LECTURE NOTES

ON

FINANCIAL MANAGEMENT

(BBA III YEAR V SEMESTER FOR MKU SYLLABUS)

2018 – 2019

By

Mr. C. SUGUMARAN

ASST.PROFESSOR

DEPARTMENT OF COMMERCE AND MANAGEMENT STUDIES

PARVATHY'S ARTS AND SCIENCE COLLEGE

WISDOM CITY, MADURAI ROAD, DINDIGUL – 624002

FINANCIAL MANAGEMENT

SYLLABUS

Unit I: Nature of financial management – History of financial management – Objectives of the firm; Profit maximization Vs. Wealth maximization. Functions of finance – Organisation of finance function – Controller Vs. Teasurer – Investment decision, Financing decision and Dividend decision.

Unit II: Source of capital – Long term, Intermediate term and short term – Types of securities: Debt, Equity and Preferred stock, Capital structure planning effect of leverage on EPS, EBIT-EPS analysis.

Unit III: Forecasting cash flow and cash budget – Managing collection; lock box system and concentration banking – Managing Disbursements: Controlled disbursing – Float - Control of float.

Unit IV: Working capital and cash management – Working capital policies. Management and determinants of working capital.

Unit V: Techniques of capital budget – capital budgeting process. Time value of money – investment evaluation methods: Payback period, Accounting Rate of Return, Net Present Value and Internal Rate of Return.

UNIT - I

NATURE, SIGNIFICANCE AND SCOPE OF FINANCIAL MANAGEMENT

In modern times, we cannot imagine a world without the use of money. In fact, money is the life-blood of business in the present day world because all our economic activities are carried out through the use of money. For carrying on business, we need resources which are pooled in terms of money. It is used for obtaining physical and material resources for carrying out productive activities and business operations which affect sales and pay compensation to suppliers of resources, physical as well as monetary. Hence financial management is considered as an organic function of a business and has rightly become an important one. A group of experts defines Financial Management as simply the task of providing funds needed by the business or enterprise on terms that are most favourable in the light of its objectives. The approach, thus, is concerned almost exclusively with the procurement of funds and could be widened to include instruments, institutions and practices through which to raise funds. It also covers the legal and accounting relationship between a company and its sources of funds. Financial Management is certainly broader than procurement of funds and there are other functions and decisions too. Other set of experts assume that finance is concerned with cash. Since every business transaction involves cash directly or indirectly, finance may be assumed to be concerned with everything that takes place in the conduct of a business. Obviously, it is too broad. The third set of people whose point of view has been widely accepted considers Financial Management as procurement of funds and their effective utilisations in the business; though there are other organisations like schools, associations, government agencies etc., where funds are procured and used. So, Financial Management has not only to see that funds can be raised for installing plant and machinery at a cost; but it has also to see that additional profits adequately compensate for the costs and risks borne by the business while setting up the project. Thus, from the point of view of a corporate unit, financial management is related not only to ‘fund-raising’ but encompasses wider perspective of managing the finances for the company efficiently. In the developed state of a capital market, raising funds is not a problem; the real problem is to put the capital resources to efficient use through effective financial planning, financial organisation and financial control and to deal with tasks like ensuring the availability of funds, allocating them for different uses, managing them, investing funds, controlling costs, forecasting financial requirements, doing

profit planning and estimating rate of return on investment and assessment of working capital etc.

HISTORY OF FINANCIAL MANAGEMENT

To the casual observer, the multilateral development bank (MDB) may appear paradoxical. On the one hand, its development remit is clear. Its main objective is to assist economic and social development by providing loans, largely to sovereign entities, on terms not readily available from the commercial market. On the other hand, the same institution issues debt, like other banks, and must meet commercial standards of solvency and creditworthiness to access funding on sufficiently advantageous terms to remain relevant to the development process. In the case of the Asian Development Bank (ADB), for example, it is bound by its founding statutes to follow "sound banking principles in its operations."

OBJECTIVES OF FINANCIAL MANAGEMENT

Financial management of any business firm has to set goals for itself and to interpret them in relation to the objective of the firm. Broadly, there are only two alternative objectives a business firm can pursue viz.

(a) Profit maximisation;

(b) Shareholder Wealth maximisation.

(a) Profit Maximisation

According to Solomon, Price system directs managerial efforts towards more profitable goods or services. Prices are determined by the demand and supply conditions as well as the competitive forces, and they guide the allocation of resources for various productive activities. In economic theory, the behavior of the firm is analysed in terms of profit maximization. The classical economic view of the firm, as put forward by Hayek (1950) and Fredman (1970), is that it should be operated in a manner that maximizes its profit. This occurs, in economic terms, when marginal revenue equals marginal cost. Profit maximization means that a firm either produces maximum output for a given amount of input, or uses minimum input for producing a given output. The underlying rationale of profit maximization is efficiency. It is assumed that profit maximisation causes the efficient allocation of resources under the competitive market condition, and profit is considered as the most appropriate measure of a firm's performance.

Thus, profit maximisation is considered as an important goal in financial decision-making in an organisation. It ensures that firm utilizes its available resources most efficiently under conditions of competitive markets. But in recent years, under the changed corporate environment, profit maximisation is regarded as unrealistic, difficult, inappropriate and socially not much preferred goal for business organisation. It is argued that profit maximisation assumes perfect competition, and in the face of imperfect modern markets, it cannot be a legitimate objective of the firm. It is also argued that the objective of profit maximisation as a business objective developed in the 19th century when the business activity was self financing and based on assumption of private property and single entrepreneurship. The only aim of the entrepreneur then was to maximize his profit and enhance his own wealth, this objective could be easily satisfied by profit maximisation objective. The modern business environment is characterised by limited liability and a distinction between management and ownership. The various stakeholders of the firm are shareholder, lenders, customers, employees, government and society. In practice the objectives of all these stakeholders may differ and may even conflict with each other. The manager has a difficult task of reconciling and balancing these conflicting objectives. The goal of profit maximization overlooks the interest of other parties than the shareholders and is therefore crticised and considered as unrealistic, inappropriate and immoral. Profit maximisation as corporate goal is criticised by scholars mainly on the following grounds:

(i) It is vague conceptually.

(ii) It ignores timing of returns.

(iii) It ignores the risk factor.

(iv) It may tempt to make such decisions which may in the long run prove disastrous.

(v) Its emphasis is generally on short run projects.

(vi) It may cause decreasing share prices.

(vii) The profit is only one of the many objectives and variables that a firm considers.

(b) Shareholder Wealth Maximisation

According to Solomon, shareholder wealth maximization means maximizing the net present value of a course of action to shareholders. Net present value (NPV) or wealth of a course of action is the difference between the present value of its benefit and the present value of its costs. Presently, maximisation of present value (or wealth) of a course of action is considered appropriate operationally flexible goal for financial decision-making in an organisation.

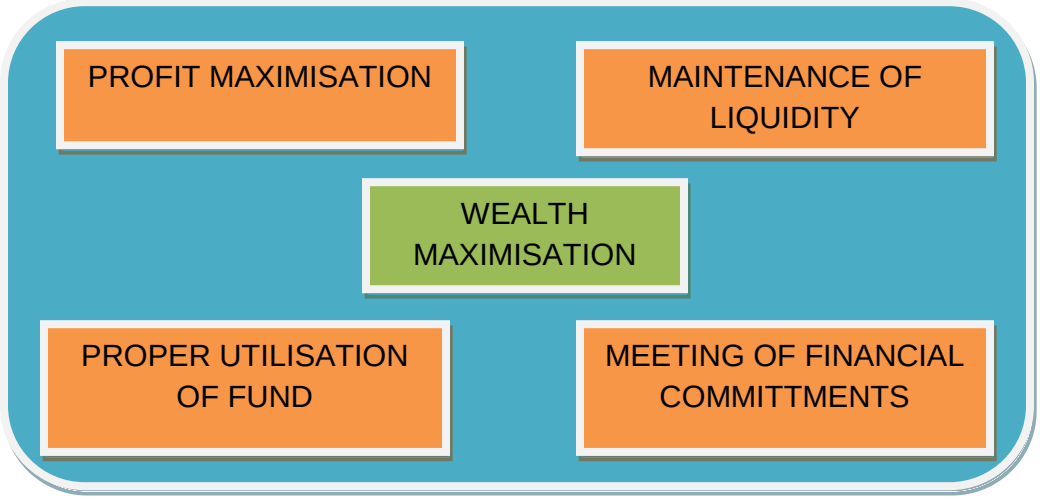
The management of an organisation tries to maximises the present value not only for shareholders but for all including employees, customers, suppliers and community at large. This goal for the maximum present value is generally justified on the following grounds: (i) It is consistent with the object of maximising owners economic welfare. (ii) It focuses on the long run picture. (iii) It considers risk. (iv) It recognises the value of regular dividend payments. (v) It takes into account time value of money. (vi) It maintains market price of its shares. (vii) It seeks growth in sales and earnings. However, profit maximisation can be part of a wealth maximisation strategy. Quite often two objectives can be pursued simultaneously but the maximisation of profit should never be permitted to overshadow the objectives of wealth maximisation. The objective of the firm provides a framework for optimal decision making in the area of business management. The term 'objective' should be used in the sense of 'decision criteria' for taking decisions involved in financial management. It means that what is relevant is not the overall objective of the business but operationally useful criterion against which the investment, financing and dividend policy decisions are to be judged. The objective of shareholder wealth maximisation is an appropriate and operationally feasible criterion to choose among the alternative financial actions. It provides an unambiguous measure of what financial management should seek to maximise in making investment and financing decisions on behalf of shareholders. Another point to note in this context is that objective provide a 'normative' framework. In other words, it implies that the focus is on what a firm should try to achieve and on policies that it should follow if the objectives are to be achieved.

PROFIT MAXIMISATION VERSUS SHAREHOLDER WEALTH MAXIMISATION

Profit maximisation is basically a single-period or, at the most, a short-term goal. It is usually interpreted to mean the maximisation of profits within a given period of time. A firm may maximise its short-term profits at the expense of its long-term profitability and still realise this goal. In contrast, shareholder wealth maximisation is a long-term goal and shareholders are interested in future as well as present profits. Wealth maximisation is generally preferred because it considers (1) wealth for the long-term, (2) risk or uncertainty, (3) the timing of returns, and (4) the shareholders' return.

In other words, the conflict may emerge in the area of profit maximsation and wealth maximisation as an objective of financial management. Profit maximisation would be a measure

of attaining profit in a firm and wealth maximisation would consider the effect of earning per share and dividend to shareholders. The objective of wealth maximisation would be fulfilled by increasing the market price of shares through decisions on future case flow dividends and earnings per shares but to maximise profit the financial manager may have to consider issues like – retained earnings, non-payment of dividends, investing funds in profitable outlets. The finance manager has to try and maximise profit without in any way affecting the shareholders wealth because primary goal of financial decision making is to achieve wealth maximisation. Profit maximisation is the narrow objective of financial management because profit is a test of economic efficiency but wealth maximisation is comprehensive objective of financial management, it goes beyond the quantitative aspects as it also considers qualitative benefits in a firm. Wealth maximisation objective is therefore, superior to the profit maximisation concept.



