flows, payments or receipts, of equal amount. The premium payments of a life insurance policy, for instance are an annuity. In general terms the future value of an annuity is given as :

$$FVA_n = A * [(1 + r)^n - 1]/r$$

Where,

FVA_n = Future value of an annuity which has duration of n years.

A = Constant periodic flow

r = Interest rate per period

n = Duration of the annuity

Thus, future value of an annuity is dependent on 3 variables, they being, the annual amount, rate of interest and the time period, if any of these variable changes it will change the future value of the annuity. A published table is available for various combination of the rate of interest 'r' and the time period 'n'.

2) Techniques of discounting :

i) Present value of a single cash flow :

The present value of a single cash flow is given as :

$$PV = FV_n \left(\frac{1}{1 + r} \right)^n$$

Where,

FV_n = Future value n years hence

r = rate of interest per annum

n = number of years for which discounting is done.

From above, it is clear that present value of a future money depends upon 3 variables i.e. FV, the rate of interest and time period. The published tables for various combinations of $\left(\frac{1}{1 + r} \right)^n$

$1 + r$

are available.

ii) Present value of an annuity :

Sometimes instead of a single cash flow, cash flows of same amount is received for a number of years. The present value of an annuity may be expressed as below :

$$PVA_n = A/(1 + r)^1 + A/(1 + r)^2 + + A/(1 + r)^{n-1} + A/(1 + r)^n$$

$$= A [1/(1 + r)^1 + 1/(1 + r)^2 + + 1/(1 + r)^{n-1} + 1/(1 + r)^n]$$

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

Where,

PVA_n = Present value of annuity which has duration of n years

A = Constant periodic flow

r = Discount rate.

CHAPTER THREE

TOOLS OF FINANCIAL ANALYSIS AND PLANNING

Question : Write a note on Financial Statement Analysis ?

Answer : The basis of financial analysis, planning and decision making is financial information. A firm prepares final accounts viz. Balance Sheet and Profit and Loss Account providing information for decision making. Financial information is needed to predict, compare and evaluate the firm's earning ability. Profit and Loss account shows the concern's operating activities and the Balance Sheet depicts the balance value of the acquired assets and of liabilities at a particular point of time. However, these statements do not disclose all of the necessary and relevant information. For the purpose of obtaining the material and relevant information necessary for ascertaining of financial strengths and weaknesses of an enterprise, it is essential to analyse the data depicted in the financial statement. The financial manager have certain analytical tools that help in financial analysis and planning. In addition to studying the past flow, the financial manager can evaluate future flows by means of funds statement based on forecasts.

Financial Statement Analysis is the process of identifying the financial strength and weakness of a firm from the available accounting data and financial statements. It is done by properly establishing relationship between the items of balance sheet and profit and loss account as,

- 1) The task of financial analysts is to determine the information relevant to the decision under consideration from total information contained in the financial statement.
- 2) To arrange information in a way to highlight significant relationships.
- 3) Interpretation and drawing of inferences and conclusion. Thus, financial analysis is the process of selection, relation and evaluation of the accounting data/information.

Purposes of Financial Statement Analysis : Financial Statement Analysis is the meaningful interpretation of 'Financial Statements' for 'Parties Demanding Financial Information', such as :

- 1) The Government may be interested in knowing the comparative energy consumption of some private and public sector cement companies.
- 2) A nationalised bank may may be keen to know the possible debt coverage out of profit at the time of lending.
- 3) Prospective investors may be desirous to know the actual and forecasted yield data.

4) Customers want to know the business viability prior to entering into a long-term contract.

There are other purposes also, in general, the purpose of financial statement analysis aids decision making by users of accounts.

Steps for financial statement analysis :

- Identification of the user's purpose
- Identification of data source, which part of the annual report or other information is required to be analysed to suit the purpose
- Selecting the techniques to be used for such analysis

As such analysis is purposive, it may be restricted to any particular portion of the available financial statement, taking care to ensure objectivity and unbiasedness. It covers study of relationships with a set of financial statements at a point of time and with trends, in them, over time. It covers a study of some comparable firms at a particular time or of a particular firm over a period of time or may cover both.

Types of Financial statement analysis : The main objective of financial analysis is to determine the financial health of a business enterprise, which may be of the following types :

1) External analysis : It is performed by outside parties, such as trade creditors, investors, suppliers of long term debt, etc.

2) Internal analysis : It is performed by corporate finance and accounting department and is more detailed than external analysis.

3) Horizontal analysis : This analysis compares financial statements viz. profit and loss account and balance sheet of previous year with that of current year.

4) Vertical analysis : Vertical analysis converts each element of the information into a percentage of the total amount of statement so as to establish relationship with other components of the same statement.

5) Trend analysis : Trend analysis compares ratios of different components of financial statements related to different period with that of the base year.

6) Ratio Analysis : It establishes the numerical or quantitative relationship between 2 items/variables of financial statement so that the strengths and weaknesses of a firm as also its historical performance and current financial position may be determined.

7) Funds flow statement : This statement provides a comprehensive idea about the movement of finance in a business unit during a particular period of time.

8) Break-even analysis : This type of analysis refers to the interpretation of financial data that represent operating activities.

Question : What are the usually followed ratio categories for business data analysis ? Mention financial ratios used in each category ?

Answer : Ratio Analysis is a widely used tool of financial analysis. 'Ratio' is relationship expressed in mathematical terms between 2 individual or group of figures connected with each other in some logical manner; selected from financial statements of the concern. Ratio analysis is based on the fact that a single accounting figure by itself might not communicate meaningful information, but when expressed in relation to some figure, it may definitely provide certain significant information, this relationship between accounting figures is known as financial ratio. Financial ratio helps to express the relationship between 2 accounting figures in a manner that users can draw conclusions about the performance, strengths and weaknesses of a firm.

Classification of Ratios :

I) According to source : Financial ratios according to source from which the figures are obtained may be classified as below :

1) Revenue ratios : When 2 variables are taken from revenue statement the ratio so computed is known as, Revenue ratio.

2) Balance sheet ratio : When 2 variables are taken from the balance sheet, the ratio so computed is known as, Balance sheet ratio.

3) Mixed ratio : When one variable is taken from the Revenue statement and other from the Balance sheet, the ratio so computed is known as, Mixed ratio.

II) According to usage : George Foster of Stanford University gave seven categories of financial ratios that exhaustively cover different aspects of a business organisation, they are :

- 1) Cash position
- 2) Liquidity
- 3) Working Capital/Cash Flow
- 4) Capital structure
- 5) Profitability
- 6) Debt Service Coverage
- 7) Turnover

While working on ratio analysis, it is important to avoid duplication of work, as same information may be provided by more than one ratio, the analyst has to be selective in respect of the use of financial ratios. The operations and financial position of a firm can be described by studying its short and long term liquidity position, profitability and operational activities. Thus, ratios may be classified as follows :

- 1) Liquidity ratios

- 2) Capital structure/leverage ratios
- 3) Activity ratios
- 4) Profitability ratios

Question : Discuss the various ratios in detail ?

Answer :

1) Liquidity ratios :

'Liquidity' and 'short-term solvency' are used as synonyms, meaning ability of the business to pay its short-term liabilities. Inability to pay-off short term liabilities affects the concern's credibility and credit rating; continuous default in payments leads to commercial bankruptcy that eventually leads to sickness and dissolution. Short-term lenders and creditors of a business are interested in knowing the concern's state of liquidity for their financial stake. Traditionally current and quick ratios are used to highlight the business 'liquidity', others may be cash ratio, interval measure ratio and net working capital ratio.

i) Current ratio :

$$\text{Current ratio} = \text{Current Assets} / \text{Current Liabilities}$$

Where,

Current assets = Inventories + Sundry debtors + Cash and Bank balances + Receivables/Accruals +

Loans and advances + Disposable Investments.

Current liabilities = Creditors for goods and services + Short-term Loans + Bank Overdraft + Cash

credit + Outstanding expenses + Provision for taxation + Proposed dividend +

Unclaimed dividend.

Current ratio indicates the availability of current assets to meet current liabilities, higher the ratio, better is the coverage. Traditionally, it is called 2 : 1 ratio i.e. 2 is the standard current assets for each unit of current liability. The level of current ratio vary from industry to industry depending on the specific industry characteristics and also a firm differs from the industry ratio due to its policy.

ii) Quick ratio :

$$\text{Quick ratio or acid test ratio} = \text{Quick Assets} / \text{Current or Quick liabilities}$$

Where,

Quick assets = Sundry debtors + Cash and Bank balances + Receivables/Accruals +

Loans and advances + Disposable Investments i.e.

= Current assets - Inventories.

Current liabilities = Creditors for goods and services + Short-term Loans + Bank Overdraft + Cash credit + Outstanding expenses + Provision for taxation + Proposed dividend + Unclaimed dividend.
 Quick liabilities = Creditors for goods and services + Short-term Loans + Outstanding expenses + Provision for taxation + Proposed dividend + Unclaimed dividend i.e.
 = Current liabilities - Bank overdraft - Cash credit.

In the above formula, instead of total current liabilities only those current liabilities are taken that are payable within 1 year that are known as quick liabilities. Quick assets are also called liquid assets, they consist of cash and only 'near cash assets'. Inventories are deducted from current assets, as they are not considered as 'near cash assets', but in a seller's market they are not so considered. Just like lag in collection of debtors, there is lag in conversion of inventories into finished goods and sundry debtors, also slow-moving inventories are not near cash assets. While calculating the quick ratio, the conservatism convention, quick liabilities are that portion of current liabilities that fall due immediately, hence bank overdraft and cash credit are excluded.

iii) Cash ratio :

Cash ratio = (Cash + Marketable securities)/Current liabilities

The cash ratio measures absolute liquidity of the business available with the concern.

iv) Interval measure :

Interval measure = (Current assets - Inventory)/Average daily operating expenses

Where,

Average daily operating expenses = (Cost of goods + Selling, administrative and general expenses - Depreciation and other non-cash expenditure)/no. of days in a year.

2) Capital structure/Leverage ratios :

The capital structure or leverage ratios are defined as, those financial ratios that measure long term stability and structure of the firm and indicate mix of funds provided by owners and lenders, in order to assure lenders of long term funds as to :

- Periodic payment of interest during the period of the loan, and
- Repayment of the principal amount on maturity.

They are classified as :

i) Capital structure ratios :

Capital structure ratios provide an insight into the financing techniques used by a business and consequently focus on the long-term solvency position. From the balance sheet one can get absolute fund employed and its sources, but capital structure ratios show relative weight of different sources. Funds on liabilities side of balance sheet are classified as 'owner's equities' and 'external equities' also called 'equity' and 'debt'. Owner's equities or equity means shareholder's funds consisting of equity and preference share capital and reserves and surplus. External equities means all outside liabilities inclusive of current liabilities and provisions, while debt is classified as long term borrowed funds thus, excluding short-term loans, current liabilities and provisions. As per guidelines for issue of 'Debentures by Public Limited Company' debt means term loans, debentures and bonds with an initial maturity period of years or more inclusive of interest accrued thereon, all deferred payment liabilities, proposed debenture issue but excluding short-term bank borrowings and advances, unsecured loans or deposits from the public, shareholders and employees and unsecured loans and deposits from others. Capital structure ratios used are :

a) Owner's Equity to total Equity :

Owner's Equity to total equity ratio = $\text{Owner's Equity} / \text{Total Equity}$

It indicates proportion of owners' fund to total fund invested in business. Traditional belief says, higher the proportion of owner's fund lower is the degree of risk.

b) Debt Equity Ratio :

Debt-equity ratio = $\text{Debt} / \text{Equity}$

It is the indicator of leverage, showing the proportion of debt fund in relation to equity. It is referred in capital structure decision as also in the legislations dealing with the capital structure decisions i.e. issue of shares and debentures. Lenders are keen to know this ratio as it shows relative weights of debt and equity. As per traditional school, cost of capital firstly decreases due to the higher dose of leverage, reaches minimum and thereafter increases, thus infinite increase in leverage i.e. debt-equity ratio is not possible. However, according to Modigliani-Miller theory, cost of capital and leverage are independent of each other and based on certain restrictive assumptions, namely,

- perfect capital markets
- homogeneous expectations by the present and prospective investors
- presence of homogeneous risk class firms
- 100 % dividend pay-out
- no tax situation and so on.

Most of the above assumptions are unrealistic. It is believed that leverage and cost of capital are related. There is no norm for maximum debt-equity ratio, lending institutions usually, set their own norms considering the capital intensity and other factors.

ii) Coverage ratios :

The coverage ratio measures the firm's ability to service fixed liabilities. These ratios establish the relationship between fixed claims and what is usually available out of which these claims are to be paid. The fixed claims consist of :

- Interest on loans
- Preference dividend
- Amortisation of principal or repayment of the instalment of loans or redemption of preference capital on maturity. They are classified as follows :

a) Debt service coverage ratio :

Lenders are interested in judging the firm's ability to pay off current interest and instalments and thus the debt service coverage ratio.

$$\text{Debt service coverage ratio} = \frac{\text{Earnings available for debt service}}{(\text{Interest} + \text{Instalments})}$$

Where,

Earning available for debt service = Net profit + Non-cash operating expenses like depreciation

and other amortisations + Non-operating adjustments as loss on sale of fixed assets + Interest on debt fund.

b) Interest coverage ratio :

It is also known as "times interest earned ratio" and indicates the firm's ability to meet interest obligations and other fixed charges.

$$\text{Interest coverage ratio} = \frac{\text{EBIT}}{\text{Interest}}$$

Where,

EBIT = Earnings Before Interest and Tax

EBIT is used in the numerator as the ability to pay interest is not affected by tax burden as interest on debt funds is a deductible expense. This ratio indicates the extent to which earnings may fall without causing any difficult to the firm regarding the payment of interest charges. A high interest coverage ratio means that an enterprise can easily meet its interest obligations even if EBIT suffer a considerable decline, while a lower ratio indicates excessive use of debt or inefficient operations.

c) Preference dividend coverage ratio :

It measures the firm's ability to pay preference dividend at the stated rate.

$$\text{Preference dividend coverage ratio} = \text{EAT} / \text{Preference dividend liability}$$

Where,

EAT = Earnings after tax

EAT is considered as unlike debt on which interest is a charge on the firm's profit, preference dividend is an appropriation of profit. The ratio indicates margin of safety available to preference shareholders. A higher ratio is desirable from preference shareholders point of view.

iii) Capital Gearing ratio :

$$\text{Capital gearing ratio} = \frac{(\text{Preference Share Capital} + \text{Debentures} + \text{Long term loan})}{(\text{Equity share capital} + \text{Reserves \& Surplus} - \text{Losses})}$$

It is used in addition to debt equity ratio to show the proportion of fixed interest/dividend bearing capital to funds belonging to equity shareholders.

For the judging of the long-term solvency position, in addition to debt-equity and capital gearing ratios, the following are used :

a) Fixed Assets / Long term fund : Fixed assets and core working capital are expected to be financed by long term fund. In various industries the proportion of fixed and current assets are different, thus there can be no uniform standard of this ratio, but it should be less than 1. If it is more than 1, it means short-term fund has been used to finance fixed assets, often big companies resort to such practice during expansion. This may be a temporary arrangement but not a long-term remedy.

b) Proprietary ratio :

$$\text{Proprietary ratio} = \text{Proprietary fund} / \text{Total assets}$$

Where,

Proprietary fund = Equity share capital + Preference share capital + Reserves & surplus - Fictitious assets

Total assets = All assets, but excludes fictitious assets and losses.

It is possible to reduce equity stake by lowering liquidity ratio i.e current ratio,

Example : When current and debt-equity ratios are both 2 : 1 each, and the proportion of fixed and current assets is

5 : 1 Equity/total assets = 31.67 % but if the current ratio is reduced to 1.5 : 1 equity/total assets = 31.11 %.

3) Activity ratios :

The activity ratios also known as turnover or performance ratios are employed to evaluate the efficiency with which the firm manages and utilises its assets. These ratios usually indicate the frequency of sales with respect to its assets, which may be capital assets or working capital or average inventory. These are calculated with reference to sales/cost of goods sold and are expressed in terms of rate or times. They are as follows :

i) Capital turnover ratio :

$$\text{Capital turnover ratio} = \text{Sales/Capital employed}$$

It indicates the firm's ability of generating sales per rupee of long term investment, the higher the ratio, more efficient is the utilisation of the owner's and long-term creditors' funds.

ii) Fixed Assets turnover ratio :

$$\text{Fixed Assets turnover ratio} = \text{Sales/Capital assets}$$

A high fixed assets turnover ratio indicates efficient utilisation of fixed assets in generation of sales. A firm whose plant and machinery are old may show a higher fixed assets turnover ratio than the firm who purchased them recently.

iii) Working capital turnover ratio :

$$\text{Working capital turnover} = \text{Sales/Working Capital}$$

It is further divided as below :

a) Inventory turnover ratio :

$$\text{Inventory turnover ratio} = \text{Sales/Average inventory}$$

Where,

$$\text{Average inventory} = (\text{Opening Stock} + \text{Closing stock})/2$$

It may also be calculated with reference to cost of sales instead of sales, as :

$$\text{Inventory turnover ratio} = \text{Cost of sales/Average inventory}$$

For inventory of raw material,

$$\text{Inventory turnover ratio} = \text{Raw material consumed/Average raw material stock.}$$

This ratio indicates the speed of inventory usage. A high ratio is good from liquidity point of view and vice versa. A low ratio indicates that inventory is not used/sold or is lost and stays in a shelf or in the warehouse for a long time.

b) Debtors turnover ratio :

When a firm sells goods on credit, the realisation of sales revenue is delayed and receivables are created. Cash is realised from these receivables later on, the speed with which it is realised affects the firm's liquidity position. Debtors turnover ratio throws light on the collection and credit policies of the firm.

$$\text{Debtors turnover ratio} = \frac{\text{Sales or Credit sales}}{\text{Average accounts receivable}}$$

As account receivable pertains to credit sales only, it is often recommended to compute debtor's turnover with reference to credit sales rather than total sales.

$$\text{Average collection period} = \frac{\text{Average accounts receivables}}{\text{average daily credit sales}}$$

Where,

$$\text{average daily credit sales} = \frac{\text{Credit sales}}{365}$$

The above ratios provide a unique guide for determining the firm's credit policy.

c) Creditors turnover ratio :

It is calculated on same line as debtors turnover ratio and shows the velocity of debt payment by the firm,

$$\text{Creditors turnover ratio} = \frac{\text{Credit purchases or Annual net credit purchases}}{\text{Average accounts payable}}$$

A low ratio reflects liberal credit terms granted by suppliers, while a high ratio reflects rapid settlement of accounts.

$$\text{Average payment period} = \frac{\text{Average accounts payable}}{\text{average daily credit purchases}}$$

Where,

$$\text{average daily credit purchases} = \frac{\text{credit purchases}}{365}$$

The firm can compare what credit period it receives from the suppliers and what it offers to the customers. It can also compare the average credit period offered to the customers in the industry to which it belongs.

