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(Under CBCS)

MASTER OF COMMERCE

Paper: COM 2046
ADVANCED FINANCIAL MANAGEMENT



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BLOCK I : UNIT-I

Financial Management

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1.1 Introduction

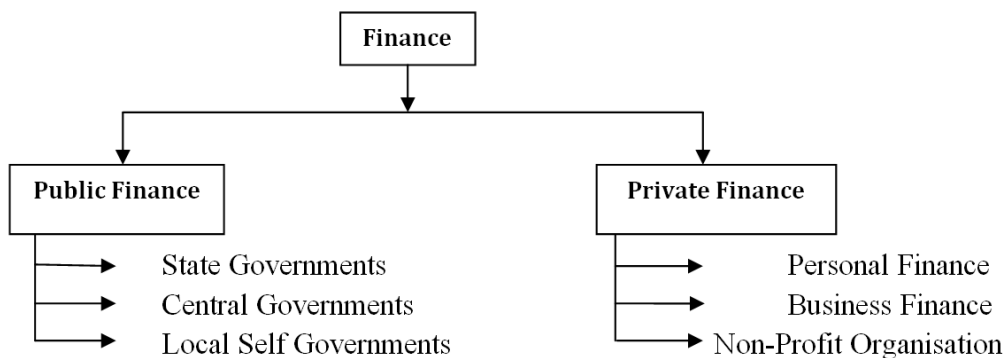
In all aspects of business, finance is an integral part. It is considered as the blood of all types of business enterprises, whether small, big or medium. The operational efficiency of an organisation is totally dependent upon the finance. The success of a business is based on the efficiency and effective utilisation of finance.

Finance is a multi-disciplinary concept which has a direct relationship with the changing economic conditions and its impact in all forms of organisations- sole trading, partnership, company and others. The modern marketing principles demand high production to cater the demands of large growing population globally and finance is a primary component in fulfilling this demand.

As a discipline, finance is classified into two categories:

- (i) Public Finance
- (ii) Private Finance

Public finance mainly deals with the requirements, receipts and disbursements of funds in Government organisations. Private finance is mainly concerned with requirements, receipts and disbursements of funds in Private organisations- personal finance, business finance, etc as well as non-profit organisation.



1.2 Learning Objectives:

- Meaning and definition of Finance
- Nature of Financial Management
- Significance or importance of Financial Management
- Finance Function
- Scope of Financial Management
- Objectives of Financial Management

1.3 Meaning and Definition of Finance:

Generally, finance means application of skills or manipulation, use and control of money.

John J. Hampton defined finance as the management of flows of money through an organisation whether it will be a corporation, school, bank or government agency.

P.G. Hastings defined finance as the art of raising and spending money.

S.C. Kuchhal has stated that finance can be called as ‘the science of money’. It studies the principles and the methods of obtaining control of money from those who saved it, and of administering it by those into whose control it passes.

The term Finance is a systematic control and regulation of all the items relating to either capital or revenue income and expenditure. It involves study of money and its associated attributes- nature, behaviour, regulation and problems.

1.4 Meaning and Definition of Financial Management:

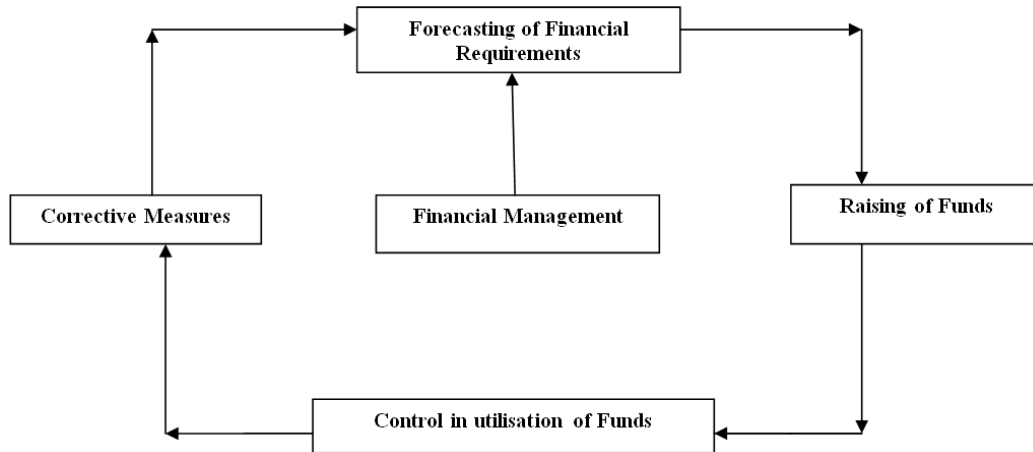
Financial Management generally means following principles of management in the field of finance- its sources, applications and control. The main focus of financial management is studying the financial issues of business organisations, i.e. sources of funds, combination of funds, least cost of raising funds and proper allocation of funds for optimum profit.

In order words, financial management refers to procurement of funds in cost-effective and practical manner, and application of these funds in most lucrative approach with an associated risk situation. It also includes planning of future operations, controlling the present performances for better future results and taking effective steps to achieve the organisational goals.

Howard and Upton have defined financial management as that area or set of administrative functions in an organisation which relate arrangement of cash and credit so that the organisation may have the means to carry out its objective as satisfactory as possible.

Joseph F. Beadly- “Financial Management is that area of business management devoted to judicious use of capital and a careful selection of sources of capital in order to enable a spending unit to move in the direction of reaching its goals”.

Thus, financial management means pertinent administration of funds. The mechanism of financial management must identify the correct sources of finance and ensure optimum utilization of available finance by proper control. These factors are also dependent on two important determinants- risk and return. Therefore, it is an act where the finances have to be administered in a balanced approach.



1.5 Characteristics of Financial Management:

According to modern approach, finance plays a very crucial role in business management. Therefore, following are the key characteristics of financial management:-

1. An Essential Element of Management: In today's world, financial management is an important part of business function and the role of finance manager is quite significant. Since finance is involved in each and every activities of business, hence financial management plays an important role in business decisions.

2. Never-ending Process: As finance is required in every function of management as well as at every levels of management for smooth functioning of the organisation, thus financial management is a never-ending process. It consists of a cyclical process starting from forecasting of financial needs till taking corrective measurements in the organisation.

3. Assisting in Decision Making Process: The attributes of financial management and its checking in every level implement a mechanism of some desired results. These results help the authority to take decisions starting from lower level to top level management.

4. Barometer of Performance: The business organisations generally measure the financial results and they accept the financial outcomes as a scale of measurement. Therefore, financial management is a very technical gizmo of balancing the organisational financial performances and it helps the top level management to use it as a barometer.

5. Dissimilar form Accounting Function: Accounting function and finance function are two separate applications in business organisation. The accounting function is recording and reporting of financial statements whereas financial function is arranging of funds till proper allocation and utilisation of funds.

6. Universal Acceptance and Dynamic Approach: Financial management has universal acceptance as it is applied and necessary in all types of organisation- production or service, small or big. It is also have relevance in Non-Profit organisation. However, the approach of financial management has to be dynamic as with time financial needs also changes in an organisation.

1.6 Importance and Significance of Financial Management:

Finance is just like blood vessels of the management in an organisation, which is required in each of its functions. An enterprise cannot take its shape without finance nor can it sustain for very long. The success of a business enterprise is largely depended on effective administration of finance. The importance of financial management has multi faceted in today's context because of the following reasons:

- a) Increase in size and number of organisations through the globe.
- b) Complex corporate channel in organisations.
- c) Differentiation between ownership and management in an organisation.

The significance or importance of financial management has increased day by day and the following points will justify its importance:

1. Dimension of Success: The financial success is the roots for overall development of an organisation. A business enterprise, whether small or big, is fully dependent on effective financial management. A well-organized financial management can transform a sick unit into a profit making unit.

2. Maximum Utilization of Resources: The main focus of an ideal financial management setup is proper allocation of resources and derives optimum utilisation of those resources to achieve maximum productivity. A sound financial management in an organisation always help to maximise the utilisation of key resources.

3. Pillars of Planning, Co-ordination and Control: A resonate financial management always cement the pillars of planning, co-ordination and control of the functions of management in a very strong manner. The planning of an organisation starts from financial forecasting which gives shape to future goals. In that process, co-ordination and controlling flows parallel to attain desired goals.

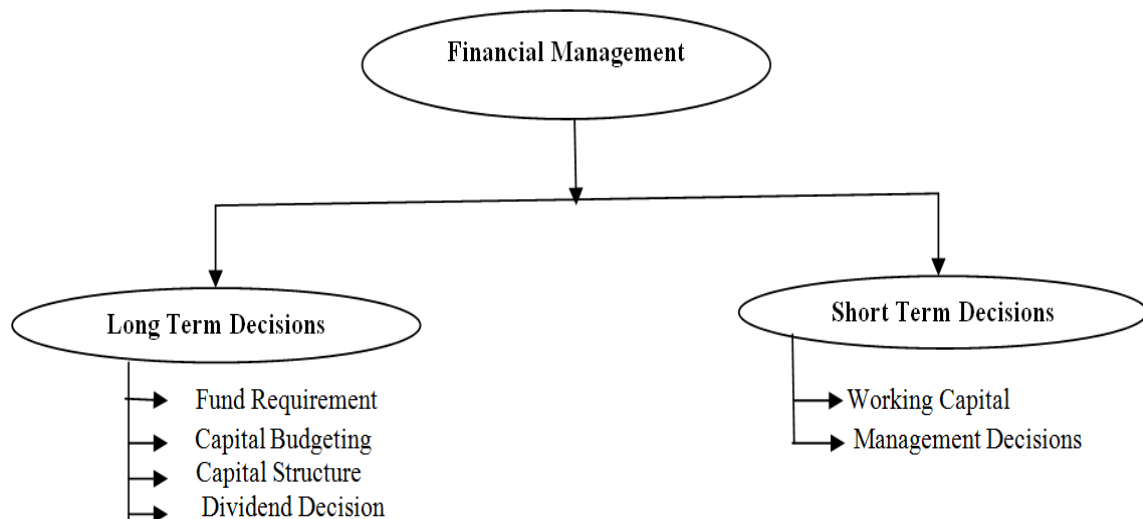
4. Scale of Performance and Efficiency: Each and every department of an organisation is measured on the basis of the financial results. Financial management has a wide impact on all fronts of an organisation for its existence as well its success. Therefore, financial management is used as a scale of performance and efficiency.