Nature of Finance Function

The finance function is the process of acquiring and utilizing funds of a business. Finance functions are related to overall management of an organization. Finance function is concerned with the policy decisions such as like of business, size of firm, type of equipment used, use of debt, liquidity position. These policy decisions determine the size of the profitability and riskiness of the business of the firm. Prof. K.M.Upadhyay has outlined the nature of finance function as follows:

i) In most of the organizations, financial operations are centralized. This results in economies.

ii) Finance functions are performed in all business firms, irrespective of their sizes / legal forms of organization.

iii) They contribute to the survival and growth of the firm.

iv) Finance function is primarily involved with the data analysis for use in decision making.

v) Finance functions are concerned with the basic business activities of a firm, in addition to external environmental factors which affect basic business activities, namely, production and marketing.

vi) Finance functions comprise control functions also

vii) The central focus of finance function is valuation of the firm.

Content of Finance Functions

The areas of responsibility covered by finance functions may be regarded as the content of finance function. These areas are specific functions of finance. Famous authors of financial management have enumerated the contents of finance function, as outlined, below:

Name of the Author Content of Finance Functions

1) James C. Van Horne

- Investment Decision
- Financing Decision
- Dividend Decisions

2) Earnest W. Walker

- Financial Planning
- Financial Co-ordination
- Financial Control

3) J. Fred Weston and Eugene F. Brigham

- Financial Planning and Control
- Management of Working Capital
- Investment in Fixed Assets
- Capital Structure Decisions
- Individual Financing Episodes

It is clear from the above, that, finance functions can be grouped as outlined below:

i) Financial planning

ii) Financial control

iii) Financing decisions

iv) Investment decision

v) Management of income and dividend decision

vi) Incidental functions

Finance Function – Objectives

The objective of finance function is to arrange as much funds for the business as are required from time to time. This function has the following objectives.

1. **Assessing the Financial requirements.**

The main objective of finance function is to assess the financial needs of an organization and then finding out suitable sources for raising them. The sources should be commensurate with the needs of the business. If funds are needed for longer periods then long-term sources like share capital, debentures, term loans may be explored.

2. Proper Utilisation of Funds :

Though raising of funds is important but their effective utilisation is more important. The funds should be used in such a way that maximum benefit is derived from them. The returns from their use should be more than their cost. It should be ensured that funds do not remain idle at any point of time. The funds committed to various operations should be effectively utilised. Those projects should be preferred which are beneficial to the business.

3. Increasing Profitability.

The planning and control of finance function aims at increasing profitability of the concern. It is true that money generates money. To increase profitability, sufficient funds will have to be invested. Finance function should be so planned that the concern neither suffers from inadequacy of funds nor wastes more funds than required. A proper control should also be exercised so that scarce resources are not frittered away on uneconomical operations. The cost of acquiring funds also influences profitability of the business.

4. Maximising Value of Firm.

Finance function also aims at maximizing the value of the firm. It is generally said that a concern's value is linked with its profitability.

The changing concept of finance

According to Ezra Solomon, the changing concept of finance can be analysed by dividing the entire process into three broad groupings.

First Approach

This approach just emphasizes only on the liquidity and financing of the enterprise.

Traditional Approach

This approach is concerned with raising of funds used in an organization. It compasses

a) instruments, institutions and practice through which funds are augmented.

b) the legal and accounting relationship between a company and its source of funds.

Modern approach

This approach is concerned not only with the raising of funds, but theiradministration also. This approach encompasses,

a) Determination of the sum total amount of funds to employ in the firm.

b) Allocation of resources efficiently to various assets.

c) Procuring the best mix of financing – i.e. the type and amount of corporate securities.

An analysis of the aforesaid approaches unfold that modern approach involving an integrated approach to finance has considered not only determination of total amount of funds but also allocation of resources efficiently to various assets of the firm. Thus one can easily decipher that the concept of finance has undergone a perceptible change. This is evident from the views expressed by one of the financial experts, namely, James C Van Horne and the same are reproduced below:

Finance concept (function or scope) has changed from a primarily descriptive study to one that encompasses regions analysis and normative theory; from a field that was concerned primarily with the procurement of funds to one that includes the management of assets, the allocation of capital and the valuation of the firm as a whole; and from a field that emphasized external analysis to the firm to one that stresses decision making within the firm. Finance, today, is best characterized as ever changing with new ideas and techniques. The role of financial

manager is considerably different from what it was a few years ago and from what it will no doubt be in another coming years. Academicians and financial managers must grow to accept the changing environment and master its challenge.

Scope of Finance Function

The scope of finance function is very wide. While accounting is concerned with the routine type of work, finance function is concerned with financial planning, policy formulation and control. Earnest W. Walker and William are of the opinion that the financial function has always been important in business management. The financial organiastion depends upon the nature of the organization – whether it is a proprietary organsation, a partnership firm or corporate body. The significance of the finance function depends on the nature and size of a business firm. The role of various finance officers must be clearly defined to avoid conflicts and the overlapping of responsibilities. The operational functions of finance include:

- ❖ Financial planning
- ❖ Deciding the capital structure
- ❖ Selection of source of finance
- ❖ Selection of pattern of investment

i) Financial Planning.

The first task of a financial manager is to estimate short term and long-term financial requirements of his business. For this purpose, he will prepare a financial plan for present as well as for future. The amount required for purchasing fixed assets as well as needs of funds for working capital will have to be ascertained. The estimations should be based on sound financial principles so that neither there are inadequate nor excess funds with the concern. The inadequacy of funds will adversely affect the day-to-day operations of the concern whereas excess funds may tempt a management to indulge in extravagant spending or speculative activities.

ii) Deciding Capital Structure.

The Capital structure refers to the kind and proportion of different securities for raising funds. After deciding about the quantum of funds required it should be decided which type of securities should be raised. It may be wise to finance fixed assets through long-term debts. Even if gestation period is longer, then share capital may be most suitable. Long-term funds should be raised. It may be wise to finance fixed assets through long-term debts. Even here if gestation

period is longer, then share capital may be most suitable. Long-term funds should be employed to finance working capital also, if not wholly then partially. Entirely depending upon overdrafts and cash creditors for meeting working capital needs may not be suitable. A decision about various sources for funds should be linked to the cost of raising funds. If cost of raising funds is very high then such sources may not be useful for long.

iii) Selection of Source of Finance.

After preparing a capital structure, an appropriate source of finance is selected. Various sources from which finance may be raised, include: share capital, debentures, financial institutions, commercial banks, public deposits, etc. If finances are needed for short periods then banks, public deposits and financial institutions may be appropriate; on the other hand, if long-term finances are required then share capital and debentures may be useful. If the concern does not want to tie down assets as securities then public deposits may be a suitable source. If management does not want to dilute ownership then debentures should be issued in preference to share.

iv) Selection of Pattern of Investment.

When funds have been procured then a decision about investment pattern is to be taken. The selection of an investment pattern is related to the use of funds. A decision will have. to be taken as to which assets are to be purchased ? The funds will have to be spent first on fixed assets and then an appropriate portion will be retained for Working Capital. The decision-making techniques such as Capital Budgeting, Opportunity Cost Analysis, etc. may be applied in making decisions about capital expenditures. While spending on various assets, the principles of safety, profitability and liquidity should not he ignored. A balance should be struck even in these principles.

Organization of the Finance Functions

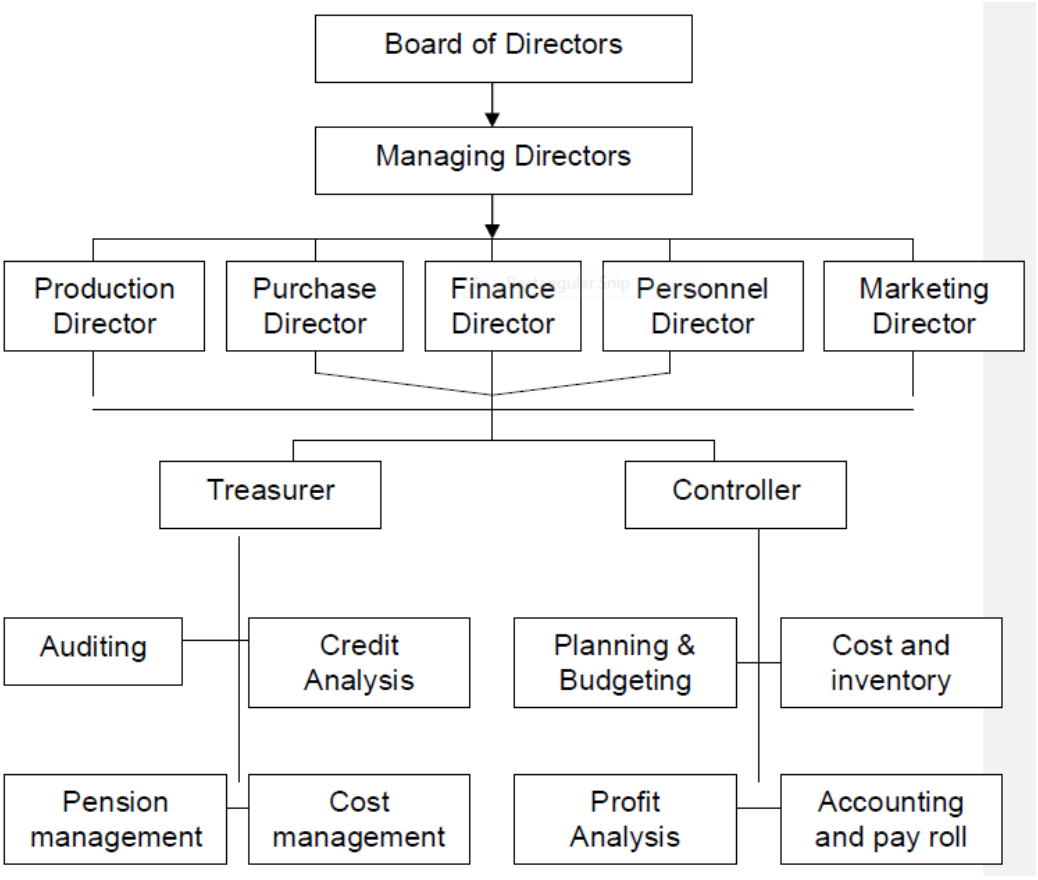
Today, finance function has obtained the status of a science and an art. As finance function has far reaching significance in overall management process, structural organization for further function becomes an outcome of an important organization problem. The ultimate responsibility of carrying out the finance function lies with the top management. However, organization of finance function differs from company to company depending on their respective requirements. In many organizations one can note different layers among the finance executives

such as Assistant Manager (Finance), Deputy Manager (Finance) and General Manager (Finance). The designations given to the executives are different. They are

- Chief Finance Officer (CFO)
- Vice-President (Finance)
- Financial Controller
- General Manager (Finance)
- Finance Officers

Finance, being an important portfolio, the finance functions are entrusted to top management. The Board of Directors who are at the helm of affairs, normally constitute a 'Finance Committee' to review and formulate financial policies. Two more officers, namely '***treasurer'*** and '***controller'*** – may be appointed under the direct supervision of CFO to assist him/her. In larger companies with modern management, there may be Vice-President or Director of finance, usually with both controller and treasurer. The organization of finance function is portrayed below:

Organization of Finance Function



It is evident from the above that Board of Directors is the supreme body under whose supervision and control Managing Director, Production Director, Personnel Director, Financial Director, Marketing Director perform their respective duties and functions. Further while auditing credit management, retirement benefits and cost control banking, insurance, investment function under treasurer, planning and budgeting, inventory management, tax administration, performance evaluation and accounting functions are under the supervision of controller.