4) Profitability ratio :

The profitability ratios measure profitability or the operational efficiency of the firm reflecting the final results of business operations. The results of the firm may be evaluated in terms of its earnings with reference to a given level of assets or sales or owners interest, etc. Thus, the profitability ratios are broadly classified in following categories :

i) Profitability ratios are required for analysis from owners point of view :

a) Return on equity (ROE) : It measures the profitability of equity funds invested in the firm and reveals how profitably the owner's funds are utilised by the business.

$$\text{ROE} = \text{Profit after taxes/Net worth}$$

b) Earnings per share (EPS) : The profitability of a firm from view point of ordinary shareholders can be measured in terms of number of equity shares known as earnings per share.

$$\text{EPS} = \text{Net profit available to equity holders/no. of ordinary shares outstanding}$$

c) Dividend per share : EPS as above reflects the profitability of a firm per share, it does not reflect how much profit is paid as dividend and how much is retained by the business. Dividend per share ratio indicates the amount of profit distributed to shareholders per share.

$$\text{Dividend per share} = \frac{\text{Total profits distributed to equity share holders}}{\text{Number of equity shares}}$$

d) Price Earning ratio (P. E. Ratio) : The price earning ratio indicates the expectation of equity investors about the earnings of the firm and relates to market price and is generally taken as a summary measure of growth potential of an investment, risk characteristics, shareholders orientation, corporate image and degree of liquidity.

$$\text{P. E. Ratio} = \text{Market price per share/EPS}$$

ii) Profitability ratios based on assets/investments :

a) Return on capital employed/Return on Investment (ROI) :

$$\text{ROI} = \text{Return/Capital employed} * 100$$

Where,

Return = Net profit +/- Non-trading adjustments excluding accrual adjustments for amortisation of

preliminary expenses, goodwill, etc. + Interest on long term debts
+ Provision for tax -
Interest/Dividend from non-trade investments.

Capital employed = Equity share capital + Reserves & Surplus +
 Preference share capital + Debentures
 and other long term loan - Miscellaneous expenditure
 and losses - Non-trade
 investments.

It can be further bifurcated as :

$$ROI = (Return/sales) * (Sales /Capital employed) * 100$$

Where,

Return/sales * 100 = Profitability ratio

Sales /Capital employed = Capital turnover ratio

Thus,

$$ROI = Profitability ratio * Capital turnover ratio$$

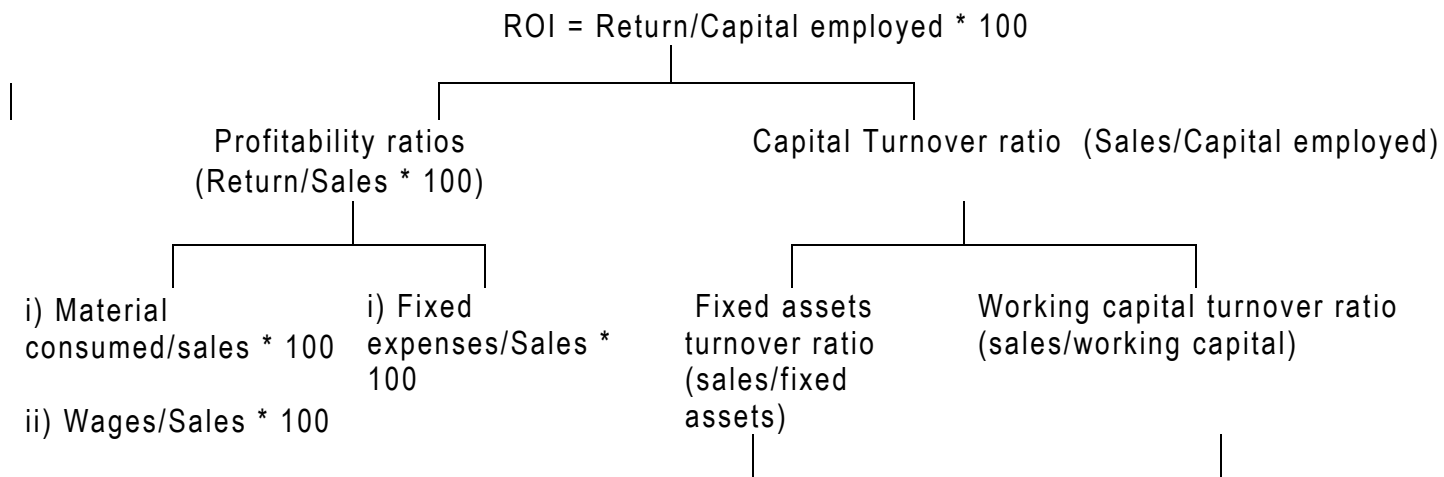
ROI can be improved by improving operating profit or capital turnover or both.

c) Return on assets (ROA) :

The profitability ratio is measured in terms of relationship between net profits and assets employed to earn that profit. It measures the firm's profitability in terms of assets employed in the firm.

$$\begin{aligned} ROA &= \text{Net profit after taxes/Average total assets or} \\ &= \text{Net profit after taxes/Average tangible assets or} \\ &= \text{Net profit after taxes/Average fixed assets.} \end{aligned}$$

The cause of any increase or decrease in ROI can be traced out only after a complete analysis through expenses and turnover ratios.



iii) Manufacturing
expenses/sales * 100

iv) Administration
expenses/sales * 100

v) Selling &
Distribution
expenses/Sales * 100

ii) Variable
expenses/Sales *
100

Turnover of
individual assets

Inventory turnover ratio	Debtor's turnover ratio	Creditor's turnover ratio
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iii) Profitability ratios based on sales of the firm :

a) Gross profit ratio :

$$\text{Gross profit ratio} = \text{Gross profit/sales} * 100$$

It is used to compare departmental or product profitability. If costs are classified suitably into fixed and variable elements, then instead of gross profit ratio one may find P/V ratio.

$$\text{P/V ratio} = (\text{Sales} - \text{Variable cost})/\text{Sales} * 100$$

Fixed cost remaining same, higher the P/V ratio lower is the break even point (B.E.P.) Operating profit ratio is calculated to evaluate operating performance of business.

b) Operating profit ratio :

$$\text{Operating profit ratio} = \text{Operating profit/Sales} * 100$$

Where,

Operating profit = Sales - Cost of sales

c) Net profit ratio : It measures the overall profitability of the business.

$$\text{Net profit ratio} = \text{Net profit/sales} * 100$$

Question : Are financial ratios relevant in financial decision making ?
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Answer : A popular technique of analysing the performance of a business concern is that of financial ratio analysis, it, as a tool of financial management is of crucial significance. Its importance lies in the fact that it presents facts on a comparative basis and enables drawing of inferences as regards a firm's performance. It is relevant in assessing the firm's performance in the below mentioned aspects :

I) Financial ratios for evaluation of performance :

- **Liquidity position** : Ratio analysis assists in drawing conclusions as regards the firm's liquidity position. It would be satisfactory if the firm is able to meet its current obligations when they become due. A firm can be said to have the ability to meet its short-term liabilities if it has sufficient liquidity to pay interest on its short-maturing debt, usually within a year as also the principal. This ability is reflected in the liquidity ratios of the firm and liquidity ratios are useful in credit analysis by banks and other suppliers of short-term loans.
- **Long-term solvency** : Ratio analysis is equally helpful for assessing a firm's long-term financial viability. This aspect of the financial position of a borrower is of concern to the long-term creditors, security analysts and the present and potential owners of a business. The long-term solvency is measured by the leverage/capital structure and profitability ratios focusing on earning power and operating efficiency and ratio analysis reveals the strength and weaknesses of a firm in respect thereto. The leverage ratios, for example, indicates whether a firm has a reasonable proportion of various sources of finance or whether heavily loaded with debt in which case its solvency is exposed to serious strain. In the same manner, various profitability ratios reveal whether or not the firm is able to offer adequate return to its owners consistent with the risk involved.
- **Operating efficiency** : Ratio analysis throws light on the degree of efficiency in the management and utilisation of its assets. Various activity ratios measure this kind of operational efficiency, a firm's solvency is, in the ultimate analysis, dependent on the sales revenues generated by the use of its assets - total as well as its components.
- **Over-all-profitability** : Unlike outside parties, that are interested in one aspect of the financial position of a firm, the management is constantly concerned about the overall profitability of the enterprise i.e. they are concerned about the firm's ability to meet its short-term and long-term obligations to its creditors, to ensure reasonable return to its owners and secure optimum utilisation of the firm's assets. It is possible if an integrated view is taken and all the ratios are considered together.
- **Inter-firm comparison** : Ratio analysis not only throws light on the firm's financial position but also serves as a stepping stone to remedial measures. It is made possible by inter-firm comparison/comparison with industry average. It should be reasonably expected that the firm's performance is in broad conformity with that of the industry to which it belongs. An inter-firm comparison demonstrates the relative position vis-à-vis its competitors. If the results are at variance either with the industry

average or with that of the competitors, the firm can seek to identify the probable reasons and in its light, take remedial measures. Ratios not only perform post-mortem of operations, but also serves as barometer for future, they have predictive value and are helpful in forecasting and planning future business activities and helps in budgeting.

II) Financial ratios for budgeting : In this field ratios are able to provide a great deal of assistance, budget is only an estimate of future activity based on past experience, in the making of which the relationship between different spheres of activities are invaluable. It is usually possible to estimate budgeted figures using financial ratios. Ratios also can be made use of for measuring actual performance with budgeted figures and indicate directions in which adjustments should be made either in the budget or in performance to bring them closer to each other.

Question : What are the limitations of financial ratios ?

Answer : Limitations of financial ratios are as follows :

i) Diversified product lines : Many businesses operate a large number of divisions in quite different industries. In such cases ratios calculated on the basis of aggregate data cannot be used for inter-firm comparisons.

ii) Financial data are badly distorted by inflation : Historical cost values may be substantially different from true values, such distortions in financial data are also carried in financial ratios.

iii) Seasonal factors may also influence financial data

iv) To give good shape to the financial ratios used popularly : The business may make some year-end adjustments, such window-dressing can change the character of financial ratios that would be different had there been no change.

v) Differences in accounting policies and accounting period make the accounting data of 2 firms non-comparable as also the accounting ratios.

vi) There is no standard set of ratios against which a firm's ratios may be compared, sometimes, if a firm decides to be above average then, industry average becomes a low standard. On the other hand, for a below average firm, industry averages become too high as standards to achieve.

vii) It is difficult to generalise whether a particular ratio is good or bad, for instance, a low current ratio may be 'bad' from the view point of low

liquidity, while a high current ratio may be 'bad' as it may result from inefficient working capital management.

viii) Financial ratios are inter-related and not independent, when viewed in isolation one ratio may highlight efficiency but, as a set of ratios it may speak differently. Such interdependence among the ratios can be taken care of through multivariate analysis. Financial ratios provide clues but not conclusions. These are tools in the hands of experts as there is no standard ready-made interpretation of financial ratios.

Question: what are the various ratios based on capital market information?

Answer : frequently share prices data are punched with accounting data to generate new set of information, these are:

i) Price earning ratio :

Price earning ratio (PE ratio) = average or closing share prices/EPS

It indicates the payback period to investors or prospective investors.

ii) Yield :

Yield = dividend/average or closing share price * 100

It indicates return on investment, which may be on average or closing investment. Dividend % indicates return on paid-up value of shares, but, yield % is the indicator of true return in which share capital is taken at its market value.

iii) Market value/book value for share :

Market value for share/book value per share = average share price/(net worth/number of equity shares)

or

= closing share price/(net worth/number of equity shares)

It indicates market response of shareholders' investment. Higher the ratio better is the shareholders position in terms of return and capital gains.

Question: what are the ratios computed for investment analysts ?

Answer : Investment analysis are published weekly in economic newspapers, some ratios are used by analysis to report performance of selected companies. Let us discuss the issues highlighted by Economic Times under the caption 'performance indicators' :

i) Book value per share = (equity capital + reserves and surplus excluding revaluation reserves) / number

of equity shares

ii) EPS = (net profit - preference dividend) / number of equity shares

iii) dividend %

iv) yield % = equity dividend / market price * 100

v) payout ratio % = dividend including preference dividend / profit after tax * 100

vi) gross margin/sales (%)

where,

gross margin = profit before depreciation but after interest and before tax

vii) gross margin/capital employed (%)

where,

gross margin = profit before depreciation but after interest and before tax
capital employed = fixed assets + capital work-in-progress + investments + current assets

i.e. aggregate of fixed assets, capital work-in-progress, investment and current assets but excluding accumulated deficit.

viii) PE ratio = price/earnings

ix) current ratio = current assets/current liabilities

Question : how does the cash flow analysis help a business entity ?

Answer : cash flow analysis is an important tool with the finance manager for ascertaining the changes in cash in hand and bank balances as from one date to another, during the accounting year and also between two accounting periods. It shows inflows and outflows of cash i.e. sources and applications of cash during a particular period. The procedure for preparation of cash flow statement, its objectives and requirements are covered in AS-3. It is an important tool for short-term analysis, like other

financial statements, it is analysed to reveal significant relationships. Two major areas, that analysts examine while studying a cash flow statement are discussed as below:

1) cash generating efficiency :

it is the ability of a company to generate cash from its current or continuing operations. Following ratios are used for the purpose.

i) cash flow yield :

$\text{cash flow yield} = \text{net cash flow from operating activities} / \text{net income}$

ii) cash flow to sales :

$\text{cash flow to sales} = \text{net cash flow from operating activities} / \text{net sales}$

iii) cash flows to assets :

$\text{cash flow to assets} = \text{net cash flow from operating activities} / \text{average total assets}$

2) Free cash flow :

strictly cash flow is the amount of cash that remains after deducting funds that the company has to commit to continue operating at its planned level. Such commitment has to cover current or continuing operations, interest, income tax, dividend, net capital expenditures and so on. If the cash flow is positive, it means the company has met all its planned commitment and has cash available to reduce debt or expand. A negative free cash flow means the company will have to sell investments, borrow money or issue stock in short-term to continue at its planned level.

3) others :

besides measuring cash efficiency and free cash flow, with the help of cash flow statement, the financial analysts also calculates a number of ratios based on cash figures rather than on earning figures. Some of which are as below:

i) $\text{price per share} / \text{free cash flow per share}$

ii) $\text{operating cash flow} / \text{operating profit}$

it shows that accrual adjustments are not having severe effect on reported profits.

iii) $\text{self-financing investment ratio} = \text{internal funding} / \text{net investment activities}$

it indicates how much of the funds generated by the business are re-invested in assets.

Question : what do you mean by funds flow analysis ?

Answer : Funds flow analysis is an important long-term analysis tool in the hands of finance manager for ascertaining changes in financial position of firm between two accounting periods. It analyses reasons for changes in financial position between two balance sheets and shows the inflow and outflow of funds i.e. sources and application of funds during a particular period.

It provides information that balance sheet and profit and loss account fail to provide i.e. changes in financial position of an enterprise, which is of great help to the users of financial information. It is of great help to management, shareholders, creditors, brokers, etc. as it helps in answering the following questions:

- where have the profits gone ?
 - why there is an imbalance existing between liquidity and profitability position of the enterprise ?
 - why is the concern financially solid inspite of losses ?
- The projected funds flow statement can be prepared for budgetary control and capital expenditure control in the organisation. A projected funds flow statement may be prepared and resources properly allocated after an analysis of present state of affairs.
 - The optimum utilisation of available funds is essential for overall growth of the enterprise. The funds flow statement prepared in advance gives a clear-cut direction to the management in this regard.
 - It is also useful to management for judging the financial operating performance of the company and indicates working capital position that helps the management in taking policy decisions regarding dividend, etc. It helps the management to test whether the working capital is effectively used or not and that working capital level is adequate or inadequate for the requirements of business.
 - It helps investors to decide whether company has funds managed properly, indicates creditworthiness of a company that helps lenders to decide whether to lend money to the company or not. It helps management to make decisions and decide about the financing policies and capital expenditure programme for future.

CHAPTER FOUR

CAPITAL BUDGETING

Question : Explain the meaning of capital budgeting ?

Answer : The term capital budgeting means planning for capital assets. Capital budgeting decision means the decision as to whether or not to invest in long-term projects such as setting up of a factory or installing a machinery or creating additional capacities to manufacture a part which at present may be purchased from outside and so on. It includes the financial analysis of the various proposals regarding capital expenditure to evaluate their impact on the financial condition of the company for the purpose to choose the best out of the various alternatives. The finance manager has various tools and techniques by means of which he assists the management in taking a proper capital budgeting decision. Capital budgeting decision is thus, evaluation of expenditure decisions that involve current outlays but are likely to produce benefits over a period of time longer than one year. The benefit that arises from capital budgeting decision may be either in the form of increased revenues or reduced costs. Such decision requires evaluation of the proposed project to forecast likely or expected return from the project and determine whether return from the project is adequate. Also as business is a part of society, it is its moral responsibility to undertake only those projects that are socially desirable. Capital budgeting decision is an important, crucial and critical business decision due to :

1) substantial expenditure :

capital budgeting decision involves the investment of substantial amount of funds and is thus it is necessary for a firm to make such decision after a thoughtful consideration, so as to result in profitable use of scarce resources. Hasty and incorrect decisions would not only result in huge losses but would also account for failure of the firm.

2) long time period :

capital budgeting decision has its effect over a long period of time, they affect the future benefits and also the firm and influence the rate and direction of growth of the firm.

3) irreversibility :

most of such decisions are irreversible, once taken, the firm may not be in a position to reverse its impact. This may be due to the reason, that it is difficult to find a buyer for second-hand capital items.

4) complex decision :

capital investment decision involves an assessment of future events, which in fact are difficult to predict, further, it is difficult to estimate in quantitative terms all benefits or costs relating to a particular investment decision.

Question: discuss the various types of capital investment decisions?

Answer : there are various ways to classify capital budgeting decisions, generally they are classified as :

1) on the basis of the firm's existence :

capital budgeting decisions are taken by both newly incorporated and existing firms. New firms may require to take decision in respect of selection of plant to be installed, while existing firms may require to take decision to meet the requirements of new environment or to face challenges of competition. These decisions may be classified into:

i) **replacement and modernisation decisions** : replacement and modernisation decisions aims to improve operating efficiency and reduce costs. Usually, plants require replacement due to they been economically dead i.e. no more economic life left or on they becoming technologically outdated. The former decision is of replacement and latter one of modernisation , however, both these decisions are cost reduction decisions.

ii) **Expansion decision** : existing successful firms may experience growth in demand of the product and may experience shortage or delay in delivery due to inadequate production facilities and thus, would consider proposals to add capacity to existing product lines.

iii) **Diversification decisions** : these decisions require evaluation proposals to diversify into new product lines, new markets, etc. to reduce risk of failure by dealing in different products or operating in several markets. expansion and diversification decisions are revenue expansion decisions.