5. Basis of Decision Making: The top level management makes decision keeping finance function into consideration. Thus, financial management is an important part of the management where the finance manager provides also the essential inputs that will be necessary to achieve the organisational goals.

6. Useful for the Other Parties: The style of financial management has a greater influence upon various third parties concerned who are an integral part of an organisation. These parties consist of shareholders, creditors, employees, tax authorities, etc. A sturdy finance decision can lead to a greater success which will benefit these parties and in return will have profound impact on the goodwill of the organisation.

1.7 Scope of Financial Management:

The length of financial management decisions are so extensive that it starts from the inception of a business till it gets a shape; prospers with commencement of operations and continues in a cyclical process. Financial management consists of few important finance decisions where the financial manager has to make decisions as how many assets are to be purchased, how these assets are to be installed and what will be the degree of risks associated with such decisions. The scope of financial management can be summarised into two broad groups:



I. Long term Decisions:

The decisions which have long term impact upon the valuation of the organisation are generally referred to as long term decisions. These decisions make an analysis of cost and benefits of all the financial related matters. The long term decisions of financial management can be sub-categorised into four parts:-

i. Fund Requirement Decision: The finance manger has to make a proper estimation of funds that will be required by the organisation to operate its activities. These estimations involved both requirement of fixed capital and working capital. These decisions are carefully taken after making precise forecasting of the overall activities of the organisation.

ii. Capital Budgeting Decision: These decisions are primarily concerned with purchase of fixed assets for the business organisation. Another name of capital budgeting is capital expenditure. The finance manager makes of list of projects and very cautiously selects the projects for achieving the goals. There are certain methods of application as for determining which projects are to be selected, viz., pay back method, average rate of return method, etc.

iii. Capital Structure Decision: Sequentially to have a good capital management, the finance manger has to proportionately split equity capital and debt capital. The manager has to very carefully decide the debt-equity ratio in the capital structure which will have a great impact in the long run. The organisation must have a balanced or optimal capital structure in order to achieve maximum value of the enterprise at minimum cost of capital.

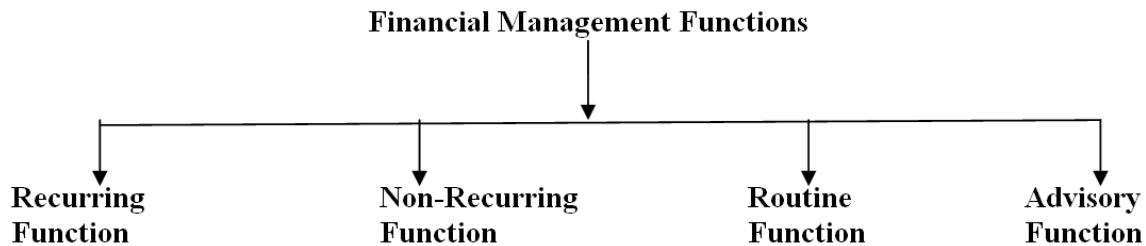
iv. Dividend Decision: The next important financial management decision is dividend. The organisation is dependent on shareholders fund and therefore they have to be liberal in deciding the dividend policy. The finance manager has to decide the dividend pay-out ratio, how much the company going to declare dividends and how much they are going to retained. The dividend policy should be made in such a manner that it increases the goodwill of the firm.

II. Short term Decisions:

In regard to financial management, short term decisions are as much crucial as long term decisions. The finance manager has to chalk out a decent working capital management plan to cater to the demands of finance on current assets and disposing of current liabilities. The investment pattern of the organisation on current assets will purely depend on their credit policies as well as their inventory management. The working capital management decisions mainly affect three things of an organisation, i.e. liquidity, solvency and profitability.

1.8 Functions of Financial Management:

The functions of financial management are of utmost importance in an organisation which is to be executed and implemented cautiously. These functions of financial management can be broadly classified into four categories:-



I. Recurring Functions: Recurring finance functions includes all those activities which are carried out on regular basis in an enterprise. This function is crucial for the good conduct of a firm. Recurring function can again be sub classified as follows:

i. Planning for funds: The first and the foremost task of financial management are to make plans and policies for estimation and generation of funds. The finance manager has to make a budget for the fund requirements in a certain period. The required amount is determined by preparing a financial plan and this plan includes important particulars, i.e. purpose of business finance, current business and economic conditions, future business plans, state rules and regulations, etc.

After proper assessment of finance, the financial manager needs to decide what will be the source of the estimated funds. The financial manager has to verify the various sources of finance; from where it will be arranged.

ii. Organising of Funds: After planning, the financial manager has to focus on organising and supervision of funds. In this function, the important activities are raising of funds, allotment of funds and distribution of income.

In case of public limited company, the organisation has to issue prospectus for accumulation of funds. The organisation can also arrange funds by taking debts- banks or issuing of debentures.

After arrangement of funds, the financial manager has to allocate the arranged funds among various assets. The manager has to segregate the funds proportionately between fixed assets and current assets, keeping in mind the organisational goals.

The last and the most important finance function is controlling of funds. The manager has to monitor the results at equal intervals and compare with the predetermined goals. This will have a greater impact on the overall performance of the firm. The manager has to check from time to time as how the funds are being utilised. The manager has to use different financial management techniques, such as, ratio analysis, budget control, fund flow statement, etc.

II. Non-Recurring Function: Non-recurring functions are those which are performed by the financial manager occasionally and are not a part of routine activities of an organisation. The following are few examples of non-recurring functions in an organisation-

- i. Preparation of fiscal policy of the company.
- ii. Financial restructuring of the company during crisis or liquidation.
- iii. Revaluation of the firm during merger, amalgamation or acquisition.

III. Routine Function: Routine functions are mainly performed by the lower level employees of an enterprise. These functions are quite regular in nature. The following are few examples that comes under routine function-

- i. Recording of all transactions into different accounts accurately.
- ii. Proper management of cash and credit transactions and its disbursements.
- iii. Maintaining proper books of accounts.
- iv. Providing information to the middle level and top level management.

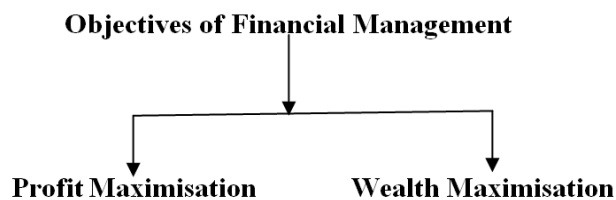
IV. Advisory Function: The finance manager has to provide various advices on important matters of the organisation, which primarily includes- pricing policies, expansion policies, diversification policies, and dividend policies, etc. Moreover, the finance manager also has to supervise the legal aspects of the organisation and place his expert opinions to save the image of the organisation.

The activities of modern financial management are very diverse and wide. The finance manager in different intervals has to advise in matters ranging from operating to strategic decisions. In a few words, the functions of financial management are very dynamic and prompt which helps the organisation to sustain and achieve its goals in due course.

1.9 Objectives of Financial Management:

There are two views on objectives of financial management- one is maximum returns to their owners on their investment and another is to fulfil the requirements of shareholders. However, in today's context, the main objective of financial management is to provide maximum returns to the shareholders, i.e. wealth maximisation. On the contrary to that, one school of thought disagree this notion and is of the opinion that without profit maximisation, wealth maximisation cannot be achieved.

Therefore, objectives of financial management can be segregated into two parts:



- A) Profit Maximisation
- B) Wealth Maximisation

1.9.1 A) Profit Maximisation: The basic principle of profit maximisation is to increase the rupee income of the company. The traditional concept of valid criterion of measuring efficiency of an organisation is earning more profits. On the basis of the following points, the principle of profit maximisation can be justified-

i) Rationality: Business is an entity where main motive is to earn profits. The reason behind this is that the owners are doing hard work day and night only to maximise profits. Profits will only multiply if the resources are optimally utilised. Therefore, rationality is the foundation to consider profit maximisation as an important objective of financial management.

ii) Sign of Economic Competence: In common parlance, higher the profit volumes better is the management of the business organisation or vice-versa. Profit is measuring device of efficiency and performance whereas loss is a symbol of economic inefficiency.

iii) Resourceful Allocation and Utilisation: Profit is the factor of intelligent allocation and utilisation of resources of an organisation. The standpoint of financial management is converting the less profitable utilisation into more profitable utilisation by increasing its efficiency.

iv) Representation of Good Business Decision: The goal of the management is to earn profit and multiply its money power. Hence, if it is successful in achieving that then it means they are taking good business decisions. Any business decision of the management in matters associated to production, sales, operation, etc. are measured in terms of profits.

v) Source of Incentive: The most prominent source of incentive in business is profit. In order to earn more profits, firms enter into competition and their profit levels become the measuring scale. If the sense of profit diminishes then there will be no competition and the progress will slow down in the long run.

1.9.2 Limitations of Profit Maximisation:

Always profit maximisation cannot be an adequate criterion to evaluate the efficiency of a business firm because of the following reasons:

a) It fails to define the term profit specifically and evidently. Profit can be before tax or after tax and before interests or after interests, or may be a combination of both. Moreover, profitability can be associated with share capital, owner's capital, sales or others. The matter of question is that with whom among these variables profit will be associated and on what basis it will be ascertained is unknown.

b) Profit maximisation concept always focuses on short period return. It normally ignores long term earning notion. Instances are there in business world that certain capital expenditure that are not profitable initially, earned revenues in future; examples are industry, public sector undertakings, etc.

c) Profit maximisation ignores the time factor. As the proverb goes time is money, this appropriately fits in profit maximisation too. Profit maximisation only emphasizes on earning profits but it totally ignores the fact that with passage of time value of money decreases.

d) Profit maximisation also ignores risk which is an equal important factor in business world. Risks are very crucial in taking business decisions and ignoring this aspect will result in wrong outcomes.