Controller and Treasurer

Meaning

The terms 'controller' and 'treasurer' are in fact used in USA. This pattern is not popular in Indian corporate sector. Practically, the controller / financial controller in India carried out the functions of a Chief Accountant or Finance Officer of an organization. Financial controller who has been a person of executive rank does not control the finance, but monitors whether funds so augmented are properly utilized. The function of the treasurer of an organization is to raise funds and manage funds. The treasures functions include forecasting the financial requirements, administering the flow of cash, managing credit, flotation of securities, maintaining relations with financial institutions and protecting funds and securities. The controller's functions include providing information to formulate accounting and costing policies, preparation of financial reports, direction of internal auditing, budgeting, inventory control payment of taxes, etc. According to Prof. I.M. Pandey, while the controller's functions concentrate the asset side of the balance sheet, the treasurer's functions relate to the liability side.

Finance Function – A Fresh look

The designation Finance Manager or Director (Finance) is very popular in Indian Corporate sector. The key function of any financial manager in India is management of funds. It means given the constraints, he must ensure optimum utilization of funds. The financial managers have significant involvement in injecting financial discipline in corporate management processes. They are responsible for emphasizing the need for rational use of funds and the necessity for monitoring the operations of the firm to achieve expected results. The finance functions of augmenting resources and utilisation of funds, no doubt, have a significant impact

on other functions also. Infact, between finance on one side and production, marketing and other functions on the other side, an inseparable relationship exists. The Board of Directors have been bestowed with the onerous responsibility of reviewing financial procedures, formulation of financial policies, selection of right finance personnel with professional capabilities like Chartered Accountant, Cost Accountant and Company Secretaries. The Board of Directors with counsel and direction given by the financial manager finalise decisions pertaining to formulation of new projects, diversification of projects, expansion of undertaking, introduction of new products, widening the branch areas, diversification of new product lines. It should be remembered that the financial controller, in fact, does not control finance. For management control and planning, the financial controller develops, uses and interprets information.

Introduction

Finance comprises of blend of knowledge of credit, securities, financial related legislations, financial instruments, financial markets and financial system. As finance is a scarce resource, it must be systematically raised form the cheapest source of funds and must be judiciously utilized for the development and growth of the organization. Charles Gertenberg visualizes the significance of scientific arrangement of records with the help of which the inflow and outflow of funds can be efficiently managed, stocks and bonds can be efficiently marketed and the efficacy of the organization can be greatly improved.

The financial manager in his new role, is concerned with the efficient allocation of funds. The firm's investment and financing decisions are continuous. The financial manager according to Ezra Solomon must find a rationale for answering the following three questions.

1) How large should an enterprise be and how fast should it grow?
2) In what form should it hold its assets?
3) How should the funds required be raised?

It is therefore clear from the above discussion that firms take different financial decisions continuously in the normal course of business. Liquidity, solvency, profitability and flexibility optimization goals and risk, would lead to reaping of wealth maximization goal.

Financial Decisions – Types

Financial decisions refer to decisions concerning financial matters of a business firm. There are many kinds of financial management decisions that the firm makers in pursuit of

maximising shareholder's wealth, viz., kind of assets to be acquired, pattern of capitalisation, distribution of firm's income etc. We can classify these decisions into three major groups :

1. Investment decisions
2. Financing decision.
3. Dividend decisions.
4. Liquidity decisions.

1. Investment Decisions / Capital Budgeting Decisions

Investment Decision relates to the determination of total amount of assets to be held in the firm, the composition of these assets and the business risk complexities of the firm as perceived by the investors. It is the most important financial decision. Since funds involve cost and are available in a limited quantity, its proper utilization is very necessary to achieve the goal of wealth maximasation. The investment decisions can be classified under two broad groups;

(i) long-term investment decision and

(ii) Short-term, in vestment decision.

The long-term investment decision is referred to as the capital budgeting and the short-term investment decision as working capital management. Capital budgeting is the process of making investment decisions in capital expenditure. These are expenditures, the benefits of which are expected to be received over a long period of time exceeding one year. The finance manager has to assess the profitability of various projects before committing the funds. The investment proposals should be evaluated in terms of expected profitability, costs involved and the risks associated with the projects. The investment decision is important not only for the setting up of new units but also for the expansion of present units, replacement of permanent assets, research and development project costs, and reallocation of funds, in case, investments made earlier, do not fetch result as anticipated earlier.

2. Financing Decisions / Capital Structure Decisions

Once the firm has taken the investment decision and committed itself to new investment, it must decide the best means of financing these commitments. Since, firms regularly make new investments, the needs for financing and financial decisions are on going, Hence, a firm will be continuously planning for new financial needs. The financing decision is not only concerned with how best to finance new asset, but also concerned with the best overall mix of financing for the firm. A finance manager has to select such sources of funds which will make optimum

capital structure. The important thing to be decided here is the proportion of various sources in the overall capital mix of the firm. The debt equity ratio should be fixed in such a way that it helps in maximising the profitability of the concern. The raising of more debts will involve fixed interest liability and dependence upon outsiders. It may help in increasing the return on equity but will also enhance the risk. The raising of funds through equity will bring permanent funds to the business but the shareholders will expect higher rates of earnings. The financial manager has to strike a balance between anxious sources so that the overall profitability of the concern improves. If the capital structure is able to minimise the risk and raise the profitability then the market prices of the shares will go up maximising the wealth of shareholders.

3. Dividend Decision

The third major financial decision relates to the disbursement of profits back to investors who supplied capital to the firm. The term dividend refers to that part of profits of a company which is distributed by it among its shareholders. It is the reward of shareholders for investments made by them in the share capital of the company. The dividend decision is concerned with the quantum of profits to be distributed among shareholders. A decision has to be taken whether ail the profits are to be distributed, to retain all the profits in business or to keep a part of profits in the business and distribute others among shareholders. The higher rate of dividend may raise the market price of shares and thus, maximise the wealth of shareholders. The firm should also consider the question of dividend stability, stock dividend (bonus shares) and cash dividend.

4. Liquidity Decisions

Liquidity and profitability are closely related. Obviously, liquidity and profitability goals conflict in most of the decisions. The finance manager always perceives / faces the task of balancing liquidity and profitability. The term liquidity implies the ability of the firm to meet bills and the firm's cash reserves to meet emergencies. Whereas the profitability means the ability of the firm to obtain highest returns within the funds available. As said earlier, striking a proper balance between liquidity and profitability is an arduous task. If a finance manager wants to meet all the bills, then profitability will decline similarly where he wants to invest funds in short term securities he may not be having adequate funds to pay-off its creditors. Lack of liquidity in extreme situations can lead to the firm's insolvency.

Relationship of Financial Decisions

The financial manager is concerned with the optimum utilization of funds and their procurement in a manner that the risk, cost and control considerations are properly balanced in a given situation. Irrespective of nature of decisions, i.e. investment decisions, financing or capital structure decisions / dividend decisions all these decisions are interdependent. All these decisions are interrelated. All are intended to maximize the wealth of the shareholders. An efficient financial manager has to ensure optimal decision by evaluating each of the decision involved in relation to its effect on shareholders wealth.

Factors Influencing Financial Decisions

There are innumerable factors that influence the financial decision. They are classified as external factors and internal factors.

External factors

- Capital structure
- Capital market and money market
- State of economy
- Requirements of investors
- Government policy
- Taxation policy
- Financial institutions / banks lending policy

Internal factors

- ✓ Nature of business
- ✓ Age of the firm
- ✓ Size of the business
- ✓ Extent and trend of earnings
- ✓ Liquidity position
- ✓ Working capital requirements
- ✓ Composition of assets
- ✓ Nature of risk and expected return.

UNIT II

SOURCE OF CAPITAL

Finance holds the key to industrial development and it is the life blood of a company. Industry normally requires short-term, medium-term and long-term finance to carry out the operations of the business undertaking without any difficulty.

LONG TERM FINANCE – ITS MEANING AND PURPOSE

A business requires funds to purchase fixed assets like land and building, plant and machinery, furniture etc. These assets may be regarded as the foundation of a business. The capital required for these assets is called fixed capital. A part of the working capital is also of a permanent nature. Funds required for this part of the working capital and for fixed capital is called long term finance.

Purpose of long term finance:

Long term finance is required for the following purposes:

1. To Finance fixed assets: Business requires fixed assets like machines, building, furniture etc. Finance required to buy these assets is for a long period, because such assets can be used for a long period and are not for resale.

2. To finance the permanent part of working capital: Business is a continuing activity. It must have a certain amount of working capital which would be needed again and again. This part of working capital is of a fixed or permanent nature. This requirement is also met from long term funds.

3. To finance growth and expansion of business: Expansion of business requires investment of a huge amount of capital permanently or for a long period.

FACTORS DETERMINING LONG-TERM FINANCIAL REQUIREMENTS

The amount required to meet the long term capital needs of a company depend upon many factors. These are:

(a) Nature of Business: The nature and character of a business determines the amount of fixed capital. A manufacturing company requires land, building, machines etc. So it has to invest a large amount of capital for a long period. But a trading concern dealing in, say, washing machines will require a smaller amount of long term fund because it does not have to buy building or machines.

(b) Nature of goods produced: If a business is engaged in manufacturing small and simple articles it will require a smaller amount of fixed capital as compared to one manufacturing heavy machines or heavy consumer items like cars, refrigerators etc. which will require more fixed capital.

(c) Technology used: In heavy industries like steel the fixed capital investment is larger than in the case of a business producing plastic jars using simple technology or producing goods using labour intensive technique.

SOURCES OF LONG TERM FINANCE

The two main sources of long term finance are as follows:

(A) Ownership Capital

- Equity share capital
- Preference share capital
- Retained earnings

(B) Borrowed capital

- Debentures
- Term loans
- Others

OWNER'S CAPITAL

1. Equity share capital

It represents the investment made by the owners of the business. They enjoy the rewards and bear the risks of the ownership. They are paid dividend only after paying dividend to preference shareholders and after meeting the future investment needs of the organisation.

2. Preference share capital

It represents the investment made by preference shareholders. Preference share holders as the name suggests enjoy preference over payment of dividend. The dividend paid on these shares is generally at a fixed rate.

3. Retained earnings

It represents the earnings not distributed to shareholders. A firm may retain a portion or whole of its profits and utilize it for financing its projects.

BORROWED CAPITAL

1. Debentures:

Debenture capital is a financial instrument for raising long term debt capital. A debenture holder is a creditor of the company. A fixed rate of interest is paid on debentures. It may be convertible or Non-convertible.

Non-convertible debentures - these are straight debt instrument carrying a fixed rate and have a maturity period of 5-9 years. If interest is accumulated it has to be paid by the company by liquidation of its assets. It is an economical method of raising funds. Debenture holders do not have any voting rights and there is no dilution of ownership. They cannot be converted into equity shares.

Convertible debentures - convertible debentures are debentures which are convertible wholly or partly into equity shares after a fixed period of time.

2. Term loans from banks:

Many industrial development banks, cooperative banks and commercial banks grant medium term loans for a period of three to five years. Commercial banks usually provide short-term finance to business firms in the form of loans and advances, cash credit, overdraft etc. But now-a-days, most of the commercial banks have also started term lending (long and medium term) and providing need based finance of different time periods to firms of all sizes.