2) on the basis of decision situation :

i) **mutually exclusive decisions** : decisions are said to be mutually exclusive when two or more alternative proposals are such that acceptance of one would exclude the acceptance of the other.

ii) **Accept-Reject decisions** : the accept-eject decisions occurs when proposals are independent and do not compete with each other. The firm may accept or reject a proposal on the basis of a minimum return on the required investment. All those proposals which have a higher return than certain desired rate of return are accepted and rest rejected.

iii) **Contingent decisions** :

contingent decisions are dependable proposals, investment in one requires investment in another.

Question: what are the various projects evaluation techniques explain them in detail ?'

Answer : At each point of time, business manager, has to evaluate a number of proposals as regards various projects where he can invest money. He compares and evaluates projects and decides which one to take up and which to reject. Apart from financial considerations, there are many other factors considered while taking a capital budgeting decision. At times a project may be undertaken only to establish foothold in the market or for better welfare of the society as a whole or of the business or for increasing the safety and security of workers, or due to requirements of law or because of emotional reasons for instance, many industrial sector projects are taken up at home towns even if better locations are available. The major consideration in taking a capital budgeting decision is to evaluate its returns as compared to its investments. Evaluation of capital budgeting proposals have two dimensions i.e. profitability and risk, which are directly related. Higher the profitability, higher would be the risk and vice versa. Thus, the finance manager has to strike a balance between profitability and risk. Following are some of the techniques used to evaluate financial aspects of a project :

1) payback period :

it is one of the simplest method to calculate period within which entire cost of project would be completely recovered. It is the period within which total cash inflows from project would be equal to total cash outflow of project, cash inflow means profit after tax but before depreciation.

merits:

a) this method of evaluating proposals for capital budgeting is simple and easy to understand, it has an advantage of making clear that it has no profit on any project until the payback period is over i.e. until capital invested is recovered. When funds are limited, they may be made to do more by selecting projects having shorter payback periods. This method is particularly suitable in the case of industries where risk of technological services is very high. In such industries, only those projects having a shorter payback period should be financed since changing technology would make the projects totally obsolete, before all costs are recovered.

b) in case of routine projects also use of payback period method favours projects that generates cash inflows in earlier years, thereby eliminating projects bringing cash inflows in later years that generally are conceived to be risky as this tends to increase with futurity.

c) by stressing earlier cash inflows, liquidity dimension is also considered in selection criteria. This is important in situations of liquidity crunch and high cost of capital.

d) payback period can be compared to break-even point, the point at which costs are fully recovered but profits are yet to commence.

e) the risk associated with a project arises due to uncertainty associated with cash inflows. A shorter payback period means that uncertainty with respect to project is resolved faster.

Limitations : Technique of payback period is not a scientific one due to the following reasons:

a) It stresses capital recovery rather than profitability. It does not take into account returns from the project after its payback period. For example : project A may have payback period of 3 years and project B of 8 years, according to this method project A would be selected, however, it is possible that after 3 years project B earns returns @ 20 % for another 3 years while project A stops yielding returns after 2 years. Thus, payback period is not a good measure to evaluate where the comparison is between 2 projects, one involving long gestation period and the other yielding quick results but for a short period.

b) this method becomes an inadequate measure of evaluating 2 projects where the cash inflows are uneven.

c) this method does not give any consideration to time value of money, cash flows occurring at all points of time are simply added. This treatment is in contravention of the basic principle of financial analysis that stipulates compounding or discounting of cash flows and when they arise at different points of time.

Some accountants calculate payback period after discounting cash flows by a pre-determined rate and the payback period so calculated is called "discounted payback period".

2) payback reciprocal :

it is reciprocal of the payback period. A major drawback of the payback period method of capital budgeting is that it does not indicate any cut off period for the purpose of investment decision. It is, argued that reciprocal of payback would be a close approximation of the internal rate of return if the life of the project is at least twice the payback period and project generates equal amount of final cash inflows. In practice, payback reciprocal is a helpful tool for quickly estimating rate of return of a project provided its life is at least twice the payback period.

payback reciprocal = average annual cash inflows/initial investment

3) accounting or average rate of return method (ARR):

accounting or average rate of return means average annual yield on the project. Under this method profit after tax and depreciation as percentage of total investment is considered.

rate of return = (total profit * 100)/(net investments in the project * number of years of profits)

this rate is compared with the rate expected on the projects, had the same funds been invested alternatively in those projects. Sometimes, the management compares this rate with minimum rate known as cut-off rate.

Merits :

It is a simple and popular method as it is easy to understand and includes income from the project throughout its life.

Limitations :

it is based upon crude average profits of the future years. It ignores the effect of fluctuations in profits from year to year. And thus ignores time value of money which is very important in capital budgeting decisions.

4) net present value method :

the best method for evaluation of investment proposal is net present value method or discounted cash flow technique. This method takes into account the time value of money. The net present value of investment proposal may be defined as sum of the present values of all cash inflows as reduced by the present values of all cash outflows associated with the proposal. Each project involves certain investments and commitment of cash at certain point of time. This is known as cash outflows. Cash inflows can be calculated by adding depreciation to profit after tax arising out of that particular project.

$$NPV = CF_0/(1+K)^0 + CF_1/(1+K)^1 + \dots + CF_n/(1+K)^n$$

$$= \sum_{t=0}^n CF_t/(1+K)^t$$

Where,

NPV = Net present value of a project

CF₀ = Cash outflows at the time 0(zero).

CF_t = Cash flows at the end of year t(t = 0 to n) i.e. the difference between cash inflow and outflow).

K = Discount rate

n = Life of the project

- **Discounting cash inflows** : Once cash inflows and outflows are determined, next step is to discount each cash inflow and work out its present value. For the purpose, discounting rates must be known. Normally, the discounting rate equals the opportunity cost of capital as a project must earn at least that much as is paid out on the funds locked in the project. The concept of present value is easy to understand .To calculate present value of various cash inflows reference shall be had to the present value table.
- **Discounting cash outflows** : The cash outflows also requires discounting as the whole of investment is not made at the initial stage itself and will be spread over a period of time. This may be due to interest-free deferred credit facilities from suppliers of plant or some other reasons. Another change in cash flows to be considered in the capital budgeting decision is the change due to requirement of working capital. Apart from investment in fixed assets, each project involves commitment of funds in working capital. The commitment on this account may arise as soon as the plant starts production. The working capital commitment ends after the fixed assets of the project are sold out. Thus, while considering the total outflows, working capital requirement must also be considered in the year the plant starts production. At the end of the project, the working capital will be recovered and can be treated as cash inflow of last year.
- **Acceptance rule** : A project can be accepted if NPV is positive i.e. $NPV > 0$ and rejected; if it is negative i.e. $NPV < 0$. If $NPV = 0$, project may be accepted as it implies a project generates cash flows at the rate just equal to the opportunity cost of capital.

Merits :

- 1) NPV method takes into account the time value of money.
- 2) The whole stream of cash flows is considered.
- 3) NPV can be seen as addition to the wealth of shareholders. The criterion of NPV is thus in conformity with basic financial objectives.
- 4) NPV uses discounted cash flows i.e. expresses cash flows in terms of current rupees. NPV's of different projects therefore can be compared. It implies that each project can be evaluated independent of others on its own merits.

Limitations :

- 1) It involves different calculations.
- 2) The application of this method necessitates forecasting cash flows and the discount rate. Thus accuracy of NPV depends on accurate estimation of these 2 factors that may be quite difficult in reality.

3) The ranking of projects depends on the discount rate.

5) Desirability factor/Profitability Index :

In cases of, a number of capital expenditure proposals, each involving different amounts of cash inflows, the method of working out desirability factor or profitability index is followed. In general terms, a project is acceptable if its profitability index value is greater than 1.

Merits :

- 1) This method also uses the concept of time value of money.
- 2) It is a better project evaluation technique than NPV.

Limitations of Profitability index :

- 1) Profitability index fails as a guide in resolving 'capital rationing' where projects are indivisible. Once a single large project with high NPV is selected, possibility of accepting several small projects that together may have higher NPV, then a single project is excluded.
- 2) Situations may arise where a project selected with lower profitability index may generate cash flows in such a manner that another project can be taken up one or two years later, the total NPV in such case being more than the one with a project having highest Profitability Index.

The profitability index approach thus, cannot be used indiscriminately but all other type of alternatives of projects would have to be worked out.

6) Internal Rate of Return(IRR) :

IRR is that rate of return at which the sum total of discounted cash inflows equals to discounted cash outflows. The IRR of a project is the discount rate that makes the net present value of the project equal to zero.

$$CO_0 = CF_0/(1+r)^0 + CF_1/(1+r)^1 + \dots + CF_n/(1+r)^n + (SV + WC)/(1+r)^n$$

$$= \sum_{t=0}^n CF_t/(1+r)^t + (SV + WC)/(1+r)^n$$

Where,

CO_0 = Cash outflows at the time 0(zero).

CF_t = Cash flows at the end of year t.

r = Discount rate

n = Life of the project

SV & WC = Salvage value and Working capital at the end of 'n' years.

The discount rate i.e. cost of capital is assumed to be known in the determination of NPV, while in the IRR, the NPV is set at 0(zero) and discount rate satisfying this condition is determined. IRR can be interpreted in 2 ways :

- 1) IRR represents the rate of return on the unrecovered investment balance in the project.
- 2) IRR is the rate of return earned on the initial investment made in the project.

It may not be possible for all firms to reinvest intermediate cash flows at a rate of return equal to the project's IRR, hence the first interpretation seems to be more realistic. Thus, IRR should be viewed as the rate of return on unrecovered balance of project rather than compounded rate of return on initial investment over the life of the project. The exact rate of interpolation as follows :

$$IRR = r + [(PV_{CFAT} - PV_{C0}) / \Delta PV] * \Delta r$$

Where,

PV_{CFAT} = Present value of cash inflows ($DF_r * \text{annuity}$)

PV_{C0} = Present value of cash outlay

r = Either of 2 interest rates used in the formula

Δr = Difference in interest rates

ΔPV = Difference in present values of inflows

Acceptance Rule:

The use of IRR, as a criterion to accept capital investment decision involves a comparison of IRR with required rate of return called as Cutoff rate. The project should be accepted if IRR is greater than cut off rate. If IRR is equal to cut off rate the firm is indifferent. If IRR less than cutoff rate, the project is rejected.

Merits:

- 1) This method makes use of the concept of time value of money.
- 2) All the cash flows in the project are considered.
- 3) IRR is easier to use as instantaneous understanding of desirability is determined by comparing it with the cost of capital.
- 4) IRR technique helps in achieving the objective of minimisation of shareholders wealth.

Demerits:

- 1) The calculation process is tedious if there are more than one cash outflow interspersed between the cash inflows then there would be multiple IRR's, the interpretation of which is difficult.
- 2) The IRR approach creates a peculiar situation if we compare the 2 projects with different inflow/outflow patterns.
- 3) It is assumed that under this method all future cash inflows of a proposal are reinvested at a rate equal to IRR which is an ridiculous assumption.
- 4) In case of mutually exclusive projects, investment options have considerably different cash outlays. A project with large fund commitments but lower IRR contribute more in terms of absolute NPV and increases the shareholders' wealth then decisions based only on IRR may not be correct.

Question : What is the significance of cut off rate?

Answer: Cut off rate is the minimum that the management wishes to have from any project, usually it is based on cost of capital. The technical calculation of cost of capital involves a complicated procedure, as a concern procures funds from any source i.e. equity shares, capital generated from its own operations and retained in general reserves i.e. retained earnings, debentures, preference share capital, long/short term loans, etc. Thus, the firm's cost of capital can be known only by working out weighted average of the various costs of raising various types of capital. A firm should not and would not invest in projects yielding returns at a rate below the cut off rate.

Question : Distinguish between desirability factor, NPV and IRR method of ranking projects?

Answer : In case of an undertaking having 2 or more competing projects and a limited amount of funds at its disposal, the question of ranking the projects arises. For every project, desirability factor and NPV method would give the same signal i.e. accept or reject. But, in case of mutually exclusive projects, NPV method is preferred due to the fact that NPV indicates economic contribution of the project in absolute terms. The project giving higher economic contribution is preferred.

As regards NPV vs. IRR method, one has to consider the basic presumption under each. In case of IRR, the presumption is that intermediate cash inflows will be reinvested at the rate i.e. IRR, while that under NPV is that intermediate cash inflows are presumed to be reinvested at the cut off rate. It is obvious that reinvestment of funds at cut off rate is possible than at the internal rate of return, which at times may be very high. Hence the NPV obtained after discounting at a fixed cut off rate are more reliable for ranking 2 or more projects than the IRR.

Question : Write a note on capital rationing?

Answer : Usually, firms decide maximum amount that can be invested in capital projects, during a given period of time, say a year. The firm, then attempts to select a combination of investment proposals, that will be within specific limits providing maximum profitability and rank them in descending order as per their rate of return, this is a capital rationing situation. A firm should accept all investment projects with positive NPV, with an objective to maximise the wealth of shareholders. However, there may be resource constraints due to which a firm may have to select from amongst various projects. Thus, there may arise a situation of capital rationing where, there may be internal or external constraints on procurement of funds needed to invest in all investment proposals with positive NPV's. Capital rationing can be experienced due to external factors, mainly imperfections in capital markets attributable to non-availability of market information, investor attitude, and so on. Internal capital rationing is due to self-imposed restrictions imposed by management as, not to raise additional debt or lay down a specified minimum rate of return on each project. There are various ways of resorting to capital rationing. It may put up a ceiling when it has been financing investment proposals only by way of retained earnings i.e. ploughing back of profits. Capital rationing can also be introduced by following the concept of 'Responsibility Accounting', whereby management may introduce capital rationing by authorising a particular department to invest up to a specified limit, beyond which decisions would be taken by the higher-ups. Selection of a project under capital rationing involves :

- 1) Identification of the projects that can be accepted by using evaluation technique as discussed.
- 2) Selection of the combination of projects.

In capital rationing, it would be desirable to accept several small investment proposals than a few large ones, for a fuller utilisation of the budgeted amount. This would result in accepting relatively less profitable investment proposals if

full utilisation of budget is a primary consideration. It may also mean that the firm forgoes the next profitable investment following after the budget ceiling, even if it is estimated to yield a rate of return higher than the required rate. Thus capital rationing does not always lead to optimum results.

Question : Discuss the estimation of future cash flows?

Answer : In order to use any technique of financial evaluation, data as regards cash flows from the project is necessary, implying that costs of operations and returns from the project for a considerable period in future should be estimated. Future, is always uncertain and predictions can be made about it only with reference to certain probability levels, but, still would not be exact, thus, cash flows are at best only a probability. Following are the various stages or steps used in developing relevant information for cash flow analysis :

1) Estimation of costs: To estimate cash outflows, information as regards following are needed which may be obtained from vendors or contractors or by internal estimates :

- i) Cost of new equipment;
- ii) Cost of removal and disposal of old equipment less scrap value;
- iii) Cost of preparing the site and mounting of new equipment; and
- iv) Cost of ancillary services required for new equipment such as new conveyors or new power supplies and so on.

The vendor may have related data on costs of similar equipment or the company may have to estimate costs from its own experience. But, cost of a new project specially the one involving long gestation period, must be estimated in view of the changes in price levels in the economy. For instance high rates of inflation has caused very high increases in the cost of various capital projects. The impact of possible inflation on the value of capital goods must thus, be assessed and estimated in working out estimated cash outflow. Many firms work out a specific index showing changes in price levels of capital goods such as buildings, machinery, plant and machinery, etc. The index is used to estimate the likely increase in costs for future years and as per it, estimated cash outflows are adjusted. Another adjustment required in cash outflows estimates is the possibility of delay in the execution of a project depending on a number of factors, many of which are beyond the management's control. It is imperative that an estimate may be made regarding the increase in project cost

due to delay beyond expected time. The increase would be due to many factors as inflation, increase in overhead expenditure, etc.

2) Estimation of additional working capital requirements: The next step is to ascertain additional working capital required for financing increased activity on account of new capital expenditure project. Project planners often do not take into account the amount required to finance the increase in additional working capital that may exceed amount of capital expenditure required. Unless and until this factor is taken into account, the cash outflow will remain incomplete. The increase in working capital requirement arises due to the need for maintaining higher sundry debtors, stock-in-hand and prepaid expenses, etc. The finance manager should make a careful estimate of the requirements of additional working capital. As the new capital project commences operation, cash outflows requirement should be shown in terms of cash outflows. At the expiry of the useful life of the project, the working capital would be released and can be thus, treated as cash inflow. The impact of inflation is also to be brought into account, while working out cash outflows on account of working capital. In an inflationary economy, working capital requirements may rise progressively even though there is increase in activity of a new project. This is because the value of stock, etc. may rise due to inflation, hence, additional working capital requirements on this account should be shown as cash outflows.

3) Estimation of production and sales: Planning for a new project requires an estimate of the production that it would generate and the sale that it would entail. Cash inflows are highly dependent on the estimation of production and sales levels. This dependence is due to peculiar nature of fixed cost. Cash inflows tend to increase considerably after the sales are above the break-even point. If in a year, sales are below the break-even point, which is quite possible in a large capital intensive project in the initial year of its commercial production, the company may even have cash outflows in terms of losses. On the basis of additional production units that can be sold and price at which they may be sold, the gross revenues from a project can be worked out. In doing so however, possibility of a reduction in sale price, introduction of cheaper or more efficient product by competitors, recession in the market conditions and such other factors are to be considered.

4) Estimation of cash expenses: In this step, the amount of cash expenses to be incurred in running the project after it goes into commercial production are to be estimated. It is obvious that whichever level of capacity utilisation is attained by the project, fixed costs remain the same. However, variable costs vary with changes in the level of capacity utilisation.

5) Working out cash inflows: The difference between gross revenues and cash expenses has to be adjusted for taxation before cash inflows can be worked out. In view of depreciation and other taxable expenses, etc. the tax liability of the

company may be worked out. The cash inflow would be revenues less cash expenses and liability for taxation.