1.9.3 B) Wealth Maximisation: Wealth maximisation is one of the most feasible goals of financial management. Maximisation of wealth is reflected in the present value of the firm. The expression ‘wealth’ is emphasized in earning per share (EPS) and market per share (MPS). The wealth of the shareholders increases only when there is increase in the levels of EPS. Higher the MPS, higher will be the wealth of the shareholders. The advantages of wealth maximisation can be justified on the basis of the following points:

- a) Wealth maximisation always focuses on cash flows in comparison to accounting profits.
- b) Wealth maximisation considers both quality and quantity aspects of benefits.
- c) Wealth maximisation stands on the time factor of money.
- d) Wealth maximisation has a universal acceptance because it aims to suffice the interest of all sections of the society.
- e) Wealth maximisation gives utmost importance in formulating a benchmark dividend policy by the management.

However, in order to achieve wealth maximisation, a company should take following points into consideration:

- i) The company at the outset should avoid high level of risks. High level risks may result in detrimental consequences in the long run.
- ii) The firm should continuously strive for reducing cost of capital.
- iii) The dividend should be declared timely and paid in a fair manner to attract more shareholders.
- iv) The main focus of the company should be continuous growth.
- v) The management team of a company should always try to be in the range of sound MPS which will ultimately help in wealth maximisation.

1.9.4 Profit Maximisation versus Wealth Maximisation:

Profit maximisation is the primary aim of an organisation as profits signify the efficiency. On the other hand, wealth maximisation objectivity is increasing the value of the shareholders. The following points will give us a clear idea about the differentiation between profit maximisation and wealth maximisation:

Basis of Distinction	Profit Maximisation	Wealth Maximisation
Core Concept	The key theory of profit maximisation is to earn higher and higher amounts of profits	The decisive purpose of wealth maximisation to raise the market value of each share.
Emphasizes on	Profit maximisation only emphasizes	Wealth maximisation emphasizes

	on achieving short term objectives of the company.	on achieving long term objectives of the company.
Consideration of Risk	Profit maximisation do not consider risk as a very vital factor in practical business world	Wealth maximisation gives utmost importance to risk factors while planning its goals.
Consideration of Time	Moreover, profit maximisation also ignores the time factor, which is crucial for determining fair returns.	Wealth maximisation considers time factor as it believes time is money and money value depletes with passage of time.
Benefit	Profit maximisation acts an index for computing functioning efficiency	Wealth maximisation in normal sense means attainment of huge market share.

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BLOCK I : Unit-II

Financial Decisions

Unit Structure:

- 2.1 Financial Decisions
- 2.2 Learning Objectives
- 2.3 Components of Financial Decisions
- 2.4 Fund Requirement Decision
- 2.5 Investment Decision
- 2.6 Financing Decision
- 2.7 Dividend Decision
- 2.8 Correlation among Investment, Financing and Dividend decision
- 2.9 Role of Finance Manager
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2.1 Financial Decisions

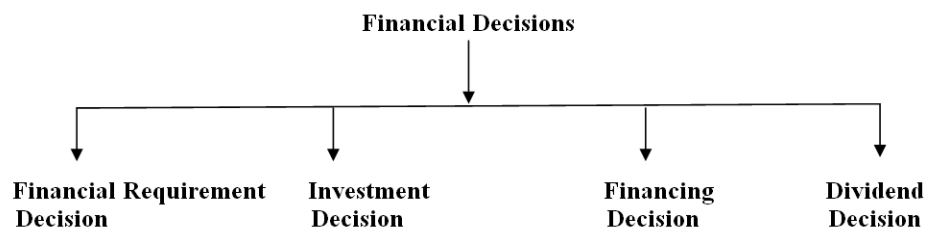
Financial decisions comprises of important components which helps a business concern to achieve wealth maximisation. These components are financial requirements, investment financing, financing decision and dividend decision. Financial decisions generally refer to those activities which primarily focus on achieving long term objectives of the company.

2.2 Learning Objectives

- Financial Decisions
- Components of Financial Decisions
- Financial Requirement Decision
- Investment Decision
- Financing Decision
- Dividend Decision
- Role of Finance Managers

2.3 Components of Financial Decisions

The components of financial decision mainly consist of four important segments of financial management:



2.4 Fund Requirement Decision

Fund requirement decisions are crucial from organisational perspectives. This decision is taken by making an estimation of the total amount of funds that will be required to operate a business unit. The sum of total capital expenditure and sum of total revenue expenditure of a company helps in deciding the total fund requirements by a financial manager. The capital expenditure refers to acquiring of fixed assets whereas revenue expenditure refers to operating activities in a business organisation.

The following points are necessary while considering fund requirement decisions:

(i) The financial manager makes a forecasting of the existing and required physical aspects of an enterprise and converts them into financial terms.

(ii) The financial manager makes this decision on the basis of estimation of long term and short term requirements in an enterprise.

(iii) The financial manager makes careful implementation of these decisions by taking both timing and amount of cash flows of the organisation.

2.5 Investment Decision

The investment decision refers to those decisions which are generally taken after making cautious appraisal of various projects through capital budgeting techniques. An enterprise investing in fixed assets requires support from working capital and its constituents. The financial manager should mainly focus on investing in those assets from where expected return is greater than minimum return, i.e., *hurdle rate*. The financial manager should set higher hurdle rate for extremely uncertain projects because the financing mix (proportion of debt and equity) has to be in balance state.

The finance function decisions not only involve investment decisions but also disinvestment decisions which are equally important for strategy making in an organisation. These decisions include terminating unprofitable projects, reviewing unsuccessful projects or restructuring assets and liabilities, etc. Investment decisions indicate cautious selection of feasible and lucrative proposals. This will assert proper allocation of funds in those investment proposals and result in higher net present value and higher future earnings.

The following areas generally come under investment decision of an enterprise:

(a) Ascertaining total quantity of funds that will be required by an organisation.

(b) Appraisal and selection of appropriate investment proposals out of various proposals.

(c) Ascertaining the degree of risks and other forms of uncertainties associated with the investment proposals.

(d) Ranking the investment proposals from top to bottom.

(e) Proper fund allocation in each selected investment proposals.

(f) Estimating the amount of fixed assets that will be required.

(g) Estimating the amount of current assets.

(h) Securities analysis and portfolio management.

(i) Buying of assets or leasing the assets depending upon the cost-benefit analysis.

(h) Restructuring of capital, mergers or acquisition decisions.

(j) Asset purchase, sale or replacement decisions.

2.6 Financing Decision

The objective of financing decision is to emphasize a situation where debt equity mix selected to finance investment decision maximise the return on investments. The framed debt equity mix should minimise the hurdle rate and allow the firm to adopt more new investments and multiply the existing value of investments as made. Financing decision is all about making optimum utilisation finance to achieve financial objectives and check whether working capital has been successfully managed. Financing decision involves costs of raising finance, hedging of risks, implementation of different financial instruments and optimum utilisation of them. Financing decisions mainly give importance on manipulating the advantages and disadvantages of debt while tuning with the various resources of the firm, and ultimately focus on achieving positive results.

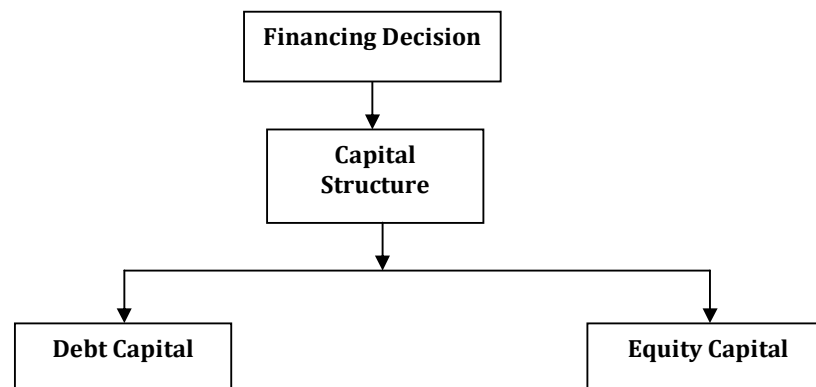
The financial managers are generally involved in the following areas of financing decision:

I. Primary Financing Decision:

- (a) Determining the degree or level of gearing ratio, i.e. total debt/total equity (the range between 25% & 50% is optimal).
- (b) Determining the financing pattern of long term funds.
- (b) Determining the financing pattern of short and medium term funds.
- (c) Determining the source of raising funds, i.e. equity shares, preference shares or debentures, etc.
- (d) Arrangement of finances from banks and other financial institutions.
- (e) Arrangement of funding for working capital requirements.

II. Secondary Financing Decision

- (a) Keeping a due consideration of interest burden on the firm.
- (b) Keeping a track on changing level of debt and its impact on firm's solvency.
- (c) Taking due deliberation of various modes of improving earnings per share and market value of share.
- (d) Evaluating cost of capital and its impact on various components as well as upon the market value of the shares.
- (e) Taking measures to optimise the financing mix in order to increase the return to the equity shareholders and focus on wealth maximisation.



2.7 Dividend Decision

Dividend Decision is mainly concerned with the determination of actual amount of profits earned and its distribution to the shareholders and also deciding its frequency. An enterprise focusing on regular and adequate dividend declaration represent a profit making concern with higher stake of market value and its share will always reflect a high valuation. The dividend decision normally involves a financial manager deciding the actual distribution of these earnings among its shareholders as dividends and deciding how much earnings to be retained by the firm. Thus, dividend decision will cause two impacts- firstly, the amount of dividend to be declared with its rate and how it will influence the share price, and secondly, determining the amount of profit to be retained for further investment or for contingent situations. Both the situations have a greater impact on the actual valuation of the firm.

The finance manager gets involved in the following dividend decisions:

- (a) Framing the dividend policy.
- (b) Deciding the amount of retained earnings.
- (c) Evaluating the actual impact on the firm's market value, its share status and future earnings on the basis of the dividend policy and retention policy.
- (d) Keeping track on retained earnings and its utilisation for expansion, diversification or declaration of potential dividends.
- (e) Reconsideration of retained earnings policy during special trade cycle situations.
- (f) Consideration of dividend policy on cash flows or vice-versa.