3. Loan from financial institutions:

There are many specialised financial institutions established by the Central and State governments which give long term loans at reasonable rate of interest. Some of these institutions are: Industrial Finance Corporation of India (IFCI), Industrial Development Bank of India (IDBI), Industrial Investment Bank of India (IIBI), Infrastructure Development Finance Company Ltd. (IDFC), Small Industries Development Bank of India (SIDBI), State Industrial Development Corporations (SIDCs), Industrial Credit and Investment Corporation of India (ICICI), Unit Trust of India (UTI), State Finance Corporations (SFCs) etc. The main functions of these institutions are: (i) to grant loans for a longer period to industrial establishment; (ii) to help the establishment of business units that require large amount of funds and have long gestation period; (iii) to provide support for the speedy development of the economy in general and backward regions in particular; (iv) to offer specialized services operating in the areas of promotion, project assistance, technical assistance services and training and development of

entrepreneurs; (v) to provide technical and professional management services and help in identification, evaluation and execution of new projects.

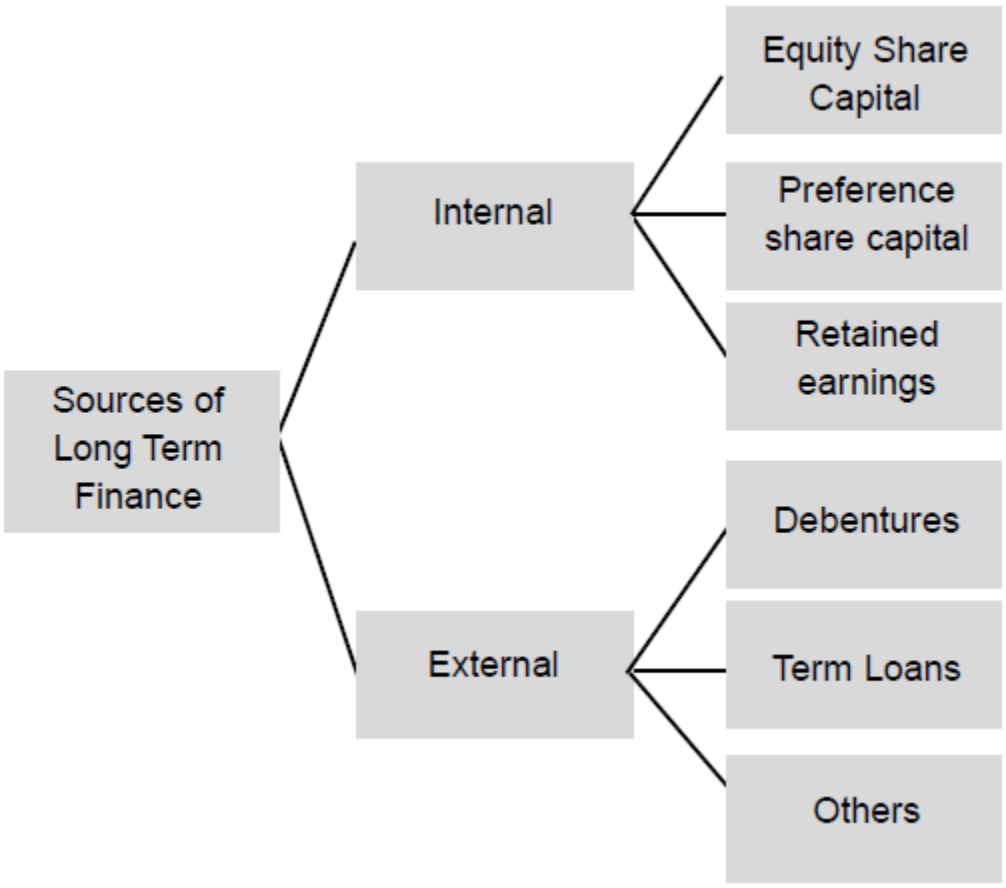
4. Foreign Sources:

Foreign Sources also play an important part in meeting the long-term financial needs of the business in India. These usually take the form of

(1) external borrowings;

(2) foreign investments and;

(3) deposits from NRIs.



1.Financing through permanent sources:

Permanent sources of working capital should be provided in such a manner that the enterprise might have its uninterrupted use for an unlimited duration. It can be conveniently financed by the following sources:

a. Issue of shares:

Issue of shares is the most important sources for raising the permanent working capital. Shares are of two types – Equity shares and preference shares. Maximum amount of permanent working capital should be raised by the issue of equity shares.

b. Retained earnings:

It means the reinvestment by a concern of its surplus earning in its business. This is, a part of the earned profits may be ploughed back by the firm, in meeting their working capital needs. It is an internal source of finance and is most suitable.

2. Financing through long-term sources:

The fund, which is required for 7 to 20 years and above, is called long-term funds. Financing of working capital through long-term sources provides reduction of risk and increases the liquidity. These long-term sources can be raised through the following methods:

a. Redeemable preference shares:

Preference shares are those, which carry the following preferential rights over other classes of shares:

(i) A preferential right to payment of fixed dividend over equity shareholder.

(ii) A preferential right to repayment of capital in case of winding up of the company to other classes of shares.

Redeemable preference shares are those, which can be redeemed during the lifetime of the company. According to the companies (Amendment) Act, 1996, w.e.f. March 1997, no company can now issue preference shares, which are irredeemable or are redeemable after 20 years from the date of their issue.

b. Debentures:

A debenture is an instrument issued by the company acknowledging its debt to its holder. It is also an important source of long-term working capital. The firm issuing debenture also enjoys a number of benefits, such as trading on equity, retention of control, tax benefit etc.

c. Long-term loans:

Financing institutions such as commercial banks, life insurance corporation of India, industrial finance corporation of India, state financial corporations, industrial development bank of India etc. provide long-term and medium-term loans. This type of finance is ordinarily repayable in instalments.

3. Financing through medium-term sources.

The funds, which are basically required for a period of 2 to 5 years, are called medium-term funds. Previously the commercial banks were concentrating on short-term and medium-term loans in the form of working capital loans whereas the financial institutions like IDBI, ICICI, IFCI were concentrating on long-term funds. But, recently, the commercial banks have also entered into providing medium-term as well as long-term funds to trade and industry, either independently, or sometimes, in collaboration with one or more specialized financing institutions. The medium-term funds can be raised through the following methods:

a. Working capital term loans:

It refers to the quantum of credit that a bank should disburse. Tandon committee suggested three methods of lending which banks generally follow the second method of lending. As per this method, the borrower will have to contribute 25% of the total current assets. The remaining working capital gap will be funded by bank borrowings. Where borrower fails to bring such additional funds, the banks usually sanction "Working capital term loans" which the borrower is to repay in a phased manner. Such repayment time allowed is a maximum of five years. To put a pressure on the borrower for early repayment of such loan, the banks generally charge 1% higher rate on such loans over and above rates charged in cash credit account. However, such excess charge of interest is entirely in the jurisdiction of the bank, which may discriminate between borrowers depending financial status and future project of the concerned borrower. The concept of **"Working capital term loan"** has been introduced by Chore committee, which was appointed for reviewing working capital lending by banks subsequent to introduction of recommendation of Tandon committee.

b. Public fixed deposits:

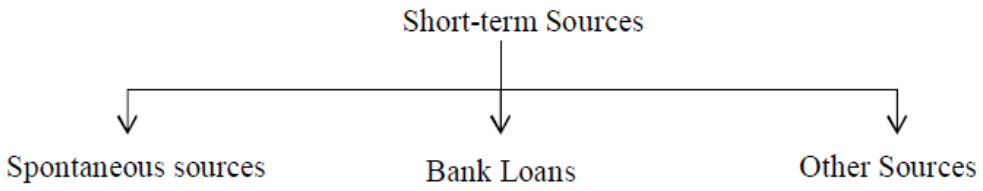
Public deposits are the fixed deposits accepted by a business enterprise directly from public deposit as source finance have a large number of advantages such as simple and convenient source of finance, Taxation benefits, inexpensive sources of finance etc.

c. Medium term loans:

These loans are generally provided by banks or financial institutions. The period of loans vary from 3 to 7 years. The investment of these loans from funds is in plant and machinery, vehicle and certain other equipments. The procedures of granting such loan may not be as high as in case of long-term loans. Besides, in most cases consortium finance may not be required. In case of long-terms, the funds are invested in freehold land or in long leased land since their period of loan vary from 7 years to 20 years. Thus the difference between medium term loans and long-term loans may be termed as of degree rather than of kind.

4. Financing working capital through short-term sources:

Funds available for a period of one year or less are called short-term sources of finance. They are raised from sources, which can provide funds only for short period quickly, and its cost is less than the funds raised from long-term sources. These funds are usually met by taking short-term loans or getting the bills discounting from the commercial banks. Spontaneous sources and bank loans are important sources of short-term funds. They are explained in detail below:



II. Bank Loans:

The bank loans, in general, are a short-term financing say for a year or so. This short-term financing to business firm is regarded as self-liquidating. It means, banks routinely provide finance to meet the seasonal demand e.g., to cover the seasonal increase in inventories or receivables. Sometimes, the banks may approve separate limits for peak season and non-peak season. The main sources of short-term funds are cash credit, overdraft and bill discounting.

Capital structure.

The cost of capital is also an important consideration in capital structure decisions. The finance manager must raise capital from different sources in a way that it optimises the risk and cost factors. The sources of funds which have less cost involve high risk. Raising of loans may, therefore, be cheaper on account of income tax benefits, but it involves heavy risk because a

slight fall in the earning capacity of the company may bring the firm near to cash insolvency. It is, therefore, absolutely necessary that cost of each source of funds is carefully considered and compared with the risk involved with it. In order to compute the overall cost of capital, the manager of funds has to take the following steps:

1) To determine the type of funds to be raised and their share in the total capitalization of the firm.

2) To ascertain the cost of each type of funds.

3) To calculate the combined cost of capital if the firm by assigning weight to each type of funds in terms of quantum of funds so raised.

MEASURES OF OPERATING AND FINANCIAL LEVERAGE

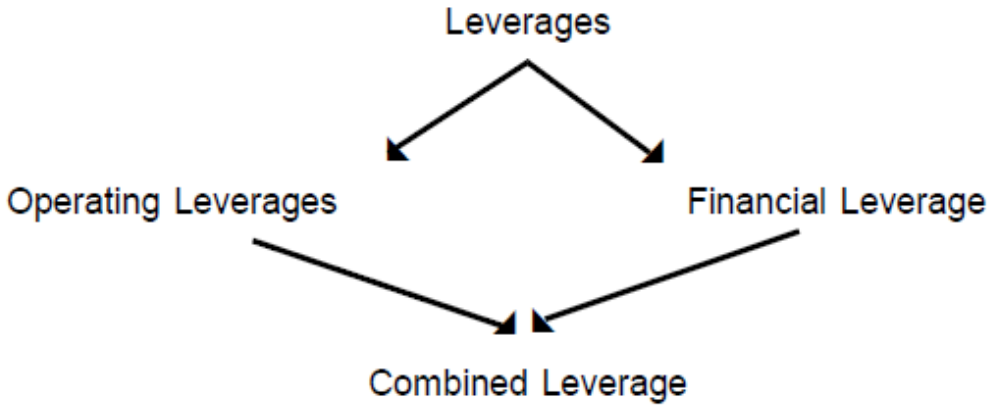
The term leverage refers to an increased means of accomplishing some purpose. Leverage is used to lifting heavy objects, which may not be otherwise possible. In the financial point of view, leverage refers to furnish the ability to use fixed cost assets or funds to increase the return to its shareholders.