One problem is of treatment of dividends and interest. Some accountants suggest that interest being a cash expense is to be deducted and dividends to be deducted from cash inflows. However, this seems to be incorrect. Both dividends and interest involve a cash outflow, the fact remains that these constitute cost of capital, hence, if discounting rate, is itself based on the cost of capital, interest on long term funds and dividends to equity or preference shareholders should not be deducted while working out cash inflows. The rate of return yielded by a project at a certain rate of return is compared with cost of capital for determining whether a particular project can be taken up or not. If the cost of capital becomes part of cash outflows, the comparison becomes vitiated. Thus, capital cost like interest on long term funds and dividends should not be deducted from gross revenues in order to work out cash inflows. Cash inflows can also be worked out backwards, on adding interest on long term funds and depreciation to net profits and deducting liability for taxation for the year.

Question : Write a note on social benefit analysis?

Answer : It is being increasingly recognised that commercial evaluation of industrial projects is not enough to justify commitment of funds to a project specially, if it belongs to the public sector and irrespective of its financial viability, it is to be implemented in the long term interest of the nation. In the context of the national policy of making huge public investments in various sectors of the economy, the need for a practical method of making social cost benefit analysis has acquired great urgency. Hundreds of crores of rupees are committed every year to various public projects of all types - industrial, commercial and those providing basic infrastructure facilities, etc. Analysis of such projects has to be done with reference to social costs and benefits as they cannot be expected to yield an adequate commercial return on the funds employed, at least during the short run. Social cost benefit analysis is important for private corporations having a moral responsibility to undertake socially desirable projects. In analysing various alternatives of capital expenditure, a private corporation should keep in view the social contribution aspect. It can thus be seen that the purpose of social cost benefit analysis technique is not to replace the existing techniques of financial analysis but to supplement and strengthen them. The concept of social cost benefit analysis has progressed beyond the stage of intellectual speculation. The planning commission has already decided that in future, the feasibility studies for public sector projects will have to include an analysis of the social rate of return. In case of private sector also, a socially beneficial project may be more easily acceptable to the government and thus, this analysis would be relevant

while granting various licenses and approvals, etc. Also, if the private sector includes social cost benefit analysis in its project evaluation techniques, it will ensure that it is not ignoring its own long-term interest, as in the long run only those projects will survive that are socially beneficial and acceptable to society.

Need for Social Cost Benefit Analysis (SCBA):

- 1) Market prices used to measure costs and benefits in project analysis do not represent social values due to market imperfections.
- 2) Monetary cost benefit analysis fails to consider the externalities or external effects of a project. The external effects can be positive like development of infrastructure or negative like pollution and imbalance in environment.
- 3) Taxes and subsidies are monetary costs and gains, but these are only transfer payments from social viewpoint and thus irrelevant.
- 4) SCBA is essential for measuring the redistribution effect of benefits of a project as benefits going to poorer section are more important than one going to sections which are economically better off.
- 5) Projects manufacturing liquor and cigarettes are not distinguished from those generating electricity or producing necessities of life. Thus, merit wants are important appraisal criterion for SCBA.

The important publication on the technique of social cost benefit analysis are those by the United Nations Industrial Development Organisation (UNIDO) and the Centre for Organisation of Economic Cooperation and Development (OECD). Both publications deal with the problem of measuring social costs and benefits. In this context, it is essential to understand that actual cost or revenues do not essentially reflect cost or benefit to the society. It is so, because the market price of goods and services are often grossly distorted due to various artificial restrictions and controls from authorities. Thus, a different yardstick is to be adopted in evaluating a particular proposal and its cost benefit analysis are usually valued at "opportunity cost" or shadow prices to judge the real impact of their burden as costs to society. The social cost valuation sometimes completely changes the estimates of working results of a project.

Question : Is there any relationship between risk and return, if yes, of what sort?
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Answer :

Risk: The term risk with reference to investment decision is defined as the variability in actual return emanating from a project in future over its working life in relation to the estimated return as forecasted at the time of initial capital budgeting decisions. Risk is differentiated with uncertainty and is defined as a situation where the facts and figures are not available or probabilities cannot be assigned.

Return: It cannot be denied that return is the motivating force and the principal reward to the investment process. The return may be defined in terms of :

1) realised return i.e. the return which was earned or could have been earned, measuring the realised return allows a firm to assess how the future expected returns may be.

2) expected return i.e. the return that the firm anticipates to earn over some future period. The expected return is a predicted return and may or may not occur.

For a firm the return from an investment is the expected cash inflows. The return may be measured as the total gain or loss to the firm over a given period of time and may be defined as percentage on the initial amount invested.

Relationship between risk and return: The main objective of financial management is to maximise wealth of shareholders' as reflected in the market price of shares, that depends on risk-return characteristics of the financial decisions taken by the firm. It also emphasizes that risk and return are 2 important determinants of value of a share. So, a finance manager as also investor, in general has to consider the risk and return of each and every financial decision. Acceptance of any proposal does not alter the business risk of firm as perceived by the supplier of capital, but, different investment projects would have different degree of risk. Thus, the importance of risk dimension in capital budgeting can hardly be over-stressed. In fact, risk and return are closely related, investment project that is expected to yield high return may be too risky that it causes a significant increase in the perceived risk of the firm. This trade off between risk and return would have a bearing on the investor's perception of the firm before and after acceptance of a specific proposal. The return from an investment during a given period is equal to the change in value of investment plus any income received from investment. It is thus, important that any capital or revenue income from investments to investment must be included, otherwise the measure of return will be deficient. The return from investment cannot be forecasted with certainty as there is risk that the cash inflows from project may not be as expected. Greater the variability between the estimated and actual return, more risky is the project.

CHAPTER FIVE

LEVERAGE

Question : Discuss the concept of leverage and its types ?

Answer : the term leverage generally, refers to a relationship between 2 interrelated variables. In financial analysis, it represents the influence of one financial variable over some other related financial variable. These financial variables may be costs, output, sales revenue, EBIT (Earnings Before Interest and Tax), EPS (Earnings Per Share), etc.

Types of leverages : Commonly used leverages are of the following type :

1) Operating Leverage :

It is defined as the "firm's ability to use fixed operating costs to magnify effects of changes in sales on its EBIT ". When there is an increase or decrease in sales level the EBIT also changes. The effect of changes in sales on the level EBIT is measured by operating leverage.

$$\begin{aligned}\text{Operating leverage} &= \% \text{ Change in EBIT} / \% \text{ Change in sales} \\ &= [\text{Increase in EBIT}/\text{EBIT}] / [\text{Increase in sales}/\text{sales}]\end{aligned}$$

Significance of operating leverage : Analysis of operating leverage of a firm is useful to the financial manager. It tells the impact of changes in sales on operating income. A firm having higher D.O.L. (Degree of Operating Leverage) can experience a magnified effect on EBIT for even a small change in sales level. Higher D.O.L. can dramatically increase operating profits. But, in case of decline in sales level, EBIT may be wiped out and a loss may be operated. As operating leverage, depends on fixed costs, if they are high, the firm's operating risk and leverage would be high. If operating leverage is high, it automatically means that the break-even point would also be reached at a high level of sales. Also, in case of high operating leverage, the margin of safety would be low. Thus, it is preferred to operate sufficiently above the break-even point to avoid the danger of fluctuations in sales and profits.

2) Financial Leverage :

It is defined as the ability of a firm to use fixed financial charges to magnify the effects of changes in EBIT/Operating profits, on the firm's earnings per share. The financial leverage occurs when a firm's capital structure contains obligation of fixed charges e.g. interest on debentures, dividend on preference shares, etc.

along with owner's equity to enhance earnings of equity shareholders. The fixed financial charges do not vary with the operating profits or EBIT. They are fixed and are to be repaid irrespective of level of operating profits or EBIT. The ordinary shareholders of a firm are entitled to residual income i.e. earnings after fixed financial charges. Thus, the effect of changes in operating profit or EBIT on the level of EPS is measured by financial leverage.

Financial leverage = % change in EPS/% change in EBIT

or

$$= (\text{Increase in EPS}/\text{EPS})/(\text{Increase in EBIT}/\text{EBIT})$$

The financial leverage is favourable when the firm earns more on the investment/assets financed by sources having fixed charges. It is obvious that shareholders gain a situation where the company earns a high rate of return and pays a lower rate of return to the supplier of long term funds, in such cases it is called 'trading on equity'. The financial leverage at the levels of EBIT is called degree of financial leverage and is calculated as ratio of EBIT to profit before tax.

$$\text{Degree of financial leverage} = \text{EBIT}/\text{Profit before tax}$$

Shareholders gain in a situation where a company has a high rate of return and pays a lower rate of interest to the suppliers of long term funds. The difference accrues to the shareholders. However, where rate of return on investment falls below the rate of interest, the shareholders suffer, as their earnings fall more sharply than the fall in the return on investment.

Financial leverage helps the finance manager in designing the appropriate capital structure. One of the objective of planning an appropriate capital structure is to maximise return on equity shareholders' funds or maximise EPS. Financial leverage is double edged sword i.e. it increases EPS on one hand, and financial risk on the other. A high financial leverage means high fixed costs and high financial risk i.e. as the debt component in capital structure increases, the financial risk also increases i.e. risk of insolvency increases. The finance manager thus, is required to trade off i.e. to bring a balance between risk and return for determining the appropriate amount of debt in the capital structure of a firm. Thus, analysis of financial leverage is an important tool in the hands of the finance manager who are engaged in financing the capital structure of business firms, keeping in view the objectives of their firm.

3) Combined leverage :

Operating leverage explains operating risk and financial leverage explains the financial risk of a firm. However, a firm has to look into overall risk or total risk of the firm i.e. operating risk as also financial risk. Hence, the combined leverage is the result of a combination of operating and financial leverage. The combined leverage measures the effect of a % change in sales on % change in EPS.

$$\begin{aligned}
 \text{Combined Leverage} &= \text{Operating leverage} * \text{Financial leverage} \\
 &= (\% \text{ change in EBIT} / \% \text{ change in sales}) * (\% \text{ change in EPS} / \% \text{ change in EBIT}) \\
 &= \% \text{ change in EPS} / \% \text{ change in sales}
 \end{aligned}$$

The ratio of contribution to earnings before tax, is given by a combined effect of financial and operating leverage. A high operating and high financial leverage is very risky, even a small fall in sales would affect tremendous fall in EPS. A company must thus, maintain a proper balance between these 2 leverage. A high operating and low financial leverage indicates that the management is careful as higher amount of risk involved in high operating leverage is balanced by low financial leverage. But, a more preferable situation is to have a low operating and a high financial leverage. A low operating leverage automatically implies that the company reaches its break-even point at a low level of sales, thus, risk is diminished. A highly cautious and conservative manager would keep both its operating and financial leverage at very low levels. The approach may, mean that the company is losing profitable opportunities.

The study of leverages is essential to define the risk undertaken by the shareholders. Earnings available to shareholders fluctuate on account of 2 risks, viz. operating risk i.e. variability of EBIT may arise due to variability of sales or/and expenses. In a given environment, operating risk cannot be avoided. The variability of EPS or return on equity depends on the use of financial leverage and is termed as financial risk. A firm financed totally by equity finance has no financial risk, hence it cannot be avoided by eliminating use of borrowed funds. Thus, a company has to consider its likely profitability position set before deciding upon the capital mix of the company, as it has far reaching implications on the financial position of the company.

Question : What is the effect of leverage on capital turnover and working capital ratio ?

Answer : An increase in sales improves the net profit ratio, raising the Return on Investment (R.O.I) to a higher level. This however, is not possible in all situations, a rise in capital turnover is to be supported by adequate capital base. Thus, as capital turnover ratio increases, working capital ratio deteriorates, thus, management cannot increase its capital turnover ratio beyond a certain limit. The main reasons for a fall in ratios showing the working capital position due to increase in turnover ratios is that as the activity increases without a corresponding rise in working capital, the working capital position becomes tight. As the sales increases, both current assets and current liabilities also increases but not in proportion to current ratio. If current ratio and acid test ratio are high,

it is apparent that the capital turnover ratio can be increased without any problem. However, it may be very risky to increase capital turnover ratio when, the working capital position is not satisfactory.

CHAPTER SIX

CAPITAL STRUCTURE AND COST OF CAPITAL

Question : Explain the concept of capital structure ?
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Answer : A finance manager for procurement of funds, is required to select such a finance mix or capital structure that maximises shareholders wealth. For designing optimum capital structure he is required to select such a mix of sources of finance, so that the overall cost of capital is minimum. Capital structure refers to the mix of sources from where long term funds required by a business may be raised i.e. what should be the proportion of equity share capital, preference share capital, internal sources, debentures and other sources of funds in total amount of capital which an undertaking may raise for establishing its business. In planning the capital structure, following must be referred to :

1) There is no definite model that can be suggested/used as an ideal for all business undertakings. This is due to varying circumstances of various business undertakings. Capital structure depends primarily on a number of factors like, nature of industry, gestation period, certainty with which the profits will accrue after the undertaking commences commercial production and the likely quantum of return on investment. It is thus, important to understand that different types of capital structure would be required for different types of undertakings.

2) Government policy is a major factor in planning capital structure. For instance, a change in the lending policy of financial institutions may mean a complete change in the financial pattern. Similarly, rules and regulations for capital market formulated by SEBI affect the capital structure decisions. The finance managers of business concerns are required to plan capital structure within these constraints.

Optimum capital structure : The capital structure is said to be optimum, when the company has selected such a combination of equity and debt, so that the company's wealth is maximum. At this, capital structure, the cost of capital is minimum and market price per share is maximum. But, it is difficult to measure a fall in the market value of an equity share on account of increase in risk due to high debt content in the capital structure. In reality, however, instead of

optimum, an appropriate capital structure is more realistic. Features of an appropriate capital structure are as below :

- 1) **Profitability** : The most profitable capital structure is one that tends to minimise financing cost and maximise of earnings per equity share.
- 2) **Flexibility** : The capitals structure should be such that the company is able to raise funds whenever needed.
- 3) **Conservation** : Debt content in capital structure should not exceed the limit which the company can bear.
- 4) **Solvency** : Capital structure should be such that the business does not run the risk of insolvency.
- 5) **Control** : Capital structure should be devised in such a manner that it involves minimum risk of loss of control over the company.

Question : Explain the major considerations in the planning of capital structure ?

Answer : The 3 major considerations evident in capital structure planning are risk, cost and control, they assist the management in determining the proportion of funds to be raised from various sources. The finance manager attempts to design the capital structure in a manner, that his risk and cost are least and there is least dilution of control from the existing management. There are also subsidiary factors as, marketability of the issue, maneuverability and flexibility of capital structure and timing of raising funds. Structuring capital, is a shrewd financial management decision and is something that makes or mars the fortunes of the company. The factors involved in it are as follows :

1) Risk :

Risks are of 2 kinds viz. financial and business risk. Financial risk is of 2 kinds as below :

i) **Risk of cash insolvency** : As a business raises more debt, its risk of cash insolvency increases, as :

a) the higher proportion of debt in capital structure increases the commitments of the company with regard to fixed charges. i.e. a company stands committed to

pay a higher amount of interest irrespective of the fact whether or not it has cash. and

b) the possibility that the supplier of funds may withdraw funds at any point of time.

Thus, long term creditors may have to be paid back in installments, even if sufficient cash to do so does not exist. Such risk is absent in case of equity shares.

ii) Risk of variation in the expected earnings available to equity share-holders : In case a firm has a higher debt content in capital structure, the risk of variations in expected earnings available to equity shareholders would be higher; due to trading on equity. There is a lower probability that equity shareholders get a stable dividend if, the debt content is high in capital structure as the financial leverage works both ways i.e. it enhances shareholders' returns by a high magnitude or reduces it depending on whether the return on investment is higher or lower than the interest rate. In other words, there is relative dispersion of expected earnings available to equity shareholders, that would be greater if capital structure of a firm has a higher debt content.

The financial risk involved in various sources of funds may be understood with the help of debentures. A company has to pay interest charges on debentures even in case of absence of profits. Even the principal sum has to be repaid under the stipulated agreement. The debenture holders have a charge against the company's assets and thus, they can enforce a sale of assets in case of company's failure to meet its contractual obligations. Debentures also increase the risk of variation in expected earnings available to equity shareholders through leverage effect i.e. if return on investment remains higher than interest rate, shareholders get a high return and vice versa. As compared to debentures, preference shares entail a slightly lower risk for the company, as the payment of dividends on such shares is contingent upon the earning of profits by the company. Even in case of cumulative preference shares, dividends are to be paid only in the year in which company earns profits. Even, their repayment is made only if they are redeemable and after a stipulated period. However, preference shares increase the variations in expected earnings available to equity shareholders. From the company's view point, equity shares are least risky, as a company does not repay equity share capital except on its liquidation and may not declare dividends for years. Thus, as seen here, financial risk encompasses the volatility of earnings available to equity shareholders as also, the probability of cash insolvency.

2) Cost of capital :

Cost is an important consideration in capital structure decisions and it is obvious that a business should be atleast capable of earning enough revenue to meet its cost of capital and also finance its growth. Thus, along with risk, the

finance manager has to consider the cost of capital factor for determination of the capital structure.

3) Control :

Along with cost and risk factors, the control aspect is also an important factor for capital structure planning. When a company issues equity shares, it automatically dilutes the controlling interest of present owners. In the same manner, preference shareholders can have voting rights and thereby affect the composition of Board of directors, if dividends are not paid on such shares for 2 consecutive years. Financial institutions normally stipulate that they shall have one or more directors on the board. Thus, when management agrees to raise loans from financial institutions, by implication it agrees to forego a part of its control over the company. It is thus, obvious that decisions concerning capital structure are taken after keeping the control factor in view.

4) Trading on equity :

A company may raise funds by issue of shares or by borrowings, carrying a fixed rate of interest that is payable irrespective of the fact whether or not there is a profit. Preference shareholders are also entitled to a fixed rate of dividend, but dividend payment is subject to the company's profitability. In case of ROI the total capital employed i.e. shareholders' funds plus long term borrowings, is more than the rate of interest on borrowed funds or rate of dividend on preference shares, the company is said to trade on equity. It is the finance manager's main objective to see that the return and overall wealth of the company both are maximised, and it is to be kept in view while deciding on the sources of finance. Thus, the effect of each proposed method of new finance on EPS is to be carefully analysed. This, thus, helps in deciding whether funds should be raised by internal equity or by borrowings.

5) Corporate taxation :

Under the Income tax laws, dividend on shares is not deductible while interest paid on borrowed capital is allowed as deduction. Cost of raising finance through borrowings is deductible in the year in which it is incurred. If it is incurred during the pre-commencement period, it is to be capitalised. Cost of share issue is allowed as deduction. Owing to such provisions, corporate taxation, plays an important role in determination of the choice between different sources of financing.

6) Government Policies :

Government policies is a major factor in determining capital structure. For instance, a change in the lending policies of financial institutions would mean a complete change in the financial pattern followed by companies. Also, rules and regulations framed by SEBI considerably affect the capital issue policy of various companies. Monetary and fiscal policies of government also affect the capital structure decisions.