2.8 Correlation among Investment, Financing and Dividend decision

The financial decision is mainly segregated into three decisions, viz. investment, financing and dividend decision. The main objectivity of these three decisions is to maximise shareholder's wealth and hence they are inter-connected. The decision to finance new projects requires investment decision and on the other hand, financing decision is greatly influenced by dividend decision because how much to declare dividends and how much to retain is matter of utmost importance. Therefore, a competent financial management ensures most favourable combination of these three decisions for achieving higher possible maximisation of wealth.

Investment into various projects requires careful assessment of long term funds through capital budgeting techniques. The finance manager accepts only that project which is feasible and is expected to give high yields after meeting its cost of operation. Asset Management policies are a large part of financial management which determine the fate of investment decision as well as financing decision.

Financing decisions concentrates on raising of funds from various sources for investing in various projects. The finance manager has to carefully ascertain the source and maintain proper balance between short term funds and long term funds, keeping in mind the nature of investment. The manager has to be skilful in raising the adequate amount of funds to funding the fixed assets, financing the working capital and other requirements of the firm. In attempt to acquire long term funds, the management has to ensure appropriate financing mix as it will reflect the satisfaction of the existing shareholders and finally showcasing a higher maximisation of wealth.

The investment decision and the financing decision ultimately are concerned with the dividend decision. A favourable dividend policy attracts more loyal shareholders which will ultimately result in accumulating more and more finance, i.e. financing decision, in the long run. The manager has to skilfully frame a decent dividend policy by determining the ratio between declared rate of dividend and retained rate of profits. The shareholders wealth is the ultimate goal of financial management and hence these three decisions are mainly concerned with that and therefore they have to work collectively to achieve their interests, i.e. wealth maximisation.

2.9 Role of Finance Manager

In order to understand the role financial manager we need to know two things: “Who is a Finance Manager?” and “What is the key role of Financial Manager in an organisation?”. In a modern organisation, the financial manager occupies a very important position. A financial manager is an individual who is accountable to perform all the finance functions in an organisation, to a greater extent. Financial manager holds a position in the top management and day by day the position is getting more and more challenging, intensive and complex. The key duty of financial manager is to solve multifaceted fund management problems that arise on daily basis in an enterprise. The role of traditional financial manager was more likely to be a storekeeper, maintaining records, preparing reports and raising funds when required. They were neither part of the top management nor had any advisory role. But subsequently, a modern financial manager is responsible of influencing the fortunes of an enterprise. The new financial manager’s role and responsibilities have a far reaching impact in an organisation where they influence the profitability, growth and survival of the firm. Hence, the financial manager should have a clear understanding about his responsibilities and a strong hold on the diverse nature of the finance functions. Financial Manager is the person who takes overall responsibility for the good financial health of the organisation. The following are the main duties and responsibilities that a financial manager undertakes:

(i) Estimation of financial needs: The financial manager primary duty is to first determine the requirements of financial needs of the firm. This will help the enterprise to make an estimation of their funds so that they can carry their short term as well as long term operations without any insufficiency.

(ii) Preparing the Financial Plan: A successful financial manager is always ready with a sound financial plan to improve the finance function of an enterprise. The financial plan that the financial manager has drafted must be sound, simple, flexible and most importantly goal oriented.

(iii) Balancing the Capital Structure: The financial manager must be certain that suitable proportions have been maintained among the various sources of capital so that balancing is guaranteed. This will ascertain that the capital structure would give maximum benefits to the firm at minimum cost.

(iv) Liquidity of the Enterprise: Liquidity is a key factor for the sound financial health of the organisation and the financial manager must check whether the liquidity position of the firm is strong enough to meet the current liabilities of the firm, and is not affecting the investment decisions.

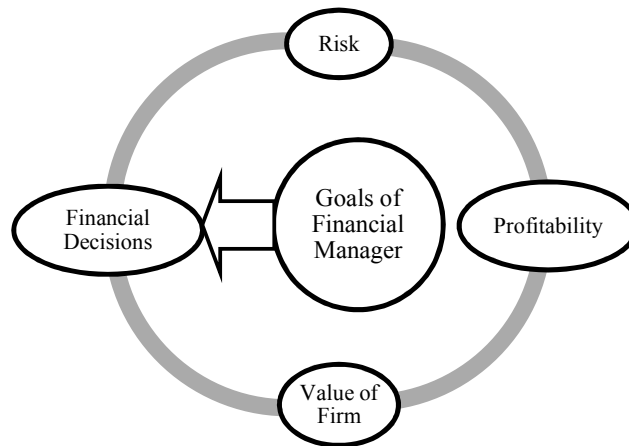
(v) Profitability of the Organisation: The financial manager should administer the projects based on the profitability of the proposals and scrutinise their respective return on investment (ROI) aspects. The financial manager should approve those projects which are having higher profitability index.

(vi) Compliance of various Legislations: The financial manager should adhere to various legislations that are essential for proper functioning of the enterprise. The financial manager should remain informed and up-to-date about any changes in legislations and take precautionary actions accordingly.

(vii) Maximisation of Wealth: The primary goal of the financial manager is wealth maximisation. The financial manager should put effort to reduce cost of capital and maximise Market Price of Share (MPS) and Earning Per Share (EPS) of the enterprise.

Thus, financial manager ultimate responsibility in an organisation is to achieve wealth maximisation and for achieving that he not only have to administer the above mentioned duties, but also emphasize on making stable dividend policy, structured salary and wages of the employees, sound asset management and control in cash inflows and outflows.

The diagrammatic representation as shown below will highlight the main goals of a financial manager in an organisation.



2.10 Reference

Books:

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BLOCK II : Unit 1

Cost of Capital

Unit Structure:

- 1.0 Introduction
- 1.1 Objectives
- 1.2 Cost of Capital: Meaning
 - 1.2.1 Importance of cost of capital in financial management
 - 1.2.2 classification of cost under cost of capital
 - 1.2.3 Determination of cost of capital
- 1.3 Cost of Debt
 - 1.3.1 cost of redeemable Debt
- 1.4 Cost of Preference Share Capital
- 1.5 Cost of Equity Share Capital
- 1.6 Cost of Retained Earnings
- 1.7 Summing Up
- 1.8 Key Terms
- 1.9 Questions and Exercises
- 1.10 References and Suggested Reading

1.0 Introduction

The cost of capital plays a crucial role in the decision making purposes of financial management. In this unit the concept of cost of capital, significance, determination of cost of capital, cost of debt, and cost of preference share capital, cost of equity share capital and cost of retained earnings are to be discussed.

1.1 Objectives

The objectives of this unit are to explain:

- discuss the concept and meaning of cost of capital
- importance of cost of capital
- distinguish among various classes of cost of capital
- illustrate the computation of cost of long term debt, preferences shares, equity shares and retained earnings

1.2 Cost of Capital

The term cost of capital refers to the minimum rate of return a firm must earn on its investments. This is in consonance with the firm's overall objective of wealth maximisation. Cost of capital is a complex, controversial but significant concept in financial management.

According to James C. Van Horne, the cost of capital is "a cut-off rate for the allocation of capital to investments of projects. It is the rate of return on a project that will leave unchanged the market price of the stock."

Solomon Ezra defines "Cost of Capital is the minimum required rate of earnings or the cut-off rate of capital expenditure."

There are three basic aspects of the concept of cost of capital:

- i) Not a cost as such: In fact the cost of capital is not a cost as such, it is the rate of return that a firm requires to earn from its projects.
- ii) It is the minimum rate of return: A firm's cost of capital is that minimum rate of return which will at least maintain the market value of the shares.
- iii) It comprises three components:

$$K=r_0+ b +f ,$$

Where, k = cost of capital;

r_0 = return at zero risk level;

b = premium for business risk, which refers to the variability in operating profit (EBIT) due to change in sales.

f = premium for financial risk which is related to the pattern of capital structure.

A firm's cost of capital has mainly three risks:

- **Return at Zero Risk Level:** This refers to the expected rate of return when a project involves no risk whether business or financial.
- **Premium for Business Risk:** Business risk is possibility where in the firm will not be able to operate successfully in the market. Greater the business risk, the higher will be the cost of capital.
- **Premium for Financial Risk:** It refers to the risk on account of pattern of capital structure. In other words, a firm having higher debt content in its capital structure is more risky as compared to a firm which has comparatively low debt content.

1.2.1 Importance of cost of capital

The cost of capital is very important in financial management and plays a crucial role in the following areas:

- i) Capital budgeting decisions: The cost of capital is used for discounting cash flows under Net Present Value method for evaluating investment proposals. So, it is very useful in capital budgeting decisions.

- ii) Capital structure decisions: An optimal capital structure is that structure at which the value of the firm is maximum and cost of capital is the lowest. So, cost of capital is crucial in designing optimal capital structure.
- iii) Evaluation of Financial Performance: Cost of capital is used to evaluate the financial performance of top management. The actual profitability is compared to the expected and actual cost of capital of funds and if profit is greater than the cost of capital the performance may be said to be satisfactory.
- iv) Other financial decisions: Cost of capital is also useful in making such other financial decisions as dividend policy, capitalisation of profits, making the rights issue, etc.

1.2.2 Classification of cost of capital

Cost of capital can be classified as follows:

- i) Historical Cost and Future Cost: Historical costs are book costs relating to the past, while future costs are estimated costs. Future costs are more relevant than historical costs in financial decision-making, whereas historical costs act as guide for estimation of future costs.
- ii) Specific Costs and Composite Cost: 'Specific cost is the cost of a specific source of capital, while composite cost is combined cost of various sources of capital. Composite cost, also known as the weighted, average cost of capital, should be considered in capital structure and capital budgeting decisions.
- iii) Explicit and Implicit Cost: Explicit cost is the discount rate that equates the present value of the funds received by the firm net of underwriting costs, with the present value of expected cash outflows. Thus, it is 'the rate of return of the cash flows of financing opportunity'. On the other hand, the implicit cost is the rate of return associated with the best investment opportunity for the firm and its shareholders that will be foregone if the project presently under consideration by the firm were accepted. In the other words, explicit cost relates to raising of funds and implicit costs relate to usage of funds.
- iv) Average Cost and Marginal Cost: An average cost is the combined cost or weighted average cost of various sources of capital. Marginal cost of capital refers to the average cost of capital of new or additional funds required by a firm. It is the marginal cost which should be taken into consideration in investment decisions.