Definition of Leverage

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

Types of Leverage

Leverage can be classified into three major headings according to the nature of the finance mix of the company.



The company may use financial or leverage or operating leverage, to increase the EBIT and EPS.

OPERATING LEVERAGE

The leverage associated with investment activities is called as operating leverage. It is caused due to fixed operating expenses in the company. Operating leverage may be defined as the company's ability to use fixed operating costs to magnify the effects of changes in sales on its earnings before interest and taxes. Operating leverage consists of two important costs viz., fixed cost and variable cost. When the company is said to have a high degree of operating leverage if it employs a great amount of fixed cost and smaller amount of variable cost. Thus, the degree of operating leverage depends upon the amount of various cost structure. Operating leverage can be determined with the help of a break even analysis.

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

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{Operating Profit (EBIT)}}$$

Degree of Operating Leverage

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

$$\text{DOL} = \frac{\text{Percentage change in EBIT}}{\text{Percentage change in sale}}$$

Uses of Operating Leverage

Operating leverage is one of the techniques to measure the impact of changes in sales which lead for change in the profits of the company. If any change in the sales, it will lead to corresponding changes in profit. Operating leverage helps to identify the position of fixed cost and variable cost. Operating leverage measures the relationship between the sales and revenue of the company during a particular period. Operating leverage helps to understand the level of fixed

cost which is invested in the operating expenses of business activities. It describes the overall position of the fixed operating cost.

FINANCIAL LEVERAGE

A leverage activity with financing activities is called financial leverage. Financial leverage represents the relationship between the company's earnings before interest and taxes (EBIT) or operating profit and the earning available to equity shareholders. Financial leverage is defined as "the ability of a firm to use fixed financial charges to magnify the effects of changes in EBIT on the earnings per share". It involves the use of funds obtained at a fixed cost in the hope of increasing the return to the shareholders. "The use of long-term fixed interest bearing debt and preference share capital along with share capital is called financial leverage or trading on equity". Financial leverage may be favourable or unfavourable depends upon the use of fixed cost funds. Favourable financial leverage occurs when the company earns more on the assets purchased with the funds, then the fixed cost of their use. Hence, it is also called as positive financial leverage. Unfavourable financial leverage occurs when the company does not earn as much as the funds cost. Hence, it is also called as negative financial leverage. Financial leverage can be calculated with the help of the following formula:

$$\text{Financial Leverage} = \frac{\text{Operating Profit (EBIT)}}{\text{Profit Before Tax}}$$

Degree of Financial Leverage

Degree of financial leverage may be defined as the percentage change in taxable profit as a result of percentage change in earnings before interest and tax (EBIT). This can be calculated by the following formula :-

$$\text{DFL} = \frac{\text{Percentage change in taxable Income}}{\text{Percentage change in operating income}}$$

Alternative Definition of Financial Leverage

According to **Gitmar**, "financial leverage is the ability of a firm to use fixed financial changes to magnify the effects of change in EBIT and EPS".

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

Uses of Financial Leverage

Financial leverage helps to examine the relationship between EBIT and EPS. Financial leverage measures the percentage of change in taxable income to the percentage change in EBIT. Financial leverage locates the correct profitable financial decision regarding capital structure of the company. Financial leverage is one of the important devices which is used to measure the fixed cost proportion with the total capital of the company. If the firm acquires fixed cost funds at a higher cost, then the earnings from those assets, the earning per share and return on equity capital will decrease. The impact of financial leverage can be understood with the help of the following exercise.

COMBINED LEVERAGE

When the company uses both financial and operating leverage to magnification of any change in sales into a larger relative changes in earning per share. Combined leverage is also called as composite leverage or total leverage. Combined leverage expresses the relationship between the revenue in the account of sales and the taxable income. Combined leverage can be calculated with the help of the following formulas:

$$\text{DCL} = \text{DOL} \times \text{DFL} = \frac{\text{Contribution}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{PBT}} = \frac{\text{Contribution}}{\text{PBT}}$$

Degree of Combined Leverage

The percentage change in a firm's earning per share (EPS) results from one percent change in sales. This is also equal to the firm's degree of operating leverage (DOL) times its degree of financial leverage (DFL) at a particular level of sales.

$$\text{Degree of combined leverage} = \frac{\text{Percentage change in EPS}}{\text{Percentage change in sales}}$$

Example

Kumar Company has sales of ` 25,00,000. Variable cost of ` 15,00,000 and fixed cost of ` 5,00,000 and debt of ` 12,50,000 at 8% rate of interest. Calculate combined leverage.

Solution

Statement of Profit

Amount in ₹

Sales		25,00,000
Less:	Variable cost	(15,00,000)
	Contribution	10,00,000
Less:	Fixed cost	(5,00,000)
	Operating Profit	5,00,000

Combined leverage =Operating leverage x Financial leverage

Calculation of operating leverage

$$\frac{\text{Contribution}}{\text{Operating Profit}} \quad \frac{= 10,00,000}{5,00,000} = 2$$

Calculation of financial leverage

Earning before Interest and Tax (EBIT)	₹ 5,00,000
Less: Interest on Debenture (8% of 12,50,000)	(₹ 1,00,000)
Earnings before Tax	₹ 4,00,000

$$Financial\ Leverage = \frac{EBIT}{EBT}$$

$$Financial\ Leverage = \frac{5,00,000}{4,00,000}$$

$$= 1.25$$

Combined leverage = 2 × 1.25 = 2.5

UNIT III

Forecasting of Cash Flow:

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

Cash Forecasts and Budgeting:

A cash budget is the most important device for the control of receipts and payments of cash. A cash budget is an estimate of cash receipts and disbursements during a future period of time. It is an analysis of flow of cash in a business over a future, short or long period of time. It is a forecast of expected cash intake and outlay. Both Short-term and long-term cash forecasts may be made with the help of following methods:

(i) Receipts and disbursements method

(ii) Adjusted net income method

CONCENTRATION BANKING

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

LOCK BOX SYSTEM

It is a collection procedure in which payers send their payment or cheques to a nearby post box that is cleared by the firm's bank. Several times that the bank deposit the cheque in the firms account. Under the lock box system, business concerns hire a post office lock box at important collection centers where the customers remit payments. The local banks are authorized to open the box and pick up the remittances received from the customers. As a result, there is some extra savings in mailing time compared to concentration bank.

Lockbox *A post office box operated by a bank to which payments are sent. Used to speed up effective receipt of cash.*

Slowing Disbursement

An effective cash management is not only in the part of speedy collection of its cash and receivables but also it should concentrate to slowing their disbursement of cash to the customers or suppliers. Slowing disbursement of cash is not the meaning of delaying the payment or avoiding the payment. Slowing disbursement of cash is possible with the help of the following methods:

1. **Avoiding the early payment of cash**

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

2. **Centralised disbursement system**

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

Disbursements Method:

In this method the receipts and payments of cash are estimated. The receipts and disbursements are to be equaled over a short as well as long periods. Any shortfall in receipts will have to be met from banks or other sources. Similarly, surplus cash may be invested in risk free marketable securities. It may be easy to make estimates for payments but cash receipts may not be accurately made. The payments are to be made by outsiders, so there may be some problem in finding out the exact receipts at a particular period. Because of uncertainty, the reliability of this method may be reduced.

FLOAT

We should mention the term *float*, as it often comes up in connection with cash management. If you write a check and it takes five days for the recipient to receive and deposit the check, and for it to be deducted from your account, then you have five days of float, or the use of the money for five days before you have to deposit funds in your account. That's "payment float." On the other hand, if someone sends you a check and it takes six days for you to receive and deposit it, and for the bank to clear the funds, then that's six days of "collection float." Your "net float" would be minus one day. Positive net float is good, negative net float is bad from the standpoint of minimizing required cash holdings.

Floatation Costs

Floatation costs are those expenses which are incurred while issuing securities (e.g., equity shares, preference shares, debentures, etc.). These include commission of underwriters, brokerage, stationery expenses, etc. Generally, the cost of issuing debt capital is less than the share capital. This attracts the company towards debt capital.

UNIT IV

Importance of Adequate Working Capital

Management of working capital is an essential task of the finance manager. He has to ensure that the amount of working capital available with his concern is neither too large nor too small for its requirements. A large amount of working capital would mean that the company has idle funds. Since funds have a cost, the company has to pay huge amount as interest on such funds. If the firm has inadequate working capital, such firm runs the risk of insolvency. Paucity of working capital may lead to a situation where the firm may not be able to meet its liabilities. The various studies conducted by the Bureau of Public Enterprises have shown that one of the reasons for the poor performance of public sector undertakings in our country has been the large amount of funds locked up in working capital. This results in over capitalization. Over capitalization implies that a company has too large funds for its requirements, resulting in a low rate of return, a situation which implies a less than optimal use of resources. A firm, therefore, has to be very careful in estimating its working capital requirements. Maintaining adequate working capital is not just important in the short-term. Sufficient liquidity must be maintained in order to ensure the survival of the business in the long- term as well. When businesses make investment decisions they must not only consider the financial outlay involved with acquiring the new machine or the new building, etc., but must also take account of the additional current assets that are usually required with any expansion of activity. For e.g.:-Increased production leads to holding of additional stocks of raw materials and work-in-progress. An increased sale usually means that the level of debtors will increase. A general increase in the firm's scale of operations tends to imply a need for greater levels of working capital. A question then arises what is an optimum amount of working capital for a firm? We can say that a firm should neither have too high an amount of working capital nor should the same be too low. It is the job of the finance manager to estimate the requirements of working capital carefully and determine the optimum level of investment in working capital.

OPTIMUM WORKING CAPITAL

If a company's current assets do not exceed its current liabilities, then it may run into trouble with creditors that want their money quickly. Current ratio (current assets/current liabilities) (along with acid test ratio to supplement it) has traditionally been considered the best

indicator of the working capital situation. It is understood that a current ratio of 2 (two) for a manufacturing firm implies that the firm has an optimum amount of working capital. This is supplemented by Acid Test Ratio (Quick assets/Current liabilities) which should be at least 1 (one). Thus, it is considered that there is a comfortable liquidity position if liquid current assets are equal to current liabilities. Bankers, financial institutions, financial analysts, investors and other people interested in financial statements have, for years, considered the current ratio at 'two' and the acid test ratio at 'one' as indicators of a good working capital situation. As a thumb rule, this may be quite adequate. However, it should be remembered that optimum working capital can be determined only with reference to the particular circumstances of a specific situation. Thus, in a company where the inventories are easily saleable and the sundry debtors are as good as liquid cash, the current ratio may be lower than 2 and yet firm may be sound. In nutshell, a firm should have adequate working capital to run its business operations. Both excessive as well as inadequate working capital positions are dangerous.

TYPES OF WORKING CAPITAL

The working capital in certain enterprise may be classified into the following kinds.

1. Initial working capital: The capital, which is required at the time of the commencement of business, is called initial working capital. These are the promotion expenses incurred at the earliest stage of formation of the enterprise which include the incorporation fees, attorney's fees, office expenses and other preliminary expenses.