7) Legal requirements :

The finance manager has to keep in view the legal requirements at the time of deciding as regards the capital structure of the company.

8) Marketability :

To obtain a balanced capital structure, it is necessary to consider the company's ability to market corporate securities.

9) Maneuverability :

Maneuverability is required to have as many alternatives as possible at the time of expanding or contracting the requirement of funds. It enables use of proper type of funds available at a given time and also enhances the bargaining power when dealing with the prospective suppliers of funds.

10) Flexibility :

It refers to the capacity of the business and its management to adjust to expected and unexpected changes in circumstances. In other words, the management would like to have a capital structure providing maximum freedom to changes at all times.

11) Timing :

Closely related to flexibility is the timing for issue of securities. Proper timing of a security issue often brings substantial savings due to the dynamic nature of the capital market. Intelligent management tries to anticipate the climate in capital market with a view to minimise cost of raising funds and the dilution resulting from an issue of new ordinary shares.

12) Size of the company :

Small companies rely heavily on owner's funds while large companies are usually considered, to be less risky by investors and thus, they can issue different types of securities.

13) Purpose of financing :

The purpose of financing also, to some extent affects the capital structure of the company. In case funds are required for productive purposes like manufacturing, etc. the company may raise funds through long term sources. On the other hand, if the funds are required for non-productive purposes, like welfare facilities to employees such as schools, hospitals, etc. the company may rely only on internal resources.

14) Period of Finance :

The period for which finance is required also affects the determination of capital structure. In case funds are required for long term requirements say 8 to 10 years, it would be appropriate to raise borrowed funds. However, if the funds are required more or less permanently, it would be appropriate to raise

borrowed funds. However, if the funds are required more or less permanently, it would be appropriate to raise them by issue of equity shares.

15) Nature of enterprise :

The nature of enterprise to a great extent affects the company's capital structure. Business enterprises having stability in earnings or enjoying monopoly as regards their products may go for borrowings or preference shares, as they have adequate profits to pay interest/fixed charges. On the contrary, companies not having assured income should preferably rely on internal resources to a large extent.

16) Requirement of investors :

Different types of securities are issued to different classes of investors according to their requirement.

17) Provision for future :

While planning capital structure the provision for future requirement of capital is also required to be considered.

Question : Give in detail the various capital structure theories ?

Answer : A firm's objective should be directed towards the maximisation of the firm's value; the capital structure or leverage decision are to be examined from the view point of their impact on the value of the firm. If the value of the firm can be affected by capital structure or financing decision, a firm would like to have a capital structure that maximises the market value of the firm. There are broadly 4 approaches in the regard, which analyse relationship between leverage, cost of capital and the value of the firm in different ways, under the following assumptions :

- 1) There are only 2 sources of funds viz. debt and equity.
- 2) The total assets of the firm are given and the degree of leverage can be altered by selling debt to repurchase shares or selling shares to retire debt.
- 3) There are no retained earnings implying that entire profits are distributed among shareholders.
- 4) The operating profit of firm is given and expected to grow.
- 5) The business risk is assumed to be constant and is not affected by the financing mix decision.

6) There are no corporate or personal taxes.

7) The investors have the same subjective probability distribution of expected earnings.

The approaches are as below :

1) Net Income Approach (NI Approach) :

The approach is suggested by Durand. According to it, a firm can increase its value or lower the overall cost of capital by increasing the proportion of debt in the capital structure. In other words, if the degree of financial leverage increases, the weighted average cost of capital would decline with every increase in the debt content in total funds employed, while the value of the firm will increase. Reverse would happen in a converse situation. It is based on the following assumptions :

i) There are no corporate taxes.

ii) The cost of debt is less than cost of equity or equity capitalisation rate.

iii) The use of debt content does not change the risk perception of investors as a result of both the K_d (Debt capitalisation rate) and K_e (equity capitalisation rate) remains constant.

The value of the firm on the basis of Net Income Approach may be ascertained as follows :

$$V = S + D$$

Where,

V = Value of the firm

S = Market value of equity

D = Market value of debt

$$S = NI/K_e$$

Where,

S = Market value of equity

NI = Earnings available for equity shareholders

K_e = Equity Capitalisation rate

Under, NI approach, the value of a firm will be maximum at a point where weighted average cost of capital is minimum. Thus, the theory suggests total or maximum possible debt financing for minimising cost of capital.

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

2) Net Operating Income Approach (NOI) :

This approach is also suggested by Durand, according to it, the market value of the firm is not affected by the capital structure changes. The market value of the firm is ascertained by capitalising the net operating income at the overall cost of capital, which is constant. The market value of the firm is determined as :

$$V = \text{EBIT}/\text{Overall cost of capital}$$

Where,

V = Market value of the firm

EBIT = Earnings before interest and tax

$$S = V - D$$

Where,

S = Value of equity

D = Market value of debt

V = Market value of firm

$$\text{Cost of equity} = \text{EBIT}/(V - D)$$

Where,

V = Market value of the firm

EBIT = Earnings before interest and tax

D = Market value of debt

It is based on the following assumptions :

- i) The overall cost of capital remains constant for all degree of debt equity mix.
- ii) The market capitalises value of the firm as a whole. Thus, the split between debt and equity is not important.
- iii) The use of less costly debt funds increases the risk of shareholders. This causes the equity capitalisation rate to increase. Thus, the advantage of debt is set off exactly by increase in equity capitalisation rate.
- iv) There are no corporate taxes.
- v) The cost of debt is constant.

Under, NOI approach since overall cost of capital is constant, thus, there is no optimal capital structure rather every capital structure is as good as any other and so every capital structure is optimal.

3) Traditional Approach :

The traditional approach, also called an intermediate approach as it takes a midway between NI approach, that the value of the firm can be increased by increasing financial leverage and NOI approach, that the value of the firm is constant irrespective of the degree of financial leverage. According to this approach the firm should strive to reach the optimal capital structure and its total valuation through a judicious use of debt and equity in capital structure. At the optimal capital structure, the overall cost of capital will be minimum and the value of the firm is maximum. It further states, that the value of the firm increases with financial leverage upto a certain point. Beyond this, the increase in financial leverage will increase cost of equity, the overall cost of capital may still reduce. However, if financial leverage increases beyond an acceptable limit, the risk of debt investor may also increase, consequently cost of debt also starts increasing. The increasing cost of equity owing to increased financial risk and increasing cost of debt makes the overall cost of capital to increase. Thus, as per the traditional approach the cost of capital is a function of financial leverage and the value of firm can be affected by the judicious mix of debt and equity in capital structure. The increase of financial leverage upto a point favourably affect the value of the firm. At this point, the capital structure is optimal & the overall cost of capital will be the least.

4) Modigliani and Miller Approach(MM Approach) :

According to this approach, the total cost of capital of particular firm is independent of its method and level of financing. Modigliani and Miller argued that the weighted average cost of capital of a firm is completely independent of its capital structure. In other words, a change in the debt equity mix does not affect the cost of capital. They argued, in support of their approach, that as per the traditional approach, cost of capital is the weighted average of cost of debt and cost of equity, etc. The cost of equity, is determined from the level of shareholder's expectations. That is if, shareholders expect a particular rate of return, say 15 % from a particular company, they do not take into account the debt equity ratio and they expect 15 % as they find that it covers the particular risk which this company entails. Suppose, the debt content in the capital structure of the company increases, this means, that in the eyes of shareholders, the risk of the company increases, since debt is a more risky mode of finance. Thus, the shareholders would now, expect a higher rate of return from the shares of the company. Thus, each change in the debt equity mix is automatically set-off by a change in the expectations of the shareholders from the equity share capital. This is because, a change in the debt-equity ratio changes the risk element of the company, which in turn changes the expectations of the shareholders from the particular shares of the company. Modigliani and Miller, thus, argue that financial leverage has nothing to do with the overall cost of capital and the overall cost of capital is equal to the capitalisation rate of pure equity stream of its class of risk. Thus, financial

leverage has no impact on share market prices nor on the cost of capital. They make the following propositions :

i) The total market value of a firm and its cost of capital are independent of its capital structure. The total market value of the firm is given by capitalising the expected stream of operating earnings at a discount rate considered appropriate for its risk class.

ii) The cost of equity (K_e) is equal to the capitalisation rate of pure equity stream plus a premium for financial risk. The financial risk increases with more debt content in the capital structure. As a result, K_e increases in a manner to offset exactly the use of less expensive sources of funds.

iii) The cut off rate for investment purposes is completely independent of the way in which the investment is financed.

Assumptions :

i) - The capital markets are assumed to be perfect. This means that investors are free to buy and sell securities.

- They are well-informed about the risk-return on all type of securities.
- There are no transaction costs.
- They behave rationally.
- They can borrow without restrictions on the same terms as the firms do.

ii) The firms can be classified into 'homogenous risk class'. They belong to this class, if their expected earnings have identical risk characteristics.

iii) All investors have the same expectations from a firms' EBIT that is necessary to evaluate the value of a firm.

iv) The dividend payment ratio is 100 %. i.e. there are no retained earnings.

v) There are no corporate taxes, but, this assumption has been removed.

Modigliani and Miller agree that while companies in different industries face different risks resulting in their earnings being capitalised at different rates, it is not possible for these companies to affect their market values, and thus, their overall capitalisation rate by use of leverage. That is, for a company in a particular risk class, the total market value must be same irrespective of proportion of debt in company's capital structure. The support for this hypothesis lies in the presence of arbitrage in the capital market. They contend that arbitrage will substitute personal leverage for corporate leverage.

For instance : There are 2 companies X and Y in the same risk class. Company X is financed by only equity and no debt, while Company Y is financed by a

combination of debt and equity. The market price of shares of Company Y would be higher than that of Company X, market participants would take advantage of difference by selling equity shares of Company Y, borrowing money to equate their personal leverage to the degree of corporate leverage in Company Y and use them for investing in Company X. The sale of shares of Company Y reduces its price until the market value of the company Y, financed by debt and equity, equals that of Company X, financed by only equity.

Criticism :

These propositions have been criticised by numerous authorities. Mostly criticism is as regards, perfect market and arbitrage assumption. MM hypothesis argue that through personnel arbitrage investors would quickly eliminate any inequalities between the value of leveraged firms and that of unleveraged firms in the same risk class. The basic argument here, is that individual arbitrageurs, through the use of personal leverage can alter corporate leverage, which is not a valid argument in the practical world, as it is extremely doubtful that personal investors would substitute personal leverage for corporate leverage, as they do not have the same risk characteristics. The MM approach assumes availability of free and upto date information, this also is not normally valid.

To conclude, one may say that controversy between the traditionalists and the supporters of MM approach cannot be resolved due to lack of empirical research. Traditionalists argue that the cost of capital of a firm can be lowered and the market value of shares increased by use of financial leverage. But, after a certain stage, as the company becomes highly geared i.e. debt content increases, it becomes too risky for investors and lenders. Thus, beyond a point, the overall cost of capital begins to rise, this point indicates the optimal capital structure. Modigliani and Miller argues, that in the absence of corporate income taxes, overall cost of capital begins to rise.

Question : What kind of relationship exists between taxation and capital structure ?

Answer : The leverage irrelevance theory of MM is valid only in perfect market conditions, but, in face of imperfections characterising the real world capital markets, the capital structure of a firm may affect its valuation. Presence of taxes is a major imperfection in the real world. When taxes are applicable to corporate income, debt financing is advantageous. This is because dividends and retained earnings are not deductible for tax purposes, interest on debt is a deductible expense for tax purposes. As a result, the total available income for both stock-holders and debt-holders is greater when debt capital is used. If the debt employed by a leveraged firm is permanent in nature, the present value of

the tax shield associated with interest payment can be obtained by applying the formula for perpetuity.

$$\text{Present value of tax shield (TD)} = (T * k_d * D)/k_d$$

Where,

T = Corporate tax rate

D = Market value of debt

k_d = Interest rate on debt

The present value of interest tax shields is independent of the cost of debt, it being a deductible expense. It is simply the corporate tax rate times the amount of permanent debt.

Value of an unleveraged firm :

$$V_u = [\text{EBIT} (1 - t)]/K_0$$

Value of leveraged firm :

$$V_l = V_u + \text{Debt} (t)$$

Greater the leverage, greater would be the value of the firm, other things being equal. This implies that the optimal strategy of a firm should be to maximise the degree of leverage in its capital structure.

Question : Enumerate the methods to calculate the cost of capital from various sources ?

Answer : The cost of capital is a significant factor in designing the capital structure of an undertaking, as basic reason of running of a business undertaking is to earn return at least equal to the cost of capital. Commercial undertaking has no relevance if, it does not expect to earn its cost of capital. Thus cost of capital constitutes an important factor in various business decisions. For example, in analysing financial implications of capital structure proposals, cost of capital may be taken as the discounting rate. Obviously, if a particular project gives an internal rate of return higher than its cost of capital, it should be an attractive opportunity. Following are the cost of capital acquired from various sources :

1) Cost of debt :

The explicit cost of debt is the interest rate as per contract adjusted for tax and the cost of raising debt.

- Cost of irredeemable debentures :

Cost of debentures not redeemable during the life time of the company,

$$K_d = (I/NP) * (1 - T)$$

Where,

K_d = Cost of debt after tax

I = Annual interest rate

NP = Net proceeds of debentures

T = Tax rate

However, debt has an implicit cost also, that arises due to the fact that if the debt content rises above the optimal level, investors would start considering the company to be too risky and, thus, their expectations from equity shares will rise. This rise, in the cost of equity shares is actually the implicit cost of debt.

- Cost of redeemable debentures :

If the debentures are redeemable after the expiry of a fixed period the cost of debentures would be :

$$K_d = \frac{I(1 - t) + [(RV - NP)/N]}{[(RV + NP)/2]}$$

Where,

I = Annual interest payment

NP = Net proceeds of debentures

RV = Redemption value of debentures

t = tax rate

N = Life of debentures

2) Cost of preference shares :

In case of preference shares, the dividend rate can be taken as its cost, as it is this amount that the company intends to pay against the preference shares. As, in case of debt, the issue expenses or discount/premium on issue/redemption is also to be taken into account.

- Cost of irredeemable preference shares :

Cost of irredeemable preference shares = PD/PO

Where,

PD = Annual preference dividend

PO = Net proceeds of an issue of preference shares

- Cost of redeemable preference shares :

If the preference shares are redeemable after the expiry of a fixed period, the cost of preference shares would be.

$$K_p = \frac{PD + [(RV - NP)]/N}{[(RV + NP)/2]}$$

Where,

PD = Annual preference dividend

NP = Net proceeds of debentures

RV = Redemption value of debentures

N = Life of debentures

However, since dividend of preference shares is not allowed as deduction from income for income tax purposes, there is no question of tax advantage in the case of cost of preference shares. It would, thus, be seen that both in case of debt and preference shares, cost of capital is calculated by reference to the obligations incurred and proceeds received. The net proceeds received must be taken into account in working cost of capital.

3) Cost of ordinary or equity shares :

Calculation of the cost of ordinary shares involves a complex procedure, because unlike debt and preference shares there is no fixed rate of interest or dividend against ordinary shares. Hence, to assign a certain cost to equity share capital is not a question of mere calculation, it requires an understanding of many factors basically concerning the behaviour of investors and their expectations. As, there can be different interpretations of investor's behaviour, there are many approaches regarding calculation of cost of equity shares. The 4 main approaches are :

i) D/P ratio (Dividend/Price) approach : This emphasises that dividend expected by an investor from a particular share determines its cost. An investor who invests in the ordinary shares of a particular company, does so in the expectation of a certain return. In other words, when an investor buys ordinary shares of a certain risk, he expects a certain return, The expected rate of return is the cost of ordinary share capital. Under this approach, thus, the cost of ordinary share capital is calculated on the basis of the present value of the expected future stream of dividends.

For example, the market price of the equity shares (face value Rs. 10) of a particular company is Rs. 15. If it has been paying a dividend of 20 % and is expected to maintain the same, its cost of equity shares at face value is $0.2 * 10/15 = 13.3\%$, since it is the maximum rate of dividend, at which the investor will buy share at the present value. However, it can also be argued that the cost of equity capital is 20 % for the company, as it is on this expectation that the market price of shares is maintained at Rs. 15. Cost of equity shares of a company is that rate of dividend that maintains the present market price of shares. As the objective of financial management is to maximise the wealth of shareholders, it is rational to assume that the company must maintain the

present market value of its share by paying 20 % dividend, which then is its cost of equity capital. Thus, the relationship between dividends and market price shows the expectation of the investors and thereby cost of equity capital.

This approach co-relates the basic factors of return and investment from view point of investor. However, it is too simple as it pre-supposes that an investor looks forward only to dividends as a return on his investment. The expected stream of dividends is of importance to an investor but, he looks forward to capital appreciation also in the value of shares. It may lead us to ignore the growth in capital value of the share. Under, this approach, a company which declares a higher amount of dividend out of a given quantum of earnings will be placed at a premium as compared to a company which earns the same amount of profits but utilises a major part of the same in financing its expansion programmes. Thus, D/P approach may not be adequate to deal with the problem of determining the cost of ordinary share capital.

ii) E/P (Earnings/Price) ratio approach : The advocates of this approach co-relates the earnings of the company with the market price of its shares. As per it, the cost of ordinary share capital would be based on 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, thus, an investor expects that the company in which he is going to subscribe for share should have at least 20 % of earning, the cost of ordinary share capital can be construed on this basis. Suppose, a company is expected to earn 30 % the investor will be prepared to pay Rs 150 ($30/20 \times 100$) for each of Rs. 100 share. This approach is similar to the dividend price approach, only it seeks to nullify the effect of changes in dividend policy. This approach also does not seem to be a complete answer to the problem of determining the cost of ordinary share as it ignores the factor of capital appreciation or depreciation in the market value of shares.

iii) D/P + growth approach : The dividend/price + growth approach emphasises what an investor actually expects to receive from his investment in a particular company's ordinary share in terms of dividend plus the rate of growth in dividend/earnings. This growth rate in dividend (g) is taken to be good to the compound growth rate in earnings per share.

$$K_e = [D_1/P_0] + g$$

Where,

K_e = Cost of capital

D_1 = Dividend for the period 1

P_0 = Price for the period 0

g = Growth rate

D/P + g approach seems to answer the problem of expectations of investor satisfactorily, however, it poses one problem that is how to quantify expectation of investor relating to dividend and growth in dividend.

iv) Realised yield approach : It is suggested that many authors that the yield actually realised for a period of time by investors in a particular company may be used as an indicator of cost of capital. In other words, this approach takes into consideration the basic factor of the $D/P + g$ approach but, instead of using the expected values of the dividends and capital appreciation, past yields are used to denote the cost of capital. This approach is based upon the assumption that the past behaviour would be repeated in future and thus, they may be used to measure the cost of ordinary capital.