1.2.3 Determination of cost of capital

As stated already, cost of capital plays a very important role in making decisions relating to financial management. However, its determination is not an easy task. It involves the following problems.

Problems in determination of cost of capital:

- i) Conceptual controversy regarding the relationship between cost of capital and capital structure is a big problem.
- ii) Controversy regarding the relevance or otherwise of historic costs or future costs in decision making process.
- iii) Computation of cost of equity capital depends upon the expected rate of return by its investors. But the quantification of expectations of equity shareholders is a very difficult task.
- iv) Retained earnings have the opportunity cost of dividends foregone by the shareholders. Since different shareholders may have different opportunities for reinvesting dividends, it is very difficult to compute cost of retained earnings.
- v) Whether to use book value or market value weights in determining weighted average cost of capital poses another problem.

Activity 1

1. Explain the meaning of cost of capital. What are the different risks involved under cost of capital.
2. What is the importance of cost of capital? Mention the classification of cost of capital.

Computation of cost of capital

Computation of cost of capital of a firm involves the following steps:

- i) Computation of cost of specific source of capital, viz., debt, preference capital, equity and retained earnings, and.
- ii) Computation of weighted average cost of capital.

Computing Cost of Capital of Individual components

There are four basic sources of long term funds for a business firm : (i) Long-term Debt and Debentures (ii) Preferences share capital, (iii) Equity share capital, (iv) Retained Earnings. Through all of these sources may not be tapped by the firm for funding its activities, each firm will have some of these sources in its capital structure. The specific cost of each source of funds is the after-tax cost of financing. It can be before-tax, provided the basis is the same for all the sources of finance being considered for calculating the cost of capital. The

procedure for determining the costs of debt, procedure for determining the costs of debt, preferences and equity capital as well as retained earnings is discussed in the following sub-sections.

Cost of Long Term Debt

Debt may be issued at par, or at premium or at of discount. It may be perpetual or redeemable. The technique of computation of cost in each case has been explained in the following paragraphs.

1.3 Cost of Debt (k): Debt may be perpetual or redeemable debt Moreover, it may be issued at par, at premium or at discount. The computation of cost of debt in each case is explained below.

Illustration No. 1: A company issue 10% irredeemable debentures of Rs. 10,000. The company is in 50% tax bracket. Calculate cost of debt capital at par, at 10% discount and at 10% premium.

Solution :

$$\begin{aligned} \text{Cost of debt at par} &= \frac{\text{Rs. 1,000}}{\text{Rs. 10,000}} * (1 - .50) \\ &= 5\% \\ \text{Cost of debt issued at 10\% discount} &= \frac{\text{Rs. 1,000}}{\text{Rs. 9,000}} * (1 - .50) \\ &= 5.55\% \\ \text{Cost of debt issued at 10\% premium} &= \frac{\text{Rs. 1,000}}{\text{Rs. 11,000}} * (1 - .50) \\ &= 4.55\% \end{aligned}$$

Activity 2

1. A firm intends to issue 10,000 10% debentures each of Rs. 10. What is the cost of capital if the firm desires to sell at 5% premium. The tax rate is 50%.
2. A firm issued 10,000, 10% debentures of Rs. 10 each at a premium of .5% with a maturity period of 20 years. The tax rate is 50%. Find the cost of capital.
3. A company raised loan of Rs. 25,000 by 10% debentures at 10% discount for a period of ten years, underwriting costs is 3% and tax rate is 50%.

1.4 Cost of Preference Capital

The preference share represents a special type of ownership interest in the firm. Preference shareholders must receive their stated dividends prior to the distribution of any earnings to the equity shareholders. In this respect preference shares are very much like bonds or

debentures with fixed interest payment. The cost of preference shares can be estimated by dividing the preference dividend per share by the current price per share, as the dividend can be considered a continuous level payment.

$$\text{Cost of Preference Capital} = \frac{\text{Dividend}}{\text{Market Price} - \text{Issue Cost}}$$

For example, A company is planning to issue 9% preference shares expected to sell at Rs. 85 per share. The costs of issuing and selling the shares are expected to be Rs. 3 per share. The first step in finding out the cost of the preference capital is to determine the rupee amount of preference dividends, which are stated as 9% of the share of Rs. 85 per share. Thus 9% of Rs. 85 is Rs. 7.65. After deducting the floatation costs, the net proceeds are Rs. 82 per share.

Thus the cost of preference capital:

$$\begin{aligned} & \frac{\text{Dividend per share}}{\text{Net proceeds after selling}} \\ & = \frac{\text{Rs. 7.65}}{\text{Rs. 82}} = 9.33 \% \end{aligned}$$

Now, the companies can issue only redeemable preference shares. Cost of capital for such shares is that discount rate which equates the funds available from the issue of preference shares with the present values of all dividends and repayment of preference share capital. This present value method for cost of preference share capital is similar to that used for cost of debt capital, the only difference is that in place of 'interest' stated dividend on preference share is used.

1.5 Cost of Equity Share Capital

“Cost of equity capital is the cost of the estimated stream of net capital outlays desired from equity sources” E.W. Walker.

James C. Van Horne defines the cost of equity capital can be thought of as the rate of discount that equates the present value of all expected future dividends per share, as perceived by investors.

The cost of equity capital is the most difficult to measure. A few problems in this regard are as follows :

- i) The cost of equity is not the out of pocket cost of using equity capital.

- ii) The cost of equity is based upon the stream of future dividends as expected by shareholders (very difficult to estimate).
- iii) The relationship between market price and earnings is known. Dividends also affect the market value (which one is to be considered).

The following are the approaches to computation of cost of equity capital:

(a) E / P Ratio Method: Cost of equity capital is measured by earning price ratio.

Symbolically

$$\frac{E_0 \text{ (current earnings per share)}}{P_0 \text{ (current market price per share)}} * 100$$

The limitations of this method are:

- Earnings do not represent real expectations of shareholders.
- Earnings per share is not constant.
- Which earnings-current earnings or average earnings (It is not clear).

The method is useful in the following circumstances:

- The firm does not have debt capital.
- All the earnings are paid to the shareholders.
- There is no growth in earnings.

(b) E / P Ratio + Growth Rate Method: This method considers growth in earnings. A period of 3 years is usually being taken into account for growth. The formula will be as follows :

$$\frac{E_0 (1 + b)^3}{P_0}$$

Where $(1 + b)^3$ = Growth factor where b is the growth rate as a percentage and estimated for a period of three years.

For example, A firm has Rs. 5 EPS and 10% growth rate of earnings over a period of 3 years.

The current market price of equity share is Rs. 50

$$\frac{Rs. 5 (1+.10)^3}{Rs. 50} * 100 = \frac{Rs. 6.655}{Rs. 50} * 100 = 13.31\%$$

(c) D / P Ratio Method : Cost of equity capital is measured by dividends price ratio.

Symbolically

$$\frac{\text{Do (Dividend per share)}}{\text{Po (Market price per share)}} \times 100$$

The following are the assumptions:

- i) The risk remains unchanged.
- ii) The investors give importance to dividend.
- iii) The investors purchase the shares at par value.

Under this method, the future dividend stream of a firm as expected by the investors are estimated. The current price of the share is used to determine shareholders' expected rate of return. Thus, if Ke is the risk-adjusted rate of return expected by investors, the present value of future dividends, discounted by Ke would be equal to the price of the share. Thus,

$$P = \frac{D1}{(1 + Ke)^1} + \frac{D2}{(1 + Ke)^2} + \frac{D3}{(1 + Ke)^3} + \frac{D4}{(1 + Ke)^4}$$

Where,

P = price of the share

D1 Dn = dividends in periods 1,2,3,....n,

Ke = the risk adjusted rate of return expected by equity investors.

Given the current price p and values for future dividends 'Dt', one can calculate Ke by using IRR procedure. If the firm has maintained some regular pattern of dividends in the past, it is not unreasonable to expect that the same pattern will prevail. If a firm is paying a dividend of 20% on a share with a par value of Rs. 10 as a level perpetual dividend, and its market price is Rs. 20, then

$$P = \frac{D}{Ke}$$

$$20 = \frac{20}{Ke}$$

$$Ke = \frac{20}{20} = 10\%$$

(d) D / P + Growth Rate Method : The method is comparatively more realistic as i) it considers future growth in dividends, ii) it considers the capital appreciation.

Thus

$$P_o = \frac{D_1}{K_e - g} \text{ or } K_e = \frac{D_1}{P_o} + g$$

Where,

P_o = the current price of the equity share

D_1 = the per share dividend expected at the end of year 1.

K_e = the risk adjusted rate of return expected on equity shares.

G = the constant annual rate growth in dividends and earnings.

The equation indicates that the cost of equity share can be found by dividing the dividend expected at the end of the year 1 by the current price of the share and adding the expected growth rate.

Illustration No. 7: Raj Textiles Ltd. wishes to determine its cost of equity capital, K_e . The prevailing market price of the share is Rs. 50 per share. The firm expects to pay a dividend of Rs. 4 at the end of the coming year 2003. The dividends paid on the equity shares over the past six years are as follows:

Year	Dividend (Rs.)
2002	3.80
2001	3.62
2000	3.47
1999	3.33
1998	3.12
1997	2.97

The firm maintained a fixed dividend payout from 1996 onwards. The annual growth rate of dividends, g , is approximately 5 percent. Substituting the data in the formula

$$Rs. 50 = \frac{Rs. 4}{K_e - 0.05}$$

$$K_e = \frac{Rs. 4}{Rs. 50} + 0.05$$

$$= 0.08 + 0.05 = 13\%$$

The 13% cost of the equity share represents the return expected by existing shareholders on their investment so that they should not disinvest in the share of Raj Textiles Ltd. and invest elsewhere.