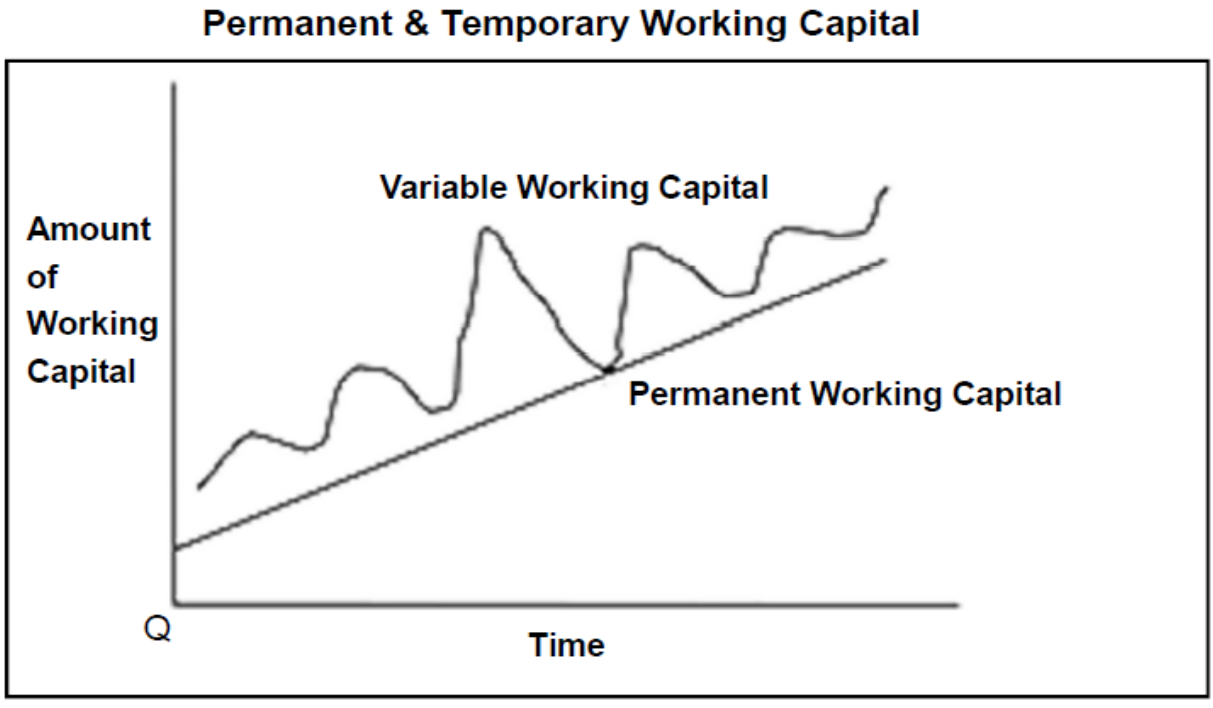
2. Regular working capital: This type of working capital remains always in the enterprise for the successful operation. It supplies the funds necessary to meet the current working expenses i.e. for purchasing raw material and supplies, payment of wages, salaries and other sundry expenses.

3. Fluctuating working capital: This capital is needed to meet the seasonal requirements of the business. It is used to raise the volume of production by improvement or extension of machinery. It may be secured from any financial institution which can, of course, be met with short term capital. It is also called variable working capital.

4. Reserve margin working capital: It represents the amount utilized at the time of contingencies. These unpleasant events may occur at any time in the running life of the business such as inflation, depression, slump, flood, fire, earthquakes, strike, lay off and unavoidable

competition etc. In this case, greater amount of capital is required for maintenance of the business.

5. Permanent and Temporary Working Capital: The Operating Cycle creates the need for Current Assets (Working Capital). However, the need does not come to an end once the cycle is completed. It continues to exist. To explain the continuing need of current assets, a distinction should be drawn between temporary and permanent working capital. Business Activity does not come to an end after the realization of cash from customers. For a company, the process is continuing, and hence, the need for regular supply of working capital. However, the, magnitude of Working Capital required is not constant but fluctuating. To carry on a business, a certain minimum level of working capital is necessary on a continuous and uninterrupted basis. For all practical purposes, this requirement has to be met permanently as with other fixed assets. This requirement is referred to as permanent or fixed working capital. Any amount over and above the permanent level of working capital is temporary, fluctuating or variable working capital. The position of the required working capital is needed to meet fluctuations in demand consequent upon changes in production and sales as a result of seasonal changes. Both kinds of working capital are necessary to facilitate the sales proceeds through the Operating Cycle.



6. Long Term working capital: The long-term working capital represents the amount of funds needed to keep a company running in order to satisfy demand at lowest point. There may be many situations where demand may fluctuate considerably. It is not possible to retrench the work force or instantly sell all the inventories whenever demand declines due to temporary reasons. Therefore the value, which represents the long-term working capital, stays with the business process all the time. It is for all practical purpose known as permanent fixed assets. In other words, it consists of the minimum current assets to be maintained at all times. The size of the permanent working capital varies directly with the size of Operation of a firm.

7. Short term working capital: Short-term capital varies directly with the level of activity achieved by a company. The Volume of Operation decides the quantum of Short-term working capital. It also changes from one form to another; from cash to inventory, from inventory to debtors and from debtors back to cash. It may not always be gainfully employed. Temporary Working capital should be obtained from such sources, which will allow its return when it is not in use.

8. Gross Working Capital: Gross working capital refers to the firm's investment in current assets. Current assets are those assets which can be converted in to cash with in an accounting year and includes cash, short term securities, debtors bills receivable and stock.

9. Net Working Capital: Net working capital refers to the difference between current asset and Current liabilities. Current liabilities are those claims of outsiders, which are expected to mature for payment within accounting year and include creditors, bills payable and outstanding expenses. Net Working capital can be positive or negative. A positive net working capital will arise when current assets exceed current liabilities. The Gross working capital concept focuses attention on two aspect of current assets management. (a) How to optimize investment in current assets? (b) How should current assets be financed? Both the question is the most decision making action of the management. It should be given due consideration before taking decision. Both Net and Gross working capital is important and they have equal significance from management point of view.

DETERMINANTS OF WORKING CAPITAL

Working capital management is concerned with:- (a) Maintaining adequate working capital (management of the level of individual current assets and the current liabilities) and (b)

Financing of the working capital. For the point a) above, a Finance Manager needs to plan and compute the working capital requirement for its business. And once the requirement has been computed, he needs to ensure that it is financed properly. This whole exercise is nothing but Working Capital Management. Sound financial and statistical techniques, supported by value judgment should be used to predict the quantum of working capital required at different times. Some of the factors which need to be considered while planning for working capital requirement are:-

1. Nature of Business: A company's working capital requirements are directly related to the kind of business it conducts. A company that sells a service primarily on a cash basis does not have the pressure of keeping considerable amounts of inventories or of carrying customer's receivables. On the other hand, a manufacturing enterprise ordinarily finances its own customers, requires large amounts to pay its own bills, and uses inventories of direct materials for conversion into end products. These conditions augment the working capital requirements.

2. Degree of Seasonality: Companies that experience strong seasonal movements have special working capital problems in controlling the internal financial savings that may take place. Aggrevating this difficulty is the fact that no matter how clearly defined a pattern may be, it is never certain. Unusual circumstances may distort ordinary relationships. Although seasonality may pull financial manager from the security of fixed programmes to meet recurring requirements, flexible arrangements are preferable to guard against unforeseen contingencies. An inability to cope with sharp working capital swings is one of the factors that encourages companies to undertake diversification programmes.

3. Production Policies*:* Depending upon the kind of items manufactured, by adjusting its production schedules a company may be able to offset the effect of seasonal fluctuations upon working capital, at least to some degree, even without seeking a balancing diversified line. Thus, in one year, in order to avoid burdensome **208** EP-F&SM inventories, firm may curtail activity when a seasonal upswing normally takes place. As a matter of policy, the choice will rest on the one hand, and maintaining a steady rate of production and permitting stocks of inventories to build up during off season periods, on the other. In the first instance, inventories are kept to minimum levels but the production manager must shoulder the burden of constantly adjusting his working staff; in the second, the uniform manufacturing rate avoids fluctuations of production schedules, but enlarged inventory stocks create special risks and costs. Because the purchase of

inventories is often financed by suppliers, the mere fact that a company carries bigger amounts does not necessarily mean that its cash problem is more serious.

4. Growth Stage of Business : As a company expands, it is logical to expect that larger amounts of working capital will be required to avoid interruptions to the production sequence. Although this is true it is hard to draw up firm rules for the relationship between the growth in the volume of a company's business and the growth of its working capital. A major reason for this is management's increasing sophistication in handling the current assets, besides other factors operating simultaneously.

5. Position of the Business Cycle*:* In addition to the long-term secular trend, the recurring movements of the business cycle influence working capital changes. As business recedes, companies tend to defer capital replacement programmes and deflect depreciations to liquid balances rather than fixed assets. Similarly, curtailed sales reduce amounts receivable and modify inventory purchases, thereby contributing further to the accumulation of cash balances. Conversely, the sales, capital, and inventory expansions that accompany a boom produce a greater concentration of credit items in the balance sheet. The tendency for companies to become cash-poor as the tide of economic prosperity rises and cash-rich as it runs out is well known economic phenomenon. The pressure on company finances during boom years is reflected in the business drive for loans and the high interest rate of these years as compared with a reversal of such conditions during the periods of economic decline. The financial implications of these movements may be deceptive. A weakening of the cash position in favourable economic environment may suggest the need or difficulty of raising capital for the further expansion rather than a shortage of funds to take care of current needs. On the other hand, a strong cash position when the economic outlook is bleak may be the forerunner of actual financial difficulties. The financial manager must learn to look behind the obvious significance of the standard test of corporate liquidity interpret their meaning in the light of his knowledge of the company's position in the industry, the prospects of new business and the availability of external sources for supplying additional capital.

6. Competitive Conditions: A corporation that dominates the market may relax its working capital standard because failing to meet customers requirements promptly does not necessarily lead to a loss of business. When competition is keen, there is more pressure to stock

varied lines of inventory to satisfy customer's demands and to grant more generous credit terms, thereby causing an expansion in receivables.

7. Production Collection Time Period: Closely related to a company's competitive status are the credit terms, it must grant. These arrangements may be result of tradition, policy within the industry, or even carelessness in failing to carry out announced principles. And the arrangements, in turn, are part of the overall production collection time sequence, that is, the time intervening between the actual production of goods and the eventual collection of receivables, flowing from sales. The length of this period is influenced by various factors. Purchases may be on a cash basis, but the manufacturing cycle may be prolonged and sales terms generous, causing a wide gap between cash expenditure and receipt and possibly placing heavy financing pressure on the firm. The pressure may be eased, despite long manufacturing cycle, if the company can persuade its suppliers to bear a large part of its financing burden or the manufacturing cycle may be short, and get the pressures heavy because suppliers do not bear a large part of financial burden. The financing requirements of the company may always be traceable to the relation between purchasing and sales credit volume and terms of operations.

8. Dividend Policy: A desire to maintain an established dividend policy may affect the volume of working capital, or changes in working capital may bring about an adjustment of dividend policy. In either event, the relationship between dividend policy and working capital is well established, and very few companies ever declare a dividend without giving consideration to its effect on cash and their needs for cash.

9. Size of Business: The amount needed may be relatively large per unit of output for a small company subject to higher overhead costs, less favourable buying terms, and higher interest rates. Small though growing companies tend to be hard pressed in financing their working capital needs because they seldom have access to the open market as do large established business firms have.