Which approach to use ? In case of companies with stable income and stable dividend policies the D/P approach may be a good way of measuring the cost of ordinary share capital. In case of companies whose earnings accrue in cycles, it would be better if the E/P approach is used, but representative figures should be taken into account to include complete cycle. In case of growth companies, where expectations of growth are more important, cost of ordinary share capital may be determined as the basis of the $D/P + g$ approach. In the case of companies enjoying a steady growth rate and a steady rate of dividend, the realised value approach may be useful. The basic factor behind determination of cost of ordinary share capital is to measure expectation of investors from ordinary shares of that particular company. Thus, the whole question of determining the cost of ordinary shares hinges upon the factors which go into the expectations of a particular group of investors in the company of a particular risk class.

4) cost of reserves : The profits retained by a company and used in the expansion of business also entail cost. Many people tend to feel that reserves have no cost. However, it is not easy to realise that by depriving the shareholders of a part of the earnings, a cost is automatically incurred on reserves. This may be termed as the opportunity cost of retained earnings. Suppose, these earnings are not retained and are passed on to shareholders, suppose further that shareholders invest the same in new ordinary shares. This expectation of the investors from new ordinary shares should be the opportunity cost of reserves. In other words, if earnings were paid out as dividends and simultaneously an offer for right shares was made shareholders would have subscribed to the right share on the expectation of a certain return. This return may be taken as the indicator of the cost of reserves. People do not calculate the cost of capital of retained earnings as above. They take cost of retained earnings as the same as that of equity shares. However, if the cost of equity shares is determined on the basis of realised value approach or $D/P + g$ approach, the question of working out a separate cost of reserves is not relevant since cost of reserves is automatically included in the cost of equity share capital.

5) Cost of depreciation funds : Depreciation funds, cannot be construed as not having any cost. Logically speaking, they should be treated on the same footing as reserves when it comes to their use, though while calculating the cost of capital these funds may not be considered.

Question : Enumerate the procedure of calculating the weighted average cost of capital ?

Answer : The composite or overall cost of capital of a firm is the weighted average of the costs of various sources of funds. Weights are taken to be proportion of each source of funds in the capital structure. While, making financial decisions this overall or weighted cost is used. Each investment is financed from a pool of funds which represents the various sources from which funds have been raised. Any decision of investment thus, has to be made with reference to the overall cost of capital and not with reference to cost of a specific source of fund used in that investment decisions. The weighted average cost of capital (WACC) is calculated by :

- 1) Calculating cost of specific sources of funds, e.g. cost of debt, etc.
- 2) Multiplying the cost of each source by its proportion in capital structure.
- 3) Adding the weighted component costs to get the firm's WACC. Thus, WACC is

$$K_0 = K_1W_1 + K_2W_2 + \dots$$

Where,

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

The weights to be used can be either book value weights or market value weights. Book value weights are easier to calculate and can be applied consistently. Market value weights are supposed to be superior to book value weights as component costs are opportunity costs and market values reflect economic values. However, these weights fluctuate frequently and fluctuations are wide in nature.

Question : What do you mean by marginal cost of capital ?

Answer : The marginal cost of capital may be defined as the cost of raising an additional rupee of capital. Since the capital is raised in substantial amount in practice marginal cost is referred to as the cost incurred in raising new funds. Marginal cost of capital is derived, when we calculate the average cost of capital using the marginal weights. The marginal weights represent the proportion of funds the firm intends to employ. Thus, the problem of choosing between the book value weights and the market value weights does not arise in the case of marginal cost of capital computation. To calculate the marginal cost of capital, the intended financing proportion should be applied as weights to marginal component costs. The marginal cost of capital should, thus, be calculated in the

composite sense. When a firm raises funds in proportional manner and the component's cost remain unchanged, there will be no difference between average cost of capital of total funds and the marginal cost of capital. The component's cost may remain unchanged, upto a certain level of funds raised and then start increasing with amount of funds raised, e.g. The cost of debt remains 7 % after tax till Rs. 10 lakhs and between Rs. 10 - 15 lakhs, the cost may be 8 % and so on. Similarly, if the firm has to use the external equity when the retained profits are not sufficient, the cost of equity will be higher because of flotation costs. When the components cost starts rising, the average cost of capital would rise and marginal cost of capital would however, rise at a faster rate.

Question : What is the effect of a financing decision on EPS ?

Answer : One of the prime objective of a finance manager is to maximise both the return on ordinary shares and the total wealth of the company. This objective has to be kept in view while, taking a decision on a new source of finance. Thus, the effect of each proposed method of new finance on the EPS is to be carefully analysed. EPS denotes what has been earned by the company during a particular accounting period, on each of its ordinary shares. This can be worked out by dividing net profit after interest, taxes and preference dividends by the number of equity shares. If a company has a number of alternatives for new financing, it can compute the impact of the various alternatives on earnings per share. It is obvious that, EPS would be the highest in case of financing that has the least cost to the company.

1) Explicit cost of new capital : It is a method that can compare the alternatives available for raising capital can be through the calculation of the explicit cost of new capital. Explicit cost of new capital is the rate of return at which the new funds must be employed so that the existing EPS is not affected. In other words, the rate of return of new funds must earn to maintain EPS at the existing levels. It is obvious that, if EPS were Rs. 2 earlier, the rate of return required to be earned by the source of new capital to maintain it at the old level is to be found. Long term debt would again be preferred as even if a lower rate of return is earned on the funds so raised, the old EPS will be maintained.

2) Range of earnings chart/Indifference point : Another method of considering the impact of various financing alternatives on EPS is to prepare the EBIT chart or the range of earnings chart. It shows the likely EPS at various probable EBIT levels. Thus, under one particular alternative, EPS may be Rs. 1 at a given EBIT level. However, the EPS may reduce if another alternative of financing is chosen even though the EBIT under the alternative may be drawn. Wherever this line intersects, it is known as break - even point. This point is a useful guide in

formulating the capital structure. This is known as EPS equivalency point or indifference point as, it shows that, between the 2 given alternatives of financing i.e. regardless of leverage in financial plans, EPS would be the same at the given EBIT level. The equivalency or indifference point can also be calculated algebraically as below :

$$[X - B]/S_1 = X/S_2$$

Where,

X = Indifference point (EBIT)

S₁ = Number of equity shares outstanding

S₂ = Number of equity shares outstanding when only equity capital is used.

B = Interest on debt capital in rupees.

3) EPS Volatility : EPS Volatility refers to the magnitude or extent of fluctuations in EPS of a company in various years as compared to the mean or average EPS. In other words, EPS volatility shows whether a company enjoys a stable income or not. It is obvious that higher the EPS Volatility, greater would be the risk attached to the company. A major cause of EPS Volatility would be the fluctuations in the sales volume and the operating leverage. It is obvious that the net profits of a company would greatly fluctuate with small fluctuations in the sales figures specially if the fixed cost content is very high. Thus, EPS will fluctuate in such a situation. This effect may be heightened by the financial leverage.

CHAPTER SEVEN

SOURCES OF FINANCE

Question : List down the financial needs and the sources available with a business entity to satisfy such needs ?

Answer : One of the most important consideration for an entrepreneur-company in implementing a new project or undertaking expansion, diversification, modernisation and rehabilitation scheme is ascertaining the cost of project and the means of finance. There are several sources of finance/funds available to any company. An effective appraisal mechanism of various sources of funds available to a company must be instituted in the company to achieve its main objectives. Such a mechanism is required to evaluate risk, tenure and cost of each and every source of fund. This selection of fund source is dependent on the financial strategy pursued by the company, the leverage planned by the company, the financial conditions prevalent in the economy & the risk profile of both i.e. the company and the industry in which the company operates. Each and every source of fund has some advantages and disadvantages.

I) Financial needs of a business are grouped as follows :

1) Long term financial needs : Such needs generally refer to those requirements of funds which are for a period exceeding 5 - 10 years. All investments in plant and machinery, land, buildings, etc. are considered as long term financial needs. Funds required to finance permanent or hard core working capital should also be procured from long term sources.

2) Medium term financial needs : Such requirements refer to those funds which are required for a period exceeding one year but not exceeding 5 years. Funds required for deferred revenue expenditure (i.e benefit of expense expires after a period of 3 to 5 years), are classified as medium term financial needs. Sometimes long term requirements, for which long term funds cannot be arranged immediately may be met from medium term sources and thus the demand of medium term financial needs are generated, as and when the desired long-term funds are available medium term loan may be paid off.

3) Short term financial needs : Such type of financial needs arise for financing current assets as, stock, debtors, cash, etc. Investment in these assets is known as meeting of working capital requirements of the concern. Firms require working capital to employ fixed assets gainfully. The requirement of working capital depends on a number of factors that may differ from industry to industry and from company to company in the same industry. The main characteristic of short term financial needs is that they arise for a short period of time not exceeding the accounting period i.e. one year.

The basic principle for categorising the financial needs into short term, medium term and long term is that they are met from the corresponding viz. short term, medium term and long term sources respectively. Accordingly the source of financing is decided with reference to the period for which funds are required. Basically, there are 2 sources of raising funds for any business enterprise viz. owners capital and borrowed capital. The owners capital is used for meeting long term financial needs and it primarily comes from share capital and retained earnings. Borrowed capital for all other types of requirement can be raised from different sources as debentures, public deposits, financial institutions, commercial banks, etc.

II) Sources of finance of a business are :

1) Long term :

- i) Share capital or Equity share capital
- ii) Preference shares
- iii) Retained earnings
- iv) Debentures/Bonds of different types
- v) Loans from financial institutions
- vi) Loans from State Financial Corporation

- vii) Loans from commercial banks
- viii) Venture capital funding
- ix) Asset securitisation
- x) International financing like Euro-issues, Foreign currency loans.

2) Medium term :

- i) Preference shares
- ii) Debentures/Bonds
- iii) Public deposits /fixed deposits for a duration of 3 years
- iv) Commercial banks
- v) Financial institutions
- vi) State financial corporations
- vii) Lease financing/Hire-purchase financing
- viii) External commercial borrowings
- ix) Euro-issues
- x) Foreign currency bonds.

3) Short-term :

- i) Trade credit
- ii) Commercial banks
- iii) Fixed deposits for a period of 1 year or less
- iv) Advances received from customers
- v) Various short-term provisions

III) Financial sources of a business can also be classified as follows on using different basis :

1) According to period :

- i) Long term sources
- ii) Medium term sources
- iii) Short term sources

2) According to ownership :

- i) Owners capital or equity capital, retained earnings, etc.
- ii) Borrowed capital such as, debentures, public deposits, loans, etc.

3) According to source of generation :

- i) Internal sources e.g. retained earnings and depreciation funds, etc.
- ii) External sources e.g. debentures, loans, etc.

However, for convenience, the different sources of funds can also be classified into the following :

- a) Security financing - financing through shares and debentures
- b) Internal financing - financing through retained earning, depreciation

- c) Loans financing - this includes both short term and long term loans
- d) International financing
- e) Other sources.

Question : Write a note on long term sources of finance.

Answer : There are different sources of funds available to meet long term financial needs of the business. These sources may be broadly classified into share capital (both equity and preference) and debt (including debentures, long term borrowings or other debt instruments). In India, many companies have raised long term finance by offering various instruments to public like deep discount bonds, fully convertible debentures, etc. These new instruments have characteristics of both equity and debt and it is difficult to categorise them into equity and debt. Different sources of long term finance are :

1) Owners' capital or equity capital :

A public limited company may raise funds from promoters or from the investing public by way of owners capital or equity capital by issuing ordinary equity shares. Ordinary shareholders are owners of the company and they undertake risks of business. They elect the directors to run the company and have the optimum control over the management of the company. Since equity shares can be paid off only in the event in liquidation, this source has the least risk involved, and more due to the fact that the equity shareholders can be paid dividends only when there are distributable profits. However, the cost of ordinary shares is usually the highest. This is due to the fact that such shareholders expect a higher rate of return on their investments compared to other suppliers of long term funds. The dividend payable on shares is an appropriation of profits and not a charge against profits, meaning that it has to be paid only out of profits after tax. Ordinary share capital also provides a security to other suppliers of funds. Thus, a company having substantial ordinary share capital may find it easier to raise funds, in view of the fact that the share capital provides a security to other suppliers of funds. The Companies Act, 1956 and SEBI Guidelines for disclosure and investors' protections and the clarifications thereto lays down a number of provisions regarding the issue and management of equity share capital.

Advantages of raising funds by issue of equity shares are :

- i) It is a permanent source of finance.
- ii) The issue of new equity shares increases the company's flexibility.
- iii) The company can make further issue of share capital by making a right issue.

iv) There is no mandatory payments to shareholders of equity shares.

2) Preference share capital :

These are special kind of shares, the holders of which enjoy priority in both, repayment of capital at the time of winding up of the company and payment of fixed dividend. Long-term funds from preference shares can be raised through a public issue of shares. Such shares are normally cumulative, i.e. the dividend payable in a year of loss gets carried over to the next till, there are adequate profits to pay cumulative dividends. Rate of dividend on preference shares is normally higher than the rate of interest on debentures, loans, etc. Most of preference shares now a days carry a stipulation of period and the funds have to be repaid at the end of a stipulated period. Preference share capital is a hybrid form of financing that partakes some characteristics of equity capital and some attributes of debt capital. It is similar to equity because preference dividend, like equity dividend is not a tax deductible payment. It resembles debt capital as the rate of preference dividend is fixed. When preference dividend is skipped, it is payable in future due to the cumulative feature associated with most of preference shares. Cumulative Convertible Preference Shares (CCPs) may also be offered, under which the shares would carry a cumulative dividend of specified limit for a period of say 3 years, after which the shares are converted into equity shares. These shares are attractive for projects with a long gestation period. For normal preference shares, the maximum permissible rate of dividend is 14 %. Preference share capital may be redeemed at a predecided future date or at an earlier stage inter alia out of the company's profits. This enables the promoters to withdraw their capital from the company which is now self-sufficient, and the withdrawn capital may be reinvested in other profitable ventures. Irredeemable preference shares cannot be issued by any company. Preference shares gained importance after the Finance Bill 1997 as dividends became tax exempted in the hands of the individual investor and are taxable in the hands of the company as tax is imposed on distributable profits at a flat rate. The Budget, for 2000 - 01 has doubled the dividend tax from 10 % to 20 % besides a surcharge of 10 %. The budget for 2001 - 2002 has reduced the dividend tax from 20 to 10 %. Many companies followed this route during 1997 especially through private placement or preference shares as the capital markets were not vibrant.

The advantages of taking the preference share capital are as follows :

- 1) No dilution in EPS on enlarged capital base : If equity is issued it reduces EPS, thus affecting the market perception about the company.
- 2) There is leveraging advantage as it bears a fixed charge.
- 3) There is no risk of takeover.

4) There is no dilution of managerial control.

5) Preference capital can be redeemed after a specified period.

3) Retained Earnings :

Long term funds may also be provided by accumulation of company's profits and on ploughing them back into business. Such funds belong to the ordinary shareholders and increases the company's net worth. A public limited company must plough back a reasonable amount of profit every year, keeping in view the legal requirements in this regard, and its own expansion plans. Such funds entail almost no risk and the present owner's control is maintained as there is no dilution of control.

4) Debentures or bonds :

Loans can be raised from public on issue of debentures or bonds by public limited companies. Debentures are normally issued in different denominations ranging from Rs. 100 to 1000 and carry different rates of interest. On issue of debentures, a company can raise long term loans from public. Usually, debentures are issued on the basis of a debenture trust deed which lists terms and conditions on which debentures are floated. They are normally secured against the company's assets. As compared with preference shares, debentures provide a more convenient mode of long term funds. Cost of capital raised through debentures is low as the interest can be charged as an expense before tax. From the investors' view point, debentures offer a more attractive prospect than preference shares as interest on debentures is payable whether or not the company makes profits. Debentures are thus, instruments for raising long term debt capital. Secured debentures are protected by a charge on the company's assets. While the secured debentures of a well-established company may be attractive to investors, secured debentures of a new company do not normally evoke same interest in the investing public.

Advantages :

1) The cost of debentures is much lower than the cost of preference or equity capital as the interest is tax-deductible. Also, investors consider debenture investment safer than equity or preferred investment and thus, may require a lower return on debenture investment.

2) Debenture financing does not result in dilution of control.

3) In a period of rising prices, debenture issue is advantageous. The fixed monetary outgo decreases in real terms as the price level increases.

Disadvantages of debenture financing are as below :

- 1) Debenture interest and capital repayment are obligatory payments.
- 2) The protective covenants associated with a debenture issue may be restrictive.
- 3) Debentures financing enhances the financial risk associated with the firm.

These days many companies are issuing convertible debentures or bonds with a number of schemes/incentives like warrants/options, etc. These bonds or debentures are exchangeable at the ordinary share holder's option under specified terms and conditions. Thus, for the first few years these securities remain as debentures and later they can be converted into equity shares at a pre-determined conversion price. The issue of convertible debentures has distinct advantages from the view point of the issuing company.

- such as issue enables the management to raise equity capital indirectly without diluting the equity holding, until the capital raised starts earning an added return to support additional shares.

- such securities can be issued even when the equity market is not very good.

- convertible bonds are normally unsecured and, thus, their issuance may ordinarily not impair the borrowing capacity.

These debentures/bonds are issued subject to the SEBI guidelines notified from time to time. Public issue of debentures and private placement to mutual funds, require that the issue be rated by a credit rating agency as CRISIL (Credit Rating and Information Services of India Ltd.). The credit rating is given after evaluating factors as track record of the company, profitability, debt service capacity, credit worthiness and the perceived risk of lending.

5) Loans from financial institutions :

In India specialised institutions provide long-term financial assistance to industries. Some of them are, Industrial Finance Corporations, Life Insurance Corporation of India, National Small Industries Corporation Limited, Industrial Credit and Investment Corporation, Industrial Development Bank of India and Industrial Reconstruction Corporation of India. Before sanctioning of a term loan, a company has to satisfy the concerned financial institution regarding the technical, commercial, economic, financial and managerial viability of the project for which the loan is required. Such loans are available at different rates of interest under different schemes of financial institutions and are to be repaid as per a stipulated repayment schedule. The loans in many cases stipulate a number of conditions as regards the management and certain other financial

policies of the company. Term loans represent secured borrowings and are an important source of funds for new projects. They generally, carry a rate of interest inclusive of interest tax, depending on the credit rating of the borrower, the perceived risk of lending and cost of funds and generally repayable over a period of 6 to 10 years in annual, semi-annual or quarterly installments. Term loans are also provided by banks, State Financial/Development institutions and all India term lending financial institutions. Banks and State Financial Corporations provide term loans to projects in the small scale sector while, for medium and large industries term loans are provided by State developmental institutions alone or in consortium with banks and State financial corporations. For large scale projects All India financial institutions provide bulk of term finance singly or in consortium with other such institutions, State level institutions and/or banks. After independence, the institutional set up in India for the provision of medium and long term credit for industry has been broadened. The assistance sanctioned and disbursed by these specialised institutions has increased impressively over the years. A number of specialised institutions are established over the country.