(e) **Realised Yield Method:** One of the difficulties in using D / P Ratios and E / P Ratios for finding out K_e is to estimate the rate of expected return. Hence, this method depends on the rate of return actually earned by the shareholders. The most recent five to ten years are taken

and the rate of return is calculated for the investor who purchased the shares at the beginning of the study period, held it to the present and sold it at the current prices.

This is also the realized yield by the investor. This yield is supposed to indicate the cost of equity share on the assumption that the investor earns what he expects to earn. The limiting factors to the usefulness of this method are the additional conditions that the investors expectation do not undergo change during the study period, no significant change in the level of dividend rates occurs, and the attitude of the investors towards the risk remain the same. As these conditions are rarely fulfilled, the yield method has severe limitations. In addition, the yield often differs depending on the time period chosen.

Activity 3

1. A firm has Rs. 3 EPS and 10% growth rate of earnings over a period of 3 years. The current market price of equity share is Rs. 100. Compute the cost of equity capital.
2. The current dividend paid by the company is Rs. 5 per share, the market price of the equity share is Rs. 100 and the growth rate of dividend is expected to remain constant at 10%. Find out the cost of capital.
3. A firm issues 8.1 % non-redeemable preferences shares of Rs. 10 each for Rs. 1000, underwriting costs are 6% of the sale price. Compute the cost of capital if shares are issued at discount of 2.5 percent and at premium of 5%.

1.6 Cost of Retained Earnings

Some authors do not consider it necessary to calculate separately cost of retained earnings. They say that the cost of retained earnings is included in the cost of equity share capital. They say that the existing share price is used to determine cost of equity capital and this price includes the impact of dividends and retained earnings. There are authorities who also suggest that cost of retained earnings is to be determined separately.

Two alternative approaches are there:

- i) One is to regard cost of equity capital as the cost of retained earnings.
- ii) The concept of external yields as suggested by Ezra Soloman. It assures investment of retained earnings in another firm. Symbolically

Cost of Retained Earnings =

$$\begin{aligned} & \frac{D_1}{P_0} + G \\ & = K_e (1 - TR) (1 - B) \end{aligned}$$

Where

K_e = Cost of equity capital based on dividends growth method

TR = Shareholder's Tax Rate

B = Percentage Brokerage Cost

For example, A firm's cost of equity capital is 12% and tax rate of majority of shareholders is 30%. Brokerage is 3%

$$= 12\% (1 - 30\%) (1 - 3\%)$$

$$= 12 * .70 * .97 = 8.15\%$$

1.7 Summary

The cost of capital is the minimum acceptable rate of return on new investments. The basic factors underlying the cost of capital for a firm are the degree of risk associated with the firm, the taxes it must pay, and the supply of and demand of various types of financing. The term cost of capital refers to the minimum rate of return a firm must earn on its investments so that the market value of the company's equity shares does not fall. In estimating the cost of capital, it is assumed that, (1) the firms are acquiring assets which do not change their business risk, and (2) these acquisitions are financed in such a way as to leave the financial risk unchanged. In order to estimate the cost of capital, we must estimate rates of return required by investors in the firm's securities, including borrowings, and average those rates according to the market values of the various securities currently outstanding. While the cost of debt and preference capital is the contractual interest / dividend rate (adjusted for taxes), the cost of equity capital is difficult to estimate.

Broadly, there are six approaches to estimate the cost of equity, namely, the E / P method, E / P + Growth method, D / P method, D / P + Growth method, Realised yield method and using the Beta co-efficient of the share. Weighted cost of capital is computed by assigning book weights or market weights.

1.8 Key words

1. Cost of Capital is the minimum rate of return that will maintain the value of the firm's equity shares.
2. Marginal Weights are determined on the basis of financing mix of additional capital.
3. Cost of Equity Capital is the discount rate which equates present value of all expected dividends in future with net proceeds per share / current market price.
4. Business Risk is a possibility when the firm will not be able to operate successfully in the market.

5. Financial Risk is the possibility when the firm will not earn sufficient profits to make payment of interest on loans and / or to pay dividends.

1.10 Self -Assessment Questions / Exercises

- 1) Why is the cost of capital the minimum acceptable rate of return on an investment?
- 2) How is the Cost of Debt Capital ascertained? Give examples.
- 3) How will you calculate the Cost of Preferences Share Capital?
- 4) Which method of calculating the cost of equity shares would be most appropriate for the following firms:
 - a) A profitable firm that has never paid a dividend, but has had steady growth in earnings.
 - b) An electricity company that has paid a dividend every year for the last eighty years.
- 5) How would you find the cost of capital for proprietorship or partnership? Can you think of any ways to do this "? List them.
- 6) "Retained earnings does not have cost" comment.
- 7) Discuss various uses of the concept of Cost of Capital.
- 8) Determine the cost of capital for the following securities. These are issued by different firms and the tax rate is 40 percent.
 - a) A seven year debenture with a coupon interest of 10 percent. The debenture matures in five years and has a current market price of Rs. 90 as against its par value of Rs. 100.
 - b) A preference share pays 7 percent dividend. Par value is Rs. 100 per share and its current market price is Rs. 80.

1.11 References and Suggested Reading

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BLOCK II : Unit 2

Weighted average cost of capital

Unit Structure:

1. Introduction
 - 1.1 objectives
 - 1.2 Weighted average cost of capital: Meaning
2. Beta Estimation and Cost of Capital
 - 2.1 Beta Estimation : Meaning
 - 2.2 Types of Beta Estimation
 - 2.3 Beta Estimation and cost of capital
3. Cost of equity using CAPM
 - 3.1 Cost of equity: Meaning
 - 3.2 Cost of equity using CAPM
 - 3.3 Summing Up
 - 3.4 Key Terms
 - 3.5 Questions and Exercises
 - 3.6 References and Suggested Reading

Introduction

As the majority of businesses run on borrowed funds, the cost of capital becomes an important parameter in assessing a firm's potential for net profitability. Weighted average cost of capital (WACC) measures a company's cost to borrow money. It is an important financial percept that is widely used in financial circles to test whether a return on investment can meet an asset, project or company's cost of invested capital. Beta of an investment security is a measurement of its volatility of returns relative to the entire market. It is used as a measure of risk and refers to the volatility of a stock relative to all other stocks in the market. In this unit, the concept of weighted average cost of capital, beta estimation and uses of CAPM in cost of equity share capital are discussed.

1.1 Objectives

The objectives of this unit are:

1. To discuss the concept of weighted average cost of capital.
2. To determine the weighted average cost of company's capital structure.
3. To explain the concept of beta estimation and uses of capital asset pricing model.

1.2 Weighted Average Cost of Capital

The CIMA defines the weighted average cost of capital “**as the average cost of the company’s finance (equity, debentures, bank loans) weighted according to the proportion each element bears to the total pool of capital, weighting is usually based on market valuations current yields and costs after tax**”.

Cost of capital is the overall composite cost of capital and may be defined as the average of the cost of each specific fund. Weighted average cost of capital (WACC) is defined as the weighted average of the cost of various sources of finance, weight being the market value of each source of finance outstanding. Cost of various sources of finance refers to the return expected by the respective investors.

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

When all these costs of different forms of long-term funds weighted by their relative proportions to get overall composite cost of capital termed as ‘weighted average cost of capital (WACC)’. The firm’s WACC should be adjusted for the risk characteristics of a project for which the long-term funds are raised. Therefore, project’s cost of capital is WACC plus risk adjustment factor.

The argument in favour of using WACC stems from the concept that investment capital from various sources should be seen as a pool of available capital for all the capital projects of an organization. Hence cost of capital should be weighted average cost of capital. Financing decision, which determines the optimal capital mix, is traditionally made without making any reference to WACC.

Optimal capital structure is assumed at a point where WACC is minimum. For project evaluation, WACC is considered as the minimum rate of return required from project to pay off the expected return of the investors and as such WACC is generally referred to as the ‘required rate of return’. The relative worth of a project is determined using this required rate of return as the discounting rate. Thus, WACC gets much importance in both the decisions.

Simple WACC:

The simple WACC is calculated without consideration to the impact of tax on cost of capital. The combined cost of equity capital and debt capital is the WACC for a company as whole. If the company is all equity financed, the cost of equity will be the cost of capital.

In case of geared companies, the WACC can be stated as follows:

$$\text{WACC} = (\text{Cost of Equity} \times \% \text{ Equity}) + (\text{Cost of Debt} \times \% \text{ Debt})$$

1. ABC Ltd. has a gearing ratio of 40%. Its cost of equity is 21% and the cost of debt is 15%. Calculate the company's WACC.

Solution:

$$\begin{aligned} \text{WACC} &= (21\% \times 0.60) + (15\% \times 0.40) \\ &= 12.6\% + 6\% \\ &= 18.6\% \end{aligned}$$

The weighted average cost of capital of a company is calculated in two ways:

- (i) Based on weight of costs by the book value of the different forms of capital.
- (ii) Based on weight of market value of each form of capital.

Market Value of Funds and WACC:

The market value approach is more realistic for the reasons given below:

- (a) The cost of funds invested at market prices is familiar with the investors.
- (b) Investments are generally rated by the reference to their earnings yield, and the company has a responsibility to maintain that yield.
- (c) Historic book values have no relevance in calculation of real cost of capital.
- (d) The market value represents near to the opportunity cost of capital.

WACC is the discount rate that can be used to evaluate the company's new investments, provided that they have the same risk profile as the company as a whole and provided that they used the same combination of debt and equity to finance the proposed investments, or financed by company reserves.

WACC and Tax Shields:

After taking the tax shields into account, the following formula is applied for calculation of WACC.

$$\text{WACC} = \left[K_e \frac{E}{D + E} \right] + \left[(1 - t) K_d \frac{D}{D + E} \right]$$

Where,

K_e = Cost of equity capital

K_d = Cost of debt

E = Market value of equity capital

D = Market value of debt

T = Corporate tax rate

2. Beta estimation

2.1 Meaning

In [finance](#), the **beta** (β) is a measure of how an individual asset moves (on average) when the overall stock [market](#) increases or decreases. Thus, beta is a useful measure of the contribution of an individual asset to the risk of the market portfolio when it is added in small quantity. Thus, beta is referred to as an asset's non-diversifiable [risk](#), its [systematic risk](#), market risk, or [hedge](#) ratio.