10. Sales Policies: Working capital needs vary on the basis of sales policy of the same industry. A department store which caters to the "carries trade" by carrying a quality line of merchandise and offering extensive charge accounts will usually have a slower turnover of assets, a higher margin on sales, and relatively larger accounts receivable than many of its non-carriage, trade competitors. Another department store which stresses cash and carry operations will usually have a rapid turnover, a low margin on sales, and small or no accounts receivable.

11. Risk Factor: The greater the uncertainty of receipt and expenditure, more the need for working capital. A business firm producing an item which sells for a small unit price and which necessitates repeat buying, such as canned foods or staple dry goods etc., would be subject to less risk than a firm producing a luxury item which sells for a relatively high price and is purchased once over a period of years, such as furniture, automobiles etc.

WORKING CAPITAL POLICY

Working capital policy can also be known as working capital management. Working capital management refers to a strategy which mainly focus on maintaining adequate level of current assets and current liabilities in a firm, so that appropriate level of working capital can be maintained. The ratio helps to examine the following alternative working capital policies:

1.Conservative Policies: Assuming a constant level of fixed assets, a higher current assets to fixed assets ratio, refers to conservative policies. It indicates the firm's sound liquidity position and lower risk to meet its current obligations and investments. This policy is also termed as flexible policy. It also indicates that the current assets are efficiently utilized at every levels or output.

Conservative Policy Indicates

(i) Sound liquidity

(ii) Lower risk

(iii) Current assets are efficiently utilized in production

(iv) No bottlenecks in production, because of the mainetenance of huge stock

(v) Prompt payment of accounts payable, because of huge liquid cash in hand

2. Moderate Policies: Moderate policy is otherwise termed as average current assets policy. This ratio occurs between higher and lower ratio of current assets to fixed assets ratio. In other words, the current assets policy of most firms may fall between the conservative policies and aggressive policies. This indicates moderate risk and average liquidity position of a firm.

Moderate Policy Indicates:

(i) Moderate risk

(ii) Average liquidity position

(iii) Current assets are used in production

(iv) Maintenance of stock of raw materials, work-in-progress and finished goods are at an average level.

3. Agressive Policies: Lower level of current assets to fixed assets ratio represents aggressive policy. This aggressive policy indicates higher risk and poor liquidity position of a firm. It also indicates that the current assets are inefficiently utilized at all levels of output. This policy is also termed as restrictive policy.

Aggressive Policy Indicates

(i) Poor liquidity position

(ii) Higher risk

(iii) Current assets are utilized at lowest in all levels of output

(iv) Maintenance of small stock levels

(v) Declining size of sales because of rare credit sales facilities

(vi) Stoppage and bottlenecks in production, due to lack of stock

(vii) Slower accounts payable payments, because of low cash balance in hand

CURRENT ASSETS MANAGEMENT

CASH MANAGEMENT

Cash management has assumed importance because it is the most significant of all the current assets. It is required to meet business obligations and it is productive when not used. Cash management deals with the following:

(i) Cash inflows and outflows

(ii) Cash balances held by the firm at a point of time

(iii) Cash balances held y the fire at a point of time

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

(a)Cash Planning:

Cash Planning is technique to plan and control the use of cash. A projected cash flow statement may be prepared, based on the present business operations and anticipated future activities. The cash inflows from various sources may be anticipated and cash outflows will determine the possible uses of cash;

(b)Cash Forecasts and Budgeting:

A cash budget is the most important device for the control of receipts and payments of cash. A cash budget is an estimate of cash receipts and disbursements during a future period of time. It is an analysis of flow of cash in a business over a future, short or long period of time. It is a forecast of expected cash intake and outlay. Both Short-term and long-term cash forecasts may be made with the help of following methods:

(i) Receipts and disbursements method

(ii) Adjusted net income method

(i)Receipts and Disbursements Method: In this method the receipts and payments of cash are estimated. The receipts and disbursements are to be equaled over a short as well as long periods. Any shortfall in receipts will have to be met from banks or other sources. Similarly, surplus cash may be invested in risk free marketable securities. It may be easy to make estimates for payments but cash receipts may not be accurately made. The payments are to be made by outsiders, so there may be some problem in finding out the exact receipts at a particular period. Because of uncertainty, the reliability of this method may be reduced.

(ii)Adjusted Net Income Method: This method may also be known as sources and uses approach. It generally has three sections: sources of cash, uses of cash and adjusted cash balance. The adjusted net income method helps in projecting the company's need for cash at some future date and to see whether the shares, etc. In preparing its statement the items like net income, depreciation, dividends, taxes, etc.

UNIT V

CAPITAL BUDGETING

INTRODUCTION

The word Capital refers to be the total investment of a company of firm in money, tangible and intangible assets. Whereas budgeting defined by the "**Rowland** and **William**" it may be said to be the art of building budgets. Budgets are a blue print of a plan and action expressed in quantities and manners. The examples of capital expenditure:

1. Purchase of fixed assets such as land and building, plant and machinery, good will, etc.
2. The expenditure relating to addition, expansion, improvement and alteration to the fixed assets.
3. The replacement of fixed assets.
4. Research and development project.

Definitions

According to the definition of **Charles T. Hrongreen,** "capital budgeting is a long-term planning for making and financing proposed capital out lays. According to the definition of **G.C. Philippatos,** "capital budgeting is concerned with the allocation of the firms source financial resources among the available opportunities. The consideration of investment opportunities involves the comparison of the expected future streams of earnings from a project with the immediate and subsequent streams of earning from a project, with the immediate and subsequent streams of expenditure". According to the definition of **Richard and Green law,** "capital budgeting is acquiring inputs with long-term return". According to the definition of **Lyrich,** "capital budgeting consists in planning development of available capital for the purpose of maximizing the long-term profitability of the concern". It is clearly explained in the above definitions that a firm's scarce financial resources are utilizing the available opportunities. The overall objectives of the company from is to maximize the profits and minimize the expenditure of cost.

Need and Importance of Capital Budgeting

1. Huge investments: Capital budgeting requires huge investments of funds, but the available funds are limited, therefore the firm before investing projects, plan are control its capital expenditure.

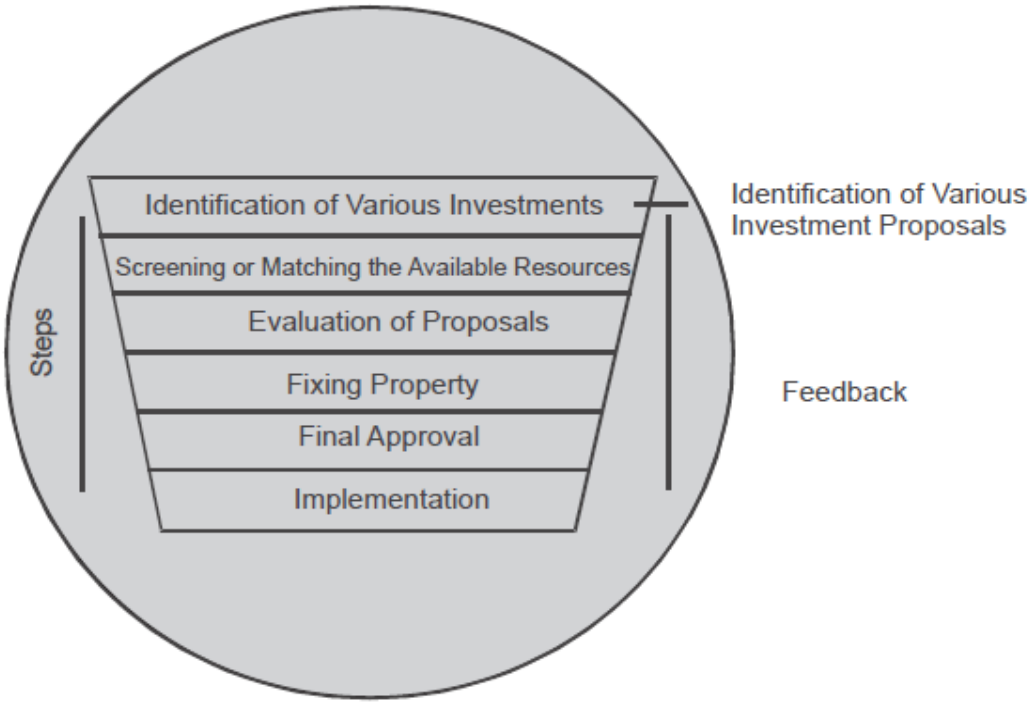
2. Long-term: Capital expenditure is long-term in nature or permanent in nature. Therefore financial risks involved in the investment decision are more. If higher risks are involved, it needs careful planning of capital budgeting.

3. Irreversible: The capital investment decisions are irreversible, are not changed back. Once the decision is taken for purchasing a permanent asset, it is very difficult to dispose off those assets without involving huge losses.

4. Long-term effect: Capital budgeting not only reduces the cost but also increases the revenue in long-term and will bring significant changes in the profit of the company by avoiding over or more investment or under investment. Over investments leads to be unable to utilize assets or over utilization of fixed assets. Therefore before making the investment, it is required carefully planning and analysis of the project thoroughly.

CAPITAL BUDGETING PROCESS

Capital budgeting is a difficult process to the investment of available funds. The benefit will attained only in the near future but, the future is uncertain. However, the following steps followed for capital budgeting, then the process may be easier are.



1. Identification of various investments proposals: The capital budgeting may have various investment proposals. The proposal for the investment opportunities may be defined from the top management or may be even from the lower rank. The heads of various department analyse the various investment decisions, and will select proposals submitted to the planning committee of competent authority.

2. Screening or matching the proposals: The planning committee will analyse the various proposals and screenings. The selected proposals are considered with the available resources of the concern. Here resources referred as the financial part of the proposal. This reduces the gap between the resources and the investment cost.

3. Evaluation: After screening, the proposals are evaluated with the help of various methods, such as pay back period proposal, net discovered present value method, accounting rate of return and risk analysis. Each method of evaluation used in detail in the later part of this chapter. The proposals are evaluated by.

(a) Independent proposals

(b) Contingent of dependent proposals

(c) Partially exclusive proposals.

Independent proposals are not compared with another proposals and the same may be accepted or rejected. Whereas higher proposals acceptance depends upon the other one or more proposals. For example, the expansion of plant machinery leads to constructing of new building, additional manpower etc. Mutually exclusive projects are those which competed with other proposals and to implement the proposals after considering the risk and return, market demand etc.

4. Fixing property: After the evolution, the planning committee will predict which proposals will give more profit or economic consideration. If the projects or proposals are not suitable for the concern's financial condition, the projects are rejected without considering other nature of the proposals.

5. Final approval: The planning committee approves the final proposals, with the help of the following:

(a) Profitability

(b) Economic constituents

(c) Financial violability

(d) Market conditions.

The planning committee prepares the cost estimation and submits to the management.

6. Implementing: The competent autherity spends the money and implements the proposals. While implementing the proposals, assign responsibilities to the proposals, assign responsibilities for completing it, within the time allotted and reduce the cost for this purpose. The network techniques used such as PERT and CPM. It helps the management for monitoring and containing the implementation of the proposals.

7. Performance review of feedback: The final stage of capital budgeting is actual results compared with the standard results. The adverse or unfavourable results identified and removing the various difficulties of the project. This is helpful for the future of the proposals.

KINDS OF CAPITAL BUDGETING DECISIONS

The overall objective of capital budgeting is to maximize the profitability. If a firm concentrates return on investment, this objective can be achieved either by increasing the revenues or reducing the costs. The increasing revenues can be achieved by expansion or the size of operations by adding a new product line. Reducing costs mean representing obsolete return on assets.