6) Loans from commercial banks :

The primary role of the commercial banks is to cater to the short term requirement of industry. However, of late, banks have started taking an interest in term financing of industries in several ways, though the formal term lending is, still, small and confined to major banks. Terms lendings by bank is a controversial issue these days. It is argued that term loans do not satisfy the canon of liquidity that is a major consideration in all bank operations. According to traditional values, banks should provide loans only for short periods and operations resulting in automatic liquidation of such credits over short periods. On the other hand, it is contended that the traditional concept needs modification. The proceeds of term loan are used for what are broadly known as fixed assets or expansion in plant capacity. Their repayment is usually scheduled over a long period of time. The liquidity of such loans is said to depend on the anticipated income of borrowers.

Working capital loan is more permanent and long term as compared to a term loan. The reason being that a term loan is always repayable on a fixed date and ultimately, the account will be totally adjusted. However, in case of working capital finance, though payable on demand, in actual practice it is noticed that the account is never adjusted as such and if at all the payment is asked back, it is with a clear purpose and intention of refinance being provided at the beginning of next year or half year. This technique of providing long term finance is known as, "rolled over for periods exceeding more than one year". Instead of indulging in term financing by the rolled over method, banks can and should extend credit term after a proper appraisal of applications for term loans. The degree of liquidity in the provision for regular amortisation of term loans is more than in some of these so called demand loans which are renewed from year to year. Actually, term financing, disciplines both the banker and borrower

as long term planning is required to ensure that cash inflows would be adequate to meet the instruments of repayments and allow an active turnover of bank loans. The adoption of the formal term loan lending by commercial banks will not hamper the criteria of liquidity, and will introduce flexibility in the operations of the banking system.

The real limitation to the scope of bank activities is that all banks are not well equipped to appraise such loan proposals. Term loan proposals involve an element of risk because of changes in conditions affecting the borrower. The bank making such a loan, thus, has to assess the situation to make a proper appraisal. The decision in such cases depends on various factors affecting the concerned industry's conditions and borrower's earning potential.

7) Bridge finance :

It refers to loans taken by a company from commercial banks for a short period, pending disbursement of loans sanctioned by financial institutions. Normally, it takes time for financial institutions to disburse loans to companies. However, loans once approved by the term lending institutions pending the signing of regular term loan agreement, that may be delayed due to non-compliance of conditions stipulated by the institutions while sanctioning the loan. The bridge loans are repaid/adjusted out of term loans as and when disbursed by the concerned institutions. They are secured by hypothecating movable assets, personal guarantees and demand promissory notes. Generally, the interest rate on them is higher than on term loans.

Question : What do you mean by Venture Capital Financing ?

Answer : Venture capital financing refers to financing of new high risky venture promoted by qualified entrepreneurs lacking experience and funds to give shape to their ideas. Under it venture capitalist make investment to purchase equity or debt securities from inexperienced entrepreneurs undertaking highly risky ventures with a potential of success. The venture capital industry in India is just a decade old. The venture capitalist finance ventures that are in national priority areas such as energy conservation, quality upgradation, etc. The Government of India in November 1988 issued the first set of guidelines for venture capital companies, funds and made them eligible for capital gain concessions. In 1995, certain new clauses and amendments were made in the guidelines that require the venture capitalists to meet the requirements of different statutory bodies and this makes it difficult for them to operate as they do not have much flexibility in structuring investments. In 1999, the existing guidelines were relaxed for increasing the attractiveness of the venture schemes and to induce high net

worth investors to commit their funds to 'sunrise' sectors, particularly the information technology sector. Initially the contribution to the funds available for venture capital investment in the country was from the All India development financial institutions, State development financial institutions, commercial banks and companies in private sector. Lately many offshore funds have been started in the country and maximum contribution is from foreign institutional investors. A few venture capital companies operate as both investment and fund management companies, other set up funds and function as asset management company. It is hoped that changes in the guidelines for implementation of venture capital schemes in the country would encourage more funds to be set up to give the required momentum for venture capital investment in India. Some common methods of venture capital financing are :

1) Equity financing : The venture capital undertakings usually require funds for a longer period but, may not be able to provide returns to investors during the initial stages. Thus, the venture capital finance is generally provided by way of equity share capital. The equity contribution of venture capital firm does not exceed 49 % of the total equity capital of venture capital undertakings so that the effective control and ownership remains with the entrepreneur.

2) Conditional loan : It is repayable in the form of a royalty after the venture is able to generate sales. No interest is paid on such loans. In India venture capital financiers charge royalty ranging between 2 and 15 %, actual rate depends on other factors of the venture as gestation period, cash flow patterns, riskiness and other factors of the enterprise. Some venture capital financiers give a choice to the enterprise of paying a high rate of interest, which can be well below 20 %, instead of royalty on sales once it becomes commercially sounds.

3) Income note : It is a hybrid security combining features of both conventional and conditional loan. The entrepreneur has to pay interest and royalty on sales but, at substantially low rates. IDBI's Venture Capital Fund (VCF) provides funding equal to 80 - 87.5 % of the project cost for commercial application of indigenous technology.

4) Participating debentures : Such security carries charges in 3 phases - in the start up phase no interest is charged, next stage - a low rate of interest is charged upto a particular level of operation and after that, a high rate of interest is required to be paid.

Question : Write a note on Debt Securitisation ?

Answer : Debt securitisation is a method of recycling of funds. It is especially beneficial to financial intermediaries to support the lending volumes. Assets generating steady cash flows are packaged together and against this asset pool market securities can be issued. The basic debt securitisation process can be classified in the following 3 functions :

1) The origination function : A borrower seeks a loan from a finance company, bank, housing company or a lease from a leasing company. The creditworthiness of the borrower is evaluated and a contract is entered into with repayment schedule structured over the life of the loan.

2) The pooling function : Similar loans or receivables are clubbed together to create an underlying pool of assets. This pool is transferred in favour of a SPV (Special Purpose Vehicle), which acts as a trustee for the investor. Once the assets are transferred, they are held in the originators' portfolio.

3) The securitisation function : It is the SPV's job now to structure and issue the securities on the basis of the asset pool. The securities carry a coupon and an expected maturity which can be asset based or mortgage based. These are generally sold to investors through merchant bankers. The investors interested in this type of securities are generally institutional investors like mutual funds, insurance companies, etc. The originator usually keeps the spread available i.e. difference between yield from secured assets and interest paid to investors. The process of securitisation is generally without recourse i.e. the investor bears the credit risk or risk of default and the issuer is under an obligation to pay to investors only if the cash flows are received by him from the collateral. The risk run by the investor can be further reduced through credit enhancement facilities as insurance, letters of credit and guarantees. In a simple pass through structure, the investor owns a proportionate share of the asset pool and cash flows when generated are passed on directly to the investor. This is done by issuing pass through certificates. In mortgage or asset backed bonds, the investor has a lien on the underlying asset pool. The SPV accumulates payments from borrowers from time to time and make payments to investors at regular predetermined intervals. The SPV can invest the funds received in short term instruments and improve yield when there is a time lag between receipt and payment.

Benefits to the originator :

1) The assets are shifted off the balance sheet, thus, giving the originator recourse to off balance sheet funding.

2) It converts illiquid assets to liquid portfolio.

3) It facilitates better balance sheet management as assets are transferred off balance sheet facilitating satisfaction of capital adequacy norms.

4) The originator's credit rating enhances.

For the investor, securitisation opens up new investment avenues. Though the investor bears the credit risk. The securities are tied up to definite assets. As compared to factoring or bill discounting which largely solve the problems of short term trade financing. Securitisation helps to convert a stream of cash receivables into a source of long term finance. For a developed securitisation market, high quality assets with low default rate are essential with standardised loan documentation and stable interest rate structure and sufficient data on asset performance, developed secondary debt markets are essential for this. In Indian context debt securitisation has began to take off. The ideal candidates for this are hire purchase and leasing companies, asset finance and real estate finance companies. ICICI, HDFC, Citibank, Bank of America, etc. have or are planning to raise funds by securitisation.

Question : Explain briefly the term Lease Financing ?

Answer : Leasing is a general contract between the owner and user of the asset over a specified period of time. The asset is purchased initially by the lessor (leasing company) and thereafter leased to the user (lessee company) that pays a specified rent at periodical intervals. Thus, leasing is an alternative to the purchase of an asset out of own or borrowed funds. Moreover, lease financing can be arranged much faster as compared to term loans from financial institutions. In recent years, leasing has become a popular source of financing in India. From the lessee's view point, leasing has the attraction of eliminating immediate cash outflow and the lease rentals can be deducted for computing the total income under the Income tax act. As against this, buying has the advantages of depreciation allowance inclusive of additional depreciation and interest on borrowed capital being tax deductible. Thus, an evaluation of the 2 alternatives is to be made in order to take a decision.

Question : Explain the various sources of short term finance ?

Answer : Following are the various sources of short term finance :

1) Trade credit : It represents credit granted by suppliers of goods, etc. as an incident of sale. The usual duration of such credit is 15 to 90 days. It generates automatically, in the course of business and is common to almost all business operations. It can be in the form of an 'open account' or 'bills payable'. Trade credit is preferred as a source of finance as it is without any explicit cost and till a business is a going concern, it keeps on rotating. It also, enhances automatically with the increase in the volume of business.

2) Advances from customers : Manufacturers and contractors engaged in producing or constructing costly goods involving considerable length of manufacturing or construction time usually, demand advance money from their customers at the time of accepting their orders for executing their contracts or supplying the goods. This is a cost free source of finance and really useful.

3) Bank advances :

Banks receive deposits from public for different periods at varying rates of interest there are funds invested and lent in such a manner that when required, they may be called back. Lending results in gross revenues out of which costs, such as interest on deposits, administrative costs, etc. are met and a reasonable profit is made. A bank's lending policy is not merely profit motivated but has to keep in mind the socio-economic development of the country. As a prudent policy, banks normally spread out their funds as under :

- i) About 9 - 10 % in cash.
- ii) About 32 % in approved government and semi-government securities.
- iii) About 58 % in advances to their credits.

Banks advances are in the form of loan, overdraft, cash credit and bills purchased/discounted, etc. Banks do not sanction advances on long term basis beyond a small proportion of their demand and time liabilities. Advances are granted against tangible securities such as goods, shares, government promissory notes, bills, etc. In rare cases, clean advances may also be allowed.

a) Loans : In a loan account, the entire advance is disbursed at one time in cash or by transfer to the current account of the borrower. It is a single advance, except by way of interest and other charges, no further adjustments are made in this account. Loan accounts are not running accounts like overdraft and cash credit accounts, repayment under the loan account, may be full amounts or by way of schedule of repayments agreed upon as in case of terms loans. The securities may be shares, government securities, life insurance policies and fixed deposit receipts and so on.

b) Overdrafts : Under this facility, customers are allowed to withdraw in excess of credit balance standing in their current deposit account. A fixed limit is thus, granted to the borrower within which the borrower is allowed to overdraw his account. Opening of an overdraft account requires that a current account is formally opened. Although overdrafts are repayable on demand, they usually continue for long periods by annual renewals of limits. This is a convenient arrangement for the borrower, as he is in a position to avail the sanctioned limit as per his requirements. Interest is charged on daily balances, cheque books are provided, these accounts being operative as cash credit and current accounts. Security, as in case of loan accounts, may be shares, debentures and government securities, life insurance policies and fixed deposit receipts are also accepted in special cases.

c) Clean overdrafts : Request for such facility is entertained only from financially sound parties that are reputed for their integrity. Bank is to rely on personal security of the borrowers, thus, it has to exercise a good deal of restraint in entertaining such proposals, as they have no backing of any tangible security. In case parties are already enjoying secured advance facilities, this may be a point in favour and may be taken into account while screening such proposals. The turnover in the account, satisfactory dealings for considerable period and reputation in the market are also considered by the bank. As a safeguard, banks take guarantees from other persons who are credit worthy before granting this facility. A clean advance is generally granted for a short period and must not be continued for long.

d) Cash credits : Cash credit is an arrangement under which, a customer is allowed an advance upto certain limit against credit granted by bank. Under it, a customer need not borrow, the entire amount of advance at one time. He can only draw to the extent of his requirements and deposit his surplus funds in his account. Interest is not charged on the full amount of advance but, on the amount actually availed by him. Usually, credit limits are sanctioned against the security of goods by way of pledge or hypothecation, though they are repayable on demand, banks usually do not recall them, unless they are compelled to do so by adverse factors. Hypothecation is an equitable charge on movable goods for an amount of debt where neither possession nor ownership is passed on to the creditor. For pledge, the borrower delivers the goods to the creditor as security for repayment of debt. Since the banker, as creditor, is in possession of the goods, he is fully secured and in case of emergency he may fall back on the goods for realisation of his advance under proper notice to the borrower.

e) Advances against goods : Advances against goods occupy an important place in total bank credit, goods as security have certain distinct advantages :

- they provide a reliable source of repayment
- advances against goods are safe and liquid

Generally, goods are charged to the bank by way of pledge or hypothecation. The term 'goods' includes all forms of movables that are offered to the bank as security. They may be agricultural commodities, industrial raw materials, partly finished goods and so on. RBI issues directives from time to time imposing restrictions on advances against certain commodities. It is obligatory on banks to follow these directives in letter and spirit, they may sometimes, also stipulate changes in margin.

f) Bills purchased/discounted : These advances are allowed against the security of bills that may be clean or documentary. Bills are sometimes, purchased from approved customer, in whose favour limits are sanctioned. Before granting a limit, the banker satisfies himself as to the creditworthiness of the drawer. Although the term 'bills purchased' gives the impression that the bank becomes the owner or purchaser of such bills, in reality, the bank holds the bills as security only, for the advance. In addition to the rights against the parties liable on the bills, the banks can also exercise a pledgee's rights over the goods covered by the documents. Usance bills maturing at a future date or sight are discounted by the banks for approved parties. When a bill is discounted, the borrower is paid the present worth. The bankers, however, collect the full amounts on maturity, the difference between the 2 i.e. the amount of the bill and the discounted amount represents earnings of bankers for the period; it is termed as 'discount'. Sometimes, overdraft or cash credit limits are allowed against the security of bills. A suitable margin is usually maintained. Here the bill is not a primary security but, only a collateral one. In such case, the banker does not become a party to the bill, but merely collects it as an agent for its customer. When a banker purchases or discounts a bill, he advances against the bill, he thus, has to be very cautious and grant such facilities only to creditworthy customers, having an established steady relationship with the bank. Credit reports are also compiled on the drawees.

g) Advance against documents of title to goods : A document becomes of document of title to goods when its possession is recognised by law or business custom as possession of the goods. These documents include a bill of lading, dock warehouse keeper's certificate, railway receipt, etc. A person in possession of a document to goods can by endorsement or delivery or both of document, enables another person to take delivery of the goods in his right. An advance against pledge of such documents is equivalent to an advance against the pledge of goods themselves.

h) Advance against supply of bills : Advances against bills for supply of goods to government or semi-government departments against firm orders after acceptance of tender fall under this category. Other type of bills under this category are bills from contractors for work executed wholly or partially under firm contracts entered into with the herein mentioned government agencies. These are clean bills, without being accompanied by any document of title of goods. But, they evidence supply of goods directly to Governmental agencies.

They may, sometimes, be accompanied by inspection notes from representatives of government agencies for inspecting the goods before despatch. If bills are without inspection report, banks like to examine them with the accepted tender or contract for verifying that the goods supplied under the bills strictly conform to the terms and conditions in the acceptance tender. These supply bills represent debt in favour of suppliers/contractors, for goods supplied to government bodies or work executed under contract from the Government bodies. This debt is assigned to the bank by endorsement of supply bills and executing irrevocable power of attorney in favour of banks for receiving the amount of supply bills from the Government departments. The power of attorney has got to be registered with the department concerned. The banks also take separate letter from the suppliers/contractors instructing the Government body to pay the amount of bills direct to the bank. Supply bills do not enjoy the legal status of negotiable instruments as they are not bills of exchange. The security available to a banker is by way of assignment of debts represented by the supply bills.

i) Term loans by banks : It is an instalment credit repayable over a period of time in monthly/quarterly/half-yearly or yearly instalments. Banks grant term loans for small projects falling under the priority sector, small scale sector and big units. Banks have now been permitted to sanction term loan for projects as well without association of financial institutions. The banks grant loans for periods normally ranging from 3 to 7 years and at times even more. These loans are granted on the security of fixed assets.

j) Financing of exports by banks : Advances by commercial banks for export financing are in the form of :

a) Pre-shipment finance i.e. before shipment of goods : This usually, takes the form of packing credit facility, which is an advance extended by banks to an exporter for the purpose of buying, manufacturing, processing, packing, shipping goods to overseas buyers. Any exporter, having at hand a firm export order placed with him by his foreign buyer or an irrevocable letter of credit opened in his favour, can approach a bank for availing packing credit. An advance so taken requires to be liquidated within 180 days from the date of its commencement by negotiation of export proceeds in an approved manner. Thus, packing credit is essentially a short term advance. Usually, banks insist on their customers to lodge with them irrevocable letters of credit opened in favour of the customers by overseas buyers. The letter of credit and firm sale contracts not only serve as evidence of a definite arrangement for realisation of the export proceeds but also indicate the amount of finance required by the exporter. Packing credit in case of customers of long standing, may also be granted against firm contracts entered into by them with overseas buyers. Following are the types of packing credit available :

i) **Clean packing credit** : This is an advance available to an exporter only on production of a firm export order or a letter of credit without exercising any charge or control over raw material or finished goods. Each proposal is weighted according to particular requirements of trade and credit worthiness of the exporter. A suitable margin has to be maintained. Also, Export Credit Guarantee Corporation (E.C.G.C.) cover should be obtained by the bank.

ii) **Packing credit against hypothecation of goods** : Export finance is made available on certain terms and conditions where the exporter has pledgeable interest and the goods are hypothecated to the bank as security with stipulated margin. At the time of utilising the advance, the exporter is required to submit, along with the firm export order or letter of credit, relative stock statements and thereafter continue submitting them every fortnight and/or whenever there is any movement in stocks.

iii) **Packing credit against pledge of goods** : Export finance is made available on certain terms and conditions where the exportable finished goods are pledged to the banks with approved clearing agents who would ship the same from time to time as required by the exporter. Possession of goods so pledged lies with the bank and are kept under its lock and key.

iv) **E.C.G.C. guarantee** : Any loan given to an exporter for the manufacture, processing, purchasing or packing of goods meant for export against a firm order qualifies for packing. Credit guarantee is issued by the Export Credit Guarantee Corporation (E.C.G.C.).

v) **Forward exchange contract** : Another requirement of packing credit facility is that if the export bill is to be drawn in a foreign currency, the exporter should enter into a forward exchange contract with the bank, thereby avoiding risk involved in a possible change in the exchange rate.