The beta (denoted as “Ba” in the CAPM formula) is a measure of a stock’s risk (volatility of returns) reflected by measuring the fluctuation of its price changes relative to the overall market. In other words, it is the stock’s sensitivity to market risk. For instance, if a company’s beta is equal to 1.5 the security has 150% of the volatility of the market average. However, if the beta is equal to 1, the expected return on a security is equal to the average market return. A beta of -1 means security has a perfect negative correlation with the market.

Beta (β) of an investment security is a measurement of its volatility of returns relative to the entire market. It is used as a measure of risk and is an integral part of the Capital Asset Pricing Model (CAPM). A company with a higher beta has greater risk and also greater expected returns. It refers to the volatility or riskiness of a stock relative to all other stocks in the market. There are a couple of ways to estimate the beta of a stock. The first and simplest way is to calculate the company’s historical beta (using [regression analysis](#) is a set of statistical methods used to estimate relationships between a dependent variable and one or more independent variables.) or just pick up the company’s regression beta from [Bloomberg](#).

2.2 Types of Beta

a) Levered beta: Levered beta measures the risk of a firm with debt and equity in its [capital structure](#) to the volatility of the market. Levered beta includes both business risk and the risk that comes from taking on debt.

$$\text{Levered Beta} = \text{Unlevered Beta} * ((1 + (1 - \text{Tax Rate}) * (\text{Debt} / \text{Equity}))$$

b) Unlevered Beta: Unlevered Beta is the volatility of returns for a business, without considering its financial leverage. It only takes into account its assets. Asset beta is calculated to remove additional risk from debt in order to view pure business risk. The average of the

unlevered betas is then calculated and re-levered based on the capital structure of the company that is being valued.

$$\text{Unlevered Beta} = \text{Levered Beta} / ((1 + (1 - \text{Tax Rate}) * (\text{Debt} / \text{Equity}))$$

In most cases, the firm's current capital structure is used when beta is re-levered. However, if there is information that the firm's capital structure might change in the future, then beta would be re-levered using the firm's target capital structure.

After calculating the risk-free rate, equity risk premium, and levered beta, the cost of equity = risk-free rate + equity risk premium * levered beta.

3. Cost of equity using CAPM

This difficulty is unfortunate in view of the role of equity costs in vital tasks such as capital budgeting evaluation and the valuation of possible acquisitions. The cost of equity is one component of the weighted average cost of capital, which corporate executives often use as a hurdle rate in evaluating investments. Financial managers can employ CAPM to obtain an estimate of the cost of equity capital.

CAPM represents a new and different approach to an important task. Financial decision makers can use the model in conjunction with traditional techniques and sound judgment to develop realistic, useful estimates of the costs of equity capital.

The Capital Asset Pricing Model (CAPM)

The CAPM developed by William F Sharpe, John Linter and Jan Mossin, is one of the major developments in financial theory. The CAPM establishes a linear relationship between the required rate of return of a security and its systematic or undiversifiable risk or beta. This relationship as defined by CAPM can be used to value an equity share.

Assumptions

The CAPM is based on a list of critical assumptions, some of which are as follows:

1. Investors are risk-averse and use the expected rate of return and standard deviation of return as appropriate measures of risk and return for their portfolio. In other words, the greater the perceived risk of a portfolio, the risk-averse investor expects a higher return to compensate the risk.
2. Investors make their investment decisions based on a single-period horizon, i.e., the next immediate time period.

3. Transaction costs in financial markets are low enough to ignore and assets can be bought and sold in any unit desired. The investor is limited only by his wealth and the price of the asset.

4. Taxes do not affect the choice of buying assets.

5. All individuals assume that they can buy assets at the going market price and they all agree on the nature of the return and risk associated with each investment.

In the CAPM, the expected rate of return can also be thought of as a required rate of return because the market is assumed to be in equilibrium. The expected return is the return from an asset that investors anticipate or expect to earn over some future period. The required rate of return for a security is defined as the minimum expected rate of return needed to induce an investor to purchase it.

Investors can earn a riskless rate of return by investing in riskless assets like treasury bills. This risk free rate of return is designated R_f and the minimum return expected by the investors. In addition to this, because investors are risk-averse, they will expect a risk premium to compensate them for the additional risk assumed in investing in a risky asset. Required Rate of Return = Risk-free rate + Risk premium The CAPM provides an explicit measure of the risk premium. It is the product of the Beta for a particular security j and the market risk premium $K_m - R_f$. Risk premium = $\beta_j (K_m - R_f)$ This Beta co-efficient ' β_j ' is the non-diversifiable risk of the asset relative to the risk of the market. If the risk of the asset is greater than the market risk, i.e., β exceeds 1.0, the investor assigns a higher risk premium to asset j , than to the market.

Determination of Cost of Equity using CAPM

The cost of equity can be calculated by using the [CAPM \(Capital Asset Pricing Model\)](#). The Capital Asset Pricing Model (CAPM) is a model that describes the relationship between expected return and risk of a security. CAPM formula shows the return of a security is equal to the risk-free return plus a risk premium, based on the beta of that security or Dividend Capitalization Model (for companies that pay out dividends). CAPM takes into account the riskiness of an investment relative to the market. The model is less exact due to the estimates made in the calculation (because it uses historical information).

CAPM Formula:

$$E(R_i) = R_f + \beta_i * [E(R_m) - R_f]$$

Where,

$E(R_i)$ = Expected return on asset i

R_f = Risk-free rate of return

β_i = Beta of asset i

$E(R_m)$ = Expected market return

3.3 Summing up

The WACC represents the minimum return that a company must earn on an existing asset base to satisfy its creditors, owners, and other providers of capital, or they will invest elsewhere. The weighted average cost of capital is a common way to determine [required rate of return](#) because it expresses, in a single number, the return that both bondholders and shareholders demand in order to provide the company with capital. A firm's WACC is likely to be higher if its stock is relatively volatile or if its debt is seen as risky because investors will demand greater returns.

3.4 Key Terms

1. Weighted average cost of capital: It is defined as the weighted average of the cost of various sources of finance, weight being the market value of each source of finance outstanding.
2. Beta: Beta of an investment security is a measurement of its volatility of returns relative to the entire market.
3. Capital Asset Pricing Model (CAPM): The Capital Asset Pricing Model (CAPM) is a model that describes the relationship between expected return and risk of a security.

3.5 Questions and Exercises

1. What is weighted average cost of capital? Describe how weighted average cost of capital is calculated?
2. What is Beta? Describe the different types of Beta?
3. Explain how levered and unlevered Beta is calculated?
4. What is Capital Asset Pricing Model?
5. Explain the significance of Capital Asset Pricing Model in cost of Equity Capital?

3.6 References and Suggested Reading

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3. Upadhaya, K.M. "Financial Management, Kalyani Publishers, New Delhi.
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BLOCK II : Unit 3
Financial Leverage, Operating Leverage and Combined Leverage

Unit Structure:

1. Introduction
 - 1.1 objectives
 - 1.2 Leverage: Meaning
 - 1.3 Types of Leverage
2. Operating Leverage
 - 2.1 Operating Leverage: Meaning
 - 2.2 Importance of operating leverage
 - 2.3 Determination of degree of operating leverage
3. Financial Leverage
 - 3.1 Financial Leverage: Meaning
 - 3.2 Importance of financial leverage
 - 3.3 Determination of degree of financial leverage
4. Combined Leverage
 - 4.1 Combined Leverage: Meaning
 - 4.2 Importance of Combined Leverage
 - 4.3 Determination of degree of Combined leverage
 - 4.4 Summing Up
 - 4.5 Key Terms
 - 4.6 Answers to 'Check your Progress'
 - 3.7 Questions and Exercises
 - 3.8 References and Suggested Reading

1. Introduction

Leverage is an important technique that helps the management to take sound and prudent financing and investing decisions. It acts as useful guideline in setting the maximum limit by which business of the firm should be expanded. In this unit, the concept and importance of leverage, types of leverage, determination of operating, financial and combined leverage are discussed.

1.1 Objectives

The objectives of this unit are:

1. To explain the meaning of leverage and its importance.

2. To discuss the different types of leverage
3. To know how to calculate operating, financial and combined leverage.

1.2 Meaning of Leverage

Leverage is an investment strategy of using borrowed money specifically, the use of various financial instruments or borrowed capital to increase the potential return of an investment. It refers to the use of fixed costs in an attempt to increase the profitability. It is used to describe the firm's ability to use fixed cost assets or funds to magnify the return to its owners.

Definitions of Leverage

According to Ezra Solomon, "Leverage is the ratio of net returns on shareholders equity and the net rate of return on capitalisation".

According to J. C. Van Home, "Leverage is the employment of an asset or funds for which the firm pays a fixed cost of fixed return.

James van Home has defined leverage, as "the employment of an asset or funds for which the firm pays a fixed cost or fixed return." In other words, Leverage is the employment of fixed assets or funds for which a firm has to meet fixed costs or fixed rate of interest obligation irrespective of the level of activities or the level of operating profit.

When a firm uses fixed assets, it Results in fixed operating costs. Similarly when a firm uses those sources of finance in its capital structure on which it is required to pay fixed cost or fixed rate of interest, it results in fixed financial costs. Higher is the degree of leverage higher is the risk and higher is the expected return and vice versa.

1.3 Types of Leverage

There are three types of leverage:

- i) Operating leverage
- ii) Financial leverage
- iii) Combined leverage

Activity 1

1. Explain the concept of leverage. State its essentials.
2. What are the different types of leverage?

1. Operating Leverage

2.1 Meaning of Operating Leverage

Operating Leverage is defined as "the firm's ability to use fixed operating costs to magnify effects of changes in sales on its earnings before interest and taxes". In other

words operating leverage is the tendency of the operating profit to vary disproportionately with sales.

Operating leverage refers to the use of fixed operating costs such as depreciation, insurance of assets, repairs and maintenance, property taxes etc. in the operations of a firm. But it does not include interest on debt capital. Higher the proportion of fixed operating cost as compared to variable cost, higher is the operating leverage, and vice versa.

2.2 Importance of Operating Leverage

1. It gives an idea about the impact of changes in sales on the operating income of the firm.
2. High degree of operating leverage magnifies the effect on EBIT for a small change in the sales volume.
3. High degree of operating leverage indicates increase in operating profit or EBIT.
4. High operating leverage results from the existence of a higher amount of fixed costs in the total cost structure of a firm which makes the margin of safety low.
5. High operating leverage indicates higher amount of sales required to reach break-even point.
6. Higher fixed operating cost in the total cost structure of a firm promotes higher operating leverage and its operating risk.
7. A lower operating leverage gives enough cushions to the firm by providing a high margin of safety against variation in sales.

2.3 Degree of Operating Leverage: The earnings before interest and taxes (i.e., EBIT) changes with increase or decrease in the sales volume. Operating leverage is used to measure the effect of variation in sales volume on the level of EBIT. The formula used to compute operating leverage is:

$$\text{Degree of operating leverage} = \frac{\text{Percentage Change in EBIT}}{\text{Percentage change in sales}}$$

Or

$$\begin{aligned} \text{DOL} &= \frac{\text{Contribution}}{\text{Contribution} - \text{Fixed costs}} \\ &= \frac{\text{Contribution}}{\text{EBIT (Earnings before Interest and Tax)}} \end{aligned}$$

Activity II

1. Illustrate the concept of operating leverage.
2. State the importance of operating leverage.

3. Financial Leverage

3.1 Meaning

Financial leverage is primarily concerned with the financial activities which involve raising of funds from the sources for which a firm has to bear fixed charges such as interest expenses, loan fees etc. These sources include long-term debt (i.e., debentures, bonds etc.) and preference share capital.

3.2 Importance of Financial Leverage

1. It helps the financial manager to design an optimum capital structure. The optimum capital structure implies that combination of debt and equity at which overall cost of capital is minimum and value of the firm is maximum.
2. It increases earning per share (EPS) as well as financial risk.
3. A high financial leverage indicates existence of high financial fixed costs and high financial risk.
4. It helps to bring balance between financial risk and return in the capital structure.
5. It shows the excess on return on investment over the fixed cost on the use of the funds.
6. It is an important tool in the hands of the finance manager while determining the amount of debt in the capital structure of the firm.

3.3 Degree of Financing Leverage

Financing leverage is a measure of changes in operating profit or EBIT on the levels of earnings per share. It is computed as:

Financial leverage = Percentage change in EPS / Percentage change in EBIT = Increase in EPS / EPS / Increase in EBIT/EBIT. The financial leverage at any level of EBIT is called its degree. It is computed as ratio of EBIT to the profit before tax (EBT).

Degree of Financial leverage (DFL) = EBIT / EBT The value of degree of financial leverage must be greater than 1. If the value of degree of financial leverage is 1, then there will be no financial leverage.

Difference between Operating Leverage and Financial Leverage

- Operating leverage is related to the firm's operating cost structure while Financial leverage is related to the firm's capital structure.

- Operating Leverage is helpful in measuring the business risk of the firm while Financial Leverage is helpful in measuring the financial risk of the firm.
- Operating Leverage is determined by the relationship between Sales revenue and EBIT (Operating Income) of the firm while Financial Leverage is determined by the relationship between EBIT (Operating Income) and EPS (Earning per Share) of the firm.
- Higher Degree of Operating Leverage (DOL) shows the higher degree of Business risk to the firm while Higher Degree of Financial Leverage (DFL) shows the higher degree of Financial risk of the firm.

4. Combined Leverage:

4.1 Meaning

Operating leverage shows the operating risk and is measured by the percentage change in EBIT due to percentage change in sales. The financial leverage shows the financial risk and is measured by the percentage change in EPS due to percentage change in EBIT. The combined leverage can be measured with the help of the following formula:

Combined Leverage = Operating leverage x Financial leverage

$$\text{Degree of Combined leverage} = \frac{\text{Percentage change in EPS}}{\text{Percentage change in Sales Volume}}$$

If a firm has both the leverages at a high level, it will be very risky proposition. Therefore, if a firm has a high degree of operating leverage the financial leverage should be kept low as proper balancing between the two leverages is essential in order to keep the risk profile within a reasonable limit and maximum return to shareholders.

Illustration No. 1

The following particulars are available:

Sales Rs. 1,00,000

Variable Cost Rs. 70,000

Fixed Cost Rs. 20,000

Long term loans Rs. 50,000

At 10 percent

Compute the combined leverage.

Solution :

$$\text{Operating Leverage} = \frac{30,000}{10,000} = 3$$

$$\text{Financial Leverage} = \frac{10,000}{5,000} = 2$$

$$\text{Combined Leverage} = \frac{30,000}{5,000} = 6 \text{ (or } 3 * 2 = 6)$$

4.2 Importance of Combined Leverage

1. It indicates the effect that changes in sales will have on EPS.
2. It shows the combined effect of operating leverage and financial leverage.
3. A combination of high operating leverage and a high financial leverage is very risky situation because the combined effect of the two leverages is a multiple of these two leverages.
4. A combination of high operating leverage and a low financial leverage indicates that the management should be careful as the high risk involved in the former is balanced by the later.
5. A combination of low operating leverage and a high financial leverage gives a better situation for maximising return and minimising risk factor, because keeping the operating leverage at low rate full advantage of debt financing can be taken to maximise return. In this situation the firm reaches its BEP at a low level of sales with minimum business risk.
6. A combination of low operating leverage and low financial leverage indicates that the firm losses profitable opportunities.

Activity III

1. Calculate degree of (i) operating leverage (ii) financial leverage and (iii) combined leverage from the following data :

Sales 50,000 units @ Rs. 4 per unit

Variable cost per unit 40%

Interest charges Rs. 3668

Fixed costs – Rs. 1,00,000

2. The installed capacity of a factory is 700 units. The actual exploited capacity is 500 units. Selling price per unit Rs. 100 and variable cost is Rs. 60 per unit.

Calculate operating leverage when

- (a) fixed costs are Rs. 5000
 - (b) fixed costs are Rs. 11,000
 - c) fixed costs are Rs.15000
-
-
-

Summing up

Leverage refers to the use of an asset or source of funds which involves fixed costs or fixed returns. Leverages can be operating, financial and combined. Operating leverage uses fixed operating costs to magnify the effects of changes in sales on the operating profits. Operating leverage may be favourable or unfavourable. High operating leverage is good when sales increase. Financial leverage affects financial risk of the firm. In financial leverage, the source of fund which wants fixed refund so that more than proportionate change in EPS may be reflected. Combined leverage is the multiplication of financial and operating leverage. In order to keep the risk under control, low financial leverage be kept along with high degree of operating leverage. EBIT – EPS analysis may help the financial managers to choose the optimum capital structure.

Key words

Leverage is the employment of an asset or funds for which the firm pays a fixed cost or fixed return.

Operating Leverage is the use of fixed operating costs to magnify a change in profits relative to a given change in sales.

Financial Leverage is the tendency of residual income to vary disproportionately with operating profit.

Combined Leverage expresses the relationship between revenue on account of sales and the taxable income.

ROI Leverage is the ratio of EBIT and total assets.

Trading on Equity – Financial leverage is also sometimes called on trading on equity.

EPS – Earnings per share is calculated by dividing earnings available to equity share holders with number of equity shares.

ANSWERS

Activity III

1. Operating leverage 4.33, Financial leverage 1.14, Combined leverage 4.9

2. Operating leverage 1.33, Financial leverage 2.22, Combined leverage 4.0 times

Self -Assessment Questions / Exercises

1. What is operating leverage? How can operating leverage be used in decision-making?
2. What is financial leverage? What is the importance of financial leverage in decision making?
3. Distinguish between operating leverage and financial leverage.
4. What is combined leverage? What is the importance of combined leverage?
5. Calculate operating, financial and combined leverage from the following information:

Interest	Rs. 5000
Sales	Rs. 50,000
Variable cost	Rs. 25,000
Fixed cost	Rs. 15,000

6. Calculate degree of operating leverage, financial leverage and combined leverage from the following data
Sales 1,00,000 units@ Rs.2 per unit Rs. 2,00,000
Variable cost per unit@ Rs. 0.70
Fixed cost Rs. 1,00,000
Interest charges Rs. 3668.

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5. Upadhaya, K.M. "Financial Management" Kalyani Publishers, Ludhiana.
6. Maheshwari, S.N. "Financial Management - Principles and Practice", Sultan Chand & Sons, Delhi.

BLOCK II : Unit-IV
CAPITAL STRUCTURE THEORIES

INTRODUCTION

Every company needs fund to keep itself running, starting from promotion up to commencement of business and even after that, a company needs fund. To perform its various functions companies finances from two main sources i.e Equity Capital (equity share, preference share, share premium and retained earnings) and Debt Capital (terms loans ,debentures, deferred payment liabilities and other long-term debts).

Arranging the capital from various sources to meet the long term need of the business is known as capital structure.

According to (Gerstenberg, 1959). "Capital structure of a company refers to the composition or make-up of its capitalization and it includes all long-term capital resources viz: loans, reserves, shares and bonds."

(Pandey, 2015) defined capital structure as, “ Capital structure refers to the composition of long –term sources of funds such as debentures ,long term debt, preference share capital including reserves and surplus”

CAPITALISATION, CAPITAL STRUCTURE AND FINANCIAL STRUCTURE

The terms, capitalization, capital structure and financial structure although used synonymously but they do not mean the same. Capitalization is a term used for the total value of securities issued by a company, while capital structure refers to the components and the proportionate value of the components that make up capitalization and the financial structure refers to all the financial resources short as well as long term .

In the words of (Borad, 2021), “ financial structure is the mix of debt and equities that a company uses to finance its assets and manage its day-to-day operations and include both long term debt , short debt and owners equities.”

Difference between capitalization, capital structure and financial structure

Criterion