METHODS OF CAPITAL BUDGETING OF EVALUATION

By matching the available resources and projects it can be invested. The funds available are always living funds. There are many considerations taken for investment decision process such as environment and economic conditions. The methods of evaluations are classified as follows:

(A) Traditional methods (or Non-discount methods)

(i) Pay-back Period Methods

(ii) Post Pay-back Methods

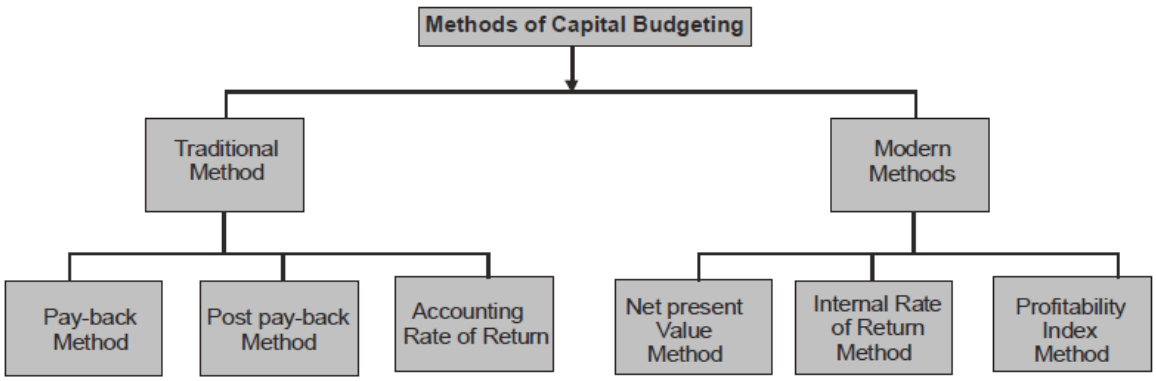
(iii) Accounts Rate of Return

(B) Modern methods (or Discount methods)

(i) Net Present Value Method

(ii) Internal Rate of Return Method

(iii) Profitability Index Method



Pay-back Period

Pay-back period is the time required to recover the initial investment in a project. (It is one of the non-discounted cash flow methods of capital budgeting).

$$\text{Pay-back period} = \frac{\text{Initial investment}}{\text{Annual cash inflows}}$$

Merits of Pay-back method

The following are the important merits of the pay-back method:

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

Demerits

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

Accept /Reject criteria

If the actual pay-back period is less than the predetermined pay-back period, the project would be accepted. If not, it would be rejected.

Exercise 1

Project cost is Rs. 30,000 and the cash inflows are Rs. 10,000, the life of the project is 5 years. Calculate the pay-back period.

Solution

$$= \frac{\text{Rs. } 30{,}000}{\text{Rs. } 10{,}000} = 3 \text{ Years}$$

The annual cash inflow is calculated by considering the amount of net income on the amount of depreciation project (Asset) before taxation but after taxation. The income precision earned is expressed as a percentage of initial investment, is called unadjusted rate of return. The above problem will be calculated as below:

$$\text{Unadjusted rate of return} = \frac{\text{Annual Return}}{\text{Investment}} \times 100$$

$$= \frac{\text{Rs. } 10{,}000}{\text{Rs. } 30{,}000} \times 100$$

$$= 33.33\,\%$$

Exercise 2

A project costs Rs. 20,00,000 and yields annually a profit of Rs. 3,00,000 after depreciation @ 12½% but before tax at 50%. Calculate the pay-back period.

Profit after depreciation	3,00,000
Tax 50 %	1,50,000
	1,50,000
Add depreciation 20,00,000 $12\frac{1}{2}\%$	2,50,000
Cash in flow	4,00,000

Solution

$$\text{Pay-back period} = \frac{\text{Investment}}{\text{Cash flow}}$$

$$= \frac{20{,}00{,}000}{4{,}00{,}000} = 5 \text{ years.}$$

Post Pay-back Profitability Method

One of the major limitations of pay-back period method is that it does not consider the cash inflows earned after pay-back period and if the real profitability of the project cannot be assessed. To improve over this method, it can be made by considering the receivable after the pay-back period. These returns are called post pay-back profits.

Exercise 4

From the following particulars, compute:

1. Payback period.
2. Post pay-back profitability and post pay-back profitability index.

(a)	Cash outflow	Rs. 1,00,000
	Annual cash inflow (After tax before depreciation)	Rs. 25,000
	Estimate Life	6 years
(b)	Cash outflow	Rs. 1,00,000
	Annual cash inflow (After tax depreciation)	
	First five years	Rs. 20,000
	Next five years	Rs. 8,000
	Estimated life	10 Years
	Salvage value	Rs. 16,000

Solution

(a) (i) Pay-back period

$$= \frac{\text{Initial investment}}{\text{Annual cash inflows}}$$

$$= \frac{1,00,000}{25,000} = 4 \text{ Years}$$

(ii) Post pay-back profitability

= Cash inflow (Estimated life – Pay-back period)

= 25,000 (6 – 4)

= Rs. 50,000

(iii) Post pay-back profitability index

$$= \frac{50,000}{1,00,000} \times 100 = 50\%$$

(b) Cash inflows are equal, therefore pay back period is calculated as follows:

YEAR	CASH INFLOWS	CUMULATIVE CASH INFLOWS
1	20000	20000
2	20000	40000
3	20000	60000
4	20000	80000
5	20000	100000
6	8000	108000
7	8000	116000
8	8000	124000
9	8000	132000
10	8000	140000

(ii) Post pay-back profitability.

= Cash inflow (estimated life – pay-back period)

= 8,000 (10–5)

= $8000 \times 5 = 40{,}000$

(iii) Post pay-back profitability index

$$= \frac{40{,}000}{1{,}00{,}000} \times 100 = 40\,\%$$

Accounting Rate of Return or Average Rate of Return

Average rate of return means the average rate of return or profit taken for considering the project evaluation. This method is one of the traditional methods for evaluating the project proposals:

Merits

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

Demerits

1. It ignores the time value of money.

2. It ignores the reinvestment potential of a project.

3. Different methods are used for accounting profit. So, it leads to some difficulties in the calculation of the project.

Accept/Reject criteria

If the actual accounting rate of return is more than the predetermined required rate of return, the project would be accepted. If not it would be rejected.

Exercise 5

A company has two alternative proposals. The details are as follows:

	Proposal I	Proposal II
	Automatic Machine	Ordinary Machine
Cost of the machine	Rs. 2,20,000	Rs. 60,000
Estimated life	5½ years	8 years
Estimated sales p.a.	Rs. 1,50,000	Rs. 1,50,000
Costs : Material	50,000	50,000
Labour	12,000	60,000
Variable Overheads	24,000	20,000

Compute the profitability of the proposals under the return on investment method.

Solution:

Profitability Statement

	Automatic Machine	Ordinary Machine
Cost of the machine	Rs. 2,20,000	Rs. 60,000
Life of the machine	5½ years	8 years
	Rs.	**Rs.**
Estimated Sales	(A) 1,50,000	1,50,000
Less : Cost : Material	50,000	50,000
Labour	12,000	60,000
Variable overheads	24,000	20,000
Depreciation (1)	40,000	7,000
Total Cost	(B) 1,26,000	1,37,000
Profit (A) – (B)	24,000	12,500

Working:

(1) Depreciation = Cost ÷ Life

Automatic machine = 2,20,000 ÷ 5½ = 40,000

Ordinary machine = 60,000 ÷ 8 = 7,500

$$\text{Return on investment} = \frac{\text{Average profit}}{\text{Original investment}} \times 100$$

$$= \frac{24,000}{2,20,000} \times 100 \qquad \frac{12,500}{60,000} \times 100$$

10.9% 20.8%

Automatic machine is more profitable than the ordinary machine.

NET PRESENT VALUE

Net present value method is one of the modern methods for evaluating the project proposals. In this method cash inflows are considered with the time value of the money. Net present value describes as the summation of the present value of cash inflow and present value of cash outflow. Net present value is the difference between the total present value of future cash inflows and the total present value of future cash outflows.

Merits

1. It recognizes the time value of money.

2. It considers the total benefits arising out of the proposal.

3. It is the best method for the selection of mutually exclusive projects.

4. It helps to achieve the maximization of shareholders' wealth.

Demerits

1. It is difficult to understand and calculate.

2. It needs the discount factors for calculation of present values.

3. It is not suitable for the projects having different effective lives.

Accept/Reject criteria

If the present value of cash inflows is more than the present value of cash outflows, it would be accepted. If not, it would be rejected.

Exercise 6

From the following information, calculate the net present value of the two project and suggest which of the two projects should be accepted a discount rate of the two.

	Project X	Project Y
Initial Investment	Rs. 20,000	Rs. 30,000
Estimated Life	5 years	5 years
Scrap Value	Rs. 1,000	Rs. 2,000

The profits before depreciation and after taxation (cash flows) are as follows:

	Year 1	Year 2	Year 3	Year 4	Year 5
	Rs.	Rs.	Rs.	Rs.	Rs.
Project x	5,000	10,000	10,000	3,000	2,000
Project y	20,000	10,000	5,000	3,000	2,000

Note : The following are the present value factors @ 10% p.a.

Year	1	2	3	4	5	6
Factor	0.909	0.826	0.751	0.683	0.621	0.564

(MBA, Madurai-Kamaraj University, May 2005)

Solution

Year	Cash Inflows		Present Value of Rs. 1 @ 10%	Present Value of Net Cash Inflow	
	Project X Rs.	Project Y Rs.		Project X Rs.	Project Y Rs.
1	5,000	20,000	0.909	4,545	18,180
2	10,000	10,000	0.826	8,260	8,260
3	10,000	5,000	0.751	7,510	3,755
4	3,000	3,000	0.683	2,049	2,049
5	2,000	2,000	0.621	1,242	1,242
Scrap Value	1,000	2,000	0.621	621	1,245
Total present valueInitial investments				24,227 20,000	34,728 30,000
Net present value				4,227	4,728

Internal Rate of Return

Internal rate of return is time adjusted technique and covers the disadvantages of the traditional techniques. In other words it is a rate at which discount cash flows to zero. It is expected by the following ratio:

$$\frac{\text{Cash inflow}}{\text{Investment initial}}$$

Steps to be followed:

Step1. Find out factor

Factor is calculated as follows:

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

Step 2. Find out positive net present value

Step 3. Find out negative net present value

Step 4. Find out formula net present value

Formula

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

Base factor = Positive discount rate

DP = Difference in percentage

Merits

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

Demerits

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

Accept/Reject criteria

If the present value of the sum total of the compounded reinvested cash flows is greater than the present value of the outflows, the proposed project is accepted. If not it would be rejected.

Exercise

A project costs Rs. 16,000 and is expected to generate cash inflows of Rs. 4,000 each 5 years. Calculate the Interest Rate of Return.

Solution

$$F = \frac{16{,}000}{4{,}000} = 4$$

Facts may lays between 6% to 8%

4.221 for 6%

3.993 for 8%

4000 × 4.21	=	16,840
4000 × 3.99	=	15,960
6% present value		16,840
Less: Investment		16,000
Net present value		840

8% present value	15,960
Less: Investment	16,000
	−40

$$\text{IRR} = 6\% + \frac{840}{840 - (-40)} \times 2\%$$

$$= 6\% + 1.91\%$$

$$= 7.91\%.$$