Documents required :

- In case of partnership firms, banks usually require the following documents :
 - Joint and several demand promissory note signed on behalf of the firm as also by partners individually;
 - Letter of continuity, signed on behalf of the firm and partners individually;
 - Letter of pledge to secure demand cash credit against stock, in case of pledge or agreement of hypothecation to secure demand cash credit, in case of hypothecation.
 - Letter of authority to operate the account;
 - Declaration of Partnership, in case of sole traders, sole proprietorship declaration;
 - Agreement to utilise the monies drawn in terms of contract;
 - Letter of hypothecation for bills.
- Following documents are required by banks, in case of limited companies :

- Demand pro-note;
- Letter of continuity;
- Agreement of hypothecation of letter of pledge, signed on behalf of the company;
- General guarantee of the directors' resolution;
- Agreement to utilise the monies drawn in terms of contract should bear the company's seal;
- Letter of hypothecation for bills

b) Post shipment finance : It takes the below mentioned forms :

i) Purchase/Discounting of documentary export bills : Finance is provided to exporters by purchasing export bills drawn payable at sight or by discounting usance export bills covering confirmed sales and backed by documents inclusive of documents of title to goods such as bill of lading, post parcel receipts or air consignment notes. Documents to be obtained are :

- Letter of hypothecation covering the goods; and
- General guarantee of directors or partners of the firm, as the case may be.

E.C.G.C. Guarantee : Post-shipment finance, given to an exporter by bank through purchase, negotiation or discount of an export bill against an order, qualifies for post-shipment export credit guarantee. It is necessary, that exporters obtain a shipment or contracts risk policy of E.C.G.C. Banks insist on the exporters to take a contracts shipments (comprehensive risks) policy covering both political and commercial risks. The Corporation, on acceptance of the policy, would fix credit limits for individual exporters and the Corporation's liability will be limited to the extent of the limit so fixed for the exporter concerned irrespective of the policy amount.

ii) Advance against export bills sent for collection : Finance is provided by banks to exporters by way of advance against export bills forwarded through them for collection, taking into account the party's creditworthiness, nature of goods exported, usance, standing of drawee, etc. appropriate margin is kept. Documents to be obtained :

Demand promissory note;

Letter of continuity;

Letter of hypothecation covering bills;

General guarantee of directors or partners of the firm, as the case may be.

iii) Advance against duty draw backs, cash subsidy, etc. : To finance export losses sustained by exporters, bank advance against duty draw-back, cash subsidy, etc. receivable by them against export performance. Such advances are of clean nature, hence, necessary precaution is to be exercised.

Conditions : Bank providing finance in this manner should see that the relative export bills are either negotiated or forwarded for collection through it so that, it

is in a position to verify the exporter's claims for duty draw-backs, cash subsidy, etc. An advance so availed by an exporter is required to be liquidated within 180 days from the date of shipment of relative goods.

Documents to be obtained are :

- Demand promissory note;
- Letter of continuity;
- General guarantee of directors or partners of the firm, as the case may be.
- Undertaking from the borrowers that they will deposit the cheques/payments received from the appropriate authorities immediately with the bank and will not utilise such amounts in any other way.

c) Other facilities extended to exporters :

- i) On behalf of approved exporters, banks establish letters of credit on their overseas or up-country suppliers.
- ii) Guarantees for waiver of excise duty, etc. due performance of contracts, bond in lieu of cash security deposit, guarantees for advance payments, etc. are also issued by banks to approved clients.
- iii) To approved clients undertaking exports on deferred payment terms, banks also provide finance.
- iv) Banks also endeavour to secure for their exporter-customers status reports of their buyers and trade information on various commodities through their correspondents.
- v) Economic intelligence on various countries is also provided by banks to their exporter clients.

5) Inter corporate deposits : The companies can borrow funds for a short period say 6 months from other companies having surplus liquidity. The rate of interest on it varies depending on the amount involved and time period.

6) Certificate of deposit (CD) : It is a document of title similar to a time deposit receipt issued by a bank except, that there is no prescribed interest rate on such funds. Its main advantage is that banker is not required to encash the deposit before maturity period and the investor is assured of liquidity as he can sell it in the secondary market.

7) Public deposits : They are important source of short and medium term finances particularly due to credit squeeze by the RBI. A company can accept such deposits subject to the stipulations of the RBI from time to time maximum

upto 35 % of its paid up capital and reserves, from the public and the shareholders. These may be accepted for a period of 6 months to 3 years. Public deposits are unsecured loans, and not meant to be used for acquisition of fixed assets, since, they are to be repaid within a period of 3 years. These are mainly used to finance working capital requirements.

Question : Enumerate and explain the other sources of financing ?

Answer : The other sources of financing are as discussed below :

1) Seed capital assistance : The seed capital assistance scheme is designed by IDBI for professionally or technically qualified entrepreneurs and/or persons possessing relevant experience, skills and entrepreneurial traits. All the projects eligible for financial assistance from IDBI, directly or indirectly through refinance are eligible under the scheme. The project cost should not exceed Rs. 2 crores and the maximum assistance under the project will be restricted to 50 % of the required promoter's contribution or Rs. 15 lakhs, whichever is lower. Seed capital assistance is interest free, but carries a service charge of 1 % per annum for the first 5 years and at increasing rate thereafter. However, IDBI will have the option to charge interest at such rate as determined by it on the loan if the financial position and profitability of the company so permits during the currency of the loan. The repayment schedule is fixed depending on the repaying capacity of the unit with an initial moratorium upto 5 years. For projects with cost exceeding Rs. 200 lakhs, seed capital may be obtained from the Risk Capital and Technology Corporation Ltd. (RCTC). For small projects costing upto Rs. 5 lakhs, assistance under the National Equity Fund of the SIDBI may be availed.

2) Internal cash accruals : Existing profit making companies undertaking an expansion/diversification programme may be permitted to invest a part of their accumulated reserves or cash profits for creation of capital assets. In such cases, the company's past performance permits capital expenditure from within the company by way of disinvestment of working/invested funds. In other words, the surplus generated from operations, after meeting all the contractual, statutory and working requirement of funds, is available for further capital expenditure.

3) Unsecured loans : They are provided by promoters to meet the promoters' contribution norm. These loans are subordinate to institutional loans and interest can be paid only after payment of institutional dues. These loans cannot be repaid without the prior approval of financial institutions. Unsecured loans are considered as part of the equity for the purpose of calculating debt equity ratio.

4) Deferred payment guarantee : Many a time suppliers of machinery provide a deferred credit facility under which payment for the purchase of machinery may be made over a period of time. The entire cost of machinery is financed and the company is not required to contribute any amount initially towards acquisition of machinery. Normally, the supplier of machinery would insist that the bank guarantee be furnished by the buyer. Such a facility does not have a moratorium period for repayment. Hence, it is advisable only for an existing profit making company.

5) Capital Incentives : Backward area development incentives available often determine the location of a new industrial unit. They usually consist of a lumpsum subsidy and exemption from or deferment of sales tax and octroi duty. The quantum of incentives is determined by the degree of backwardness of the location. Special capital incentive in the form of a lumpsum subsidy is a quantum sanctioned by the implementing agency as a percentage of the fixed capital investment subject, to an overall ceiling. This amount forms a part of the long-term means of finance for the project. However, the viability of the project must not be dependent on the quantum and availability of incentives. Institutions, while appraising the project, assess its viability per se, without considering the impact of incentives on the cash flows and the project's profitability. Special capital incentives are sanctioned and released to the units only after they have complied with the requirements of the relevant scheme. The requirements may be classified into initial effective steps, that include formation of the firm/company, acquisition of land in the backward area and registration for manufacture of the products. The final effective steps include obtaining clearances under FEMA, capital goods clearance/import license, conversion of Letter of Intent to Industrial License, tie up of the means of finance, all clearances required for the setting up of the unit, aggregate expenditure incurred for the project should exceed 25 % of the project cost and atleast 10 %, if the fixed assets should have been created/acquired at site. The release of special capital incentives by the concerned State Government generally takes 1 to 2 years. Promoters thus, find it convenient to avail the bridge finance against the capital incentives. Provision for the same should be made in the pre-operative expenses considered in the project cost. As the bridge finance may be available to the extent of 85 %, the balance i.e. 15 % may have to be brought in by the promoters from their own resources.

6) Various short term provisions/accruals account : Accruals accounts are a spontaneous source of financing as they are self-generating. The most common accrual accounts are wages and taxes. In both cases, the amount becomes due but is not paid immediately.

Question : Write short notes on :
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1) Deep Discount Bonds Notes	2) Secured Premium
3) Zero interest fully convertible debentures	4) Zero Coupon Bonds
5) Double Option Bonds	6) Option Bonds
7) Inflation Bonds	8) Floating Rate Bonds

Answer :

1) Deep Discount Bonds :

It is a form of a zero interest bond, sold at a discounted value and on maturity face value is paid to the investors. In such bonds, there is no interest paid during lock in period. IDBI was the first to issue a deep discount bond in India in January, 1992. It had a face value of Rs. 1lakh and was sold for Rs. 2700 with a maturity period of 25 years. The investor could hold the bond for 25 years or seek redemption at the end of every 5 years with maturity value as below :

Holding period (years)	5	10	15	20	25
Maturity value (Rs.)	5700	12000	25000	50000	100000
Annual rate of interest (%)	16.12	16.09	15.99	15.71	15.54

The investor can sell the bonds in stock market and realise the difference between face value (Rs. 2700) and the market price as capital gain.

2) Secured Premium Notes :

It is issued along with a detachable warrant and is redeemable after a notified period of say 4 to 7 years. The conversion of detachable warrant into equity shares will have to be done within the time period notified by the company.

3) Zero interest fully convertible debentures :

These are fully convertible debentures which do not carry any interest. They are compulsorily and automatically converted after a specified period of time and holders thereof are entitled to new equity shares of the company at predetermined price. From the company's view point, this kind of instrument is beneficial in the sense, that no interest is to be paid on it, if the share price of the company in the market is very high, then the investor tends to get equity shares of the company at a lower rate.

4) Zero Coupon Bonds :

A zero coupon bond does not carry any interest, but it is sold by the issuing company at a discount. The difference between the discounted and

maturing or face value represents the interest to be earned by the investor on them.

5) Double Option Bonds :

Double Option Bonds are recently issued by the IDBI. The face value of each bond is Rs. 5000, it carries interest at 15 % per annum compounded half yearly from the date of allotment. The bond has a maturity period of 10 years. Each having 2 parts, in the form of 2 separate certificates, one for the principal of Rs. 5000 and other for interest, including redemption premium of Rs. 16500. Both these certificates are listed on all major stock exchanges. The investor has the facility of selling either one or both parts anytime he likes.

6) Option bonds :

These are cumulative and non-cumulative bonds where interest is payable on maturity or periodically. Redemption premium is also offered to attract investors. These were recently issued by IDBI, ICICI, etc.

7) Inflation bonds :

They are bonds in which interest rate is adjusted for inflation. The investor, thus, gets an interest free from the effects of inflation. For instance, if interest rate is 12 % and inflation rate is 5 %, the investor will earn 17 %, meaning that the investor is protected against inflation.

8) Floating Rate Bonds :

As the name suggests, Floating Rate Bonds are ones, where the rate of interest is not fixed and is allowed to float depending upon the market conditions. This is an ideal instrument that can be resorted to by the issuer to hedge themselves against the volatility in interest rates. This has become more popular as a money market instrument and has been successfully issued by financial institutions like IDBI, ICICI, etc.

Question : Give a detailed account of International Financing ?
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Answer : The essence of financial management is to raise & utilise the funds raised effectively. There are various avenues for organisations to raise funds either through internal or external sources. External sources include :

- **Commercial banks** : Like domestic loans, commercial banks all over the world extend Foreign Currency (FC) loans, for international operations. These banks also provide to overdraw over and above the loan amount.
- **Development banks** : offer long and medium term loans including FC loans. Many agencies at the national level offer a number of concessions

to foreign companies to invest within their country and to finance exports from their countries e.g. EXIM Bank of USA.

- **Discounting of trade bills** : This is used as a short term financing method widely, in Europe and Asian countries to finance both domestic and international business.
- **International agencies** : A number of international agencies have emerged over the years to finance international trade and business. The more notable among them includes : International Finance Corporation (IFC), International Bank for Reconstruction & Development (IBRD), Asian Development Bank (ADB), International Monetary Fund (IMF), etc.

International capital markets :

Modern organisations including MNC's depend upon sizeable borrowings in Rupees as also Foreign Currency. In order to cater to the needs of such organisation , international capital markets have sprung all over the globe such as in London. In International capital market, the availability of FC is assured under the 4 main systems, as :

- Euro-currency market
- Export credit facilities
- Bonds issues
- Financial Institutions

The origin of the Euro-currency market was with the dollar denominated bank deposits & loans in Europe particularly, London. Euro-dollar deposits are dollar denominated time deposits available at foreign branches of US banks and at some foreign banks. Banks based in Europe accept & make dollar denominated deposits to the clients. This forms the backbone of the Euro-currency market all over the globe. In this market, funds are made available as loans through syndicated Euro-credit of instruments as FRN's, FR certificates of deposits.

Below mentioned are some of the financial instruments :

1) Euro Bonds : Euro Bonds are debt instruments denominated in a currency issued outside the country of that currency, for instance : a yen note floated in Germany.

2) Foreign Bonds : These are debt instruments denominated in a currency which is foreign to the borrower and is sold in the country of that currency.

3) Fully Hedged Bonds : In foreign bonds, the risk of currency fluctuations exists. They eliminate the risk by selling in forward markets the entire stream of principal and interest payments.

4) Floating Rate Notes : They are issued upto 7 years maturity. Interest rates are adjusted to reflect the prevailing exchange rates. They provide cheaper money than foreign loans.

5) Euro Commercial Papers (ECP) : ECP's are short term money market instruments, with maturity of less than 1 year and designated in US dollars.

6) Foreign Currency Option : A FC Option is the right to buy or sell, spot or future or forward, a specified foreign currency. It provides a hedge against financial and economic risks.

7) Foreign Currency Futures : FC Futures are obligations to buy or sell a specified currency in the present for settlement at a future date.

8) Euro Issues : In the Indian context, Euro Issue denotes that the issue is listed on a European Stock Exchange. However, subscription can come from any part of the world except India. Finance can be raised by Global Depository Receipts (GDR), Foreign Currency Convertible Bonds (FCCB) and pure debt bonds. However, GDR's and FCCB's are more popular.

9) Global Depository Receipts : A depository receipt is basically a negotiable certificate, denominated in US Dollars representing a non US company's publicly traded local currency (Indian Rupee) equity shares,. Theoretically, though a depository receipt can also signify debt instrument, practically it rarely does so. DR's are created when the local currency shares of an Indian company are delivered to the depository's local custodian bank, against which the depository bank issues DR's in US Dollars. These DR's may be freely traded in the overseas- markets like any other dollar denominated security via either a foreign stock exchange or through a over the counter market or among a restricted group as Qualified Institutional Buyers (QIB). Rule 144 A of the Securities and Exchange Commission (SEC) of USA permits companies from outside USA to offer their GDR's to certain institutional buyers, known as QIBs.

10) GDR with Warrant : These receipts are more attractive than plain GDR's in view of additional value of attached warrants.

11) American Depository Receipts (ADR's) : Depository Receipts issued by a company in USA is known as ADR's. Such receipts have to be issued in accordance with the provisions stipulated by the SEC, USA that are stringent. In a bid to bypass such stringent disclosure norms mandated by the SEC for equity shares, the Indian companies have, however, chosen the indirect route to tap the vast American financial market through private debt placement of GDR's listed in London and Luxembourg stock exchanges.

Indian companies have preferred the GDR's and ADR's as the US market exposes them to a higher level of responsibility than a European listing in the areas of disclosure, costs, liabilities and timing. The SEC's regulations set up to protect the retail investor base are some what more stringent and onerous, even for companies already listed and held by retail investors in their home

country. Most onerous aspect of a US listing for companies is to provide full, half yearly and quarterly accounts in accordance with or atleast reconciled with US GAAPs. However, Indian companies are shedding their reluctance to tap the US markets as evidenced by Infosys Technologies Ltd. recent listing in NASDAQ. Most of India's top notch companies in the pharmaceutical, info-tech and other sunrise industries are planning forays into the US markets. Another prohibitive aspect of the ADR's vis-à-vis GDR's is the cost involved of preparing and filling US GAAP accounts. Additionally, the initial SEC registration fees based on a percentage of issue size and 'Blue Sky' registration costs, permitting the securities to be offered in all States of US, will have to be met. The US market is widely recognised as the most litigious market in the world. Accordingly, the broader the target investor base in US, higher is the potential legal liability. An important aspect of GDR is that they are non voting and hence spells no dilution of equity. GDRs are settled through CEDEL and Euro-clear International Book Entry Systems.

Other types of International issues :

- **Foreign Euro Bonds** : In domestic capital markets of various countries the Bond issues referred to above are known by different names as Yankee Bonds in US, Swiss Francs in Switzerland, Samurai Bonds in Tokyo and Bulldogs in UK.
- **Euro Convertible Bonds** : A convertible bond is a debt instrument giving the holders of the bond an option to convert the bonds into a pre-determined number of equity shares of the company. Usually, the price of equity shares at the time of conversion will have a premium element. They carry a fixed rate of interest and if the issuer company so desires may also include a Call Option, where the issuer company has the option of calling/buying the bonds for redemption prior to the maturity date, or a Put Option, which gives the holder the option to put/sell his bonds to the issuer company at a pre-determined date and price.
- **Euro Bonds** : Plain Euro Bonds are nothing but debt instruments. These are not very attractive for an investor who desires to have valuable additions to his investments.
- **Euro Convertible Zero Bonds** : These are structured as a convertible bond. No interest is payable on the bonds. But conversion of bonds take place on maturity at a pre-determined price. Usually, there is a 5 years maturity period and they are treated as a deferred equity issue.
- **Euro Bonds with Equity Warrants** : These carry a coupon rate determined by market rates. The warrants are detachable. Pure bonds are traded at a discount. Fixed Income Funds Management may like to invest for the purposes of regular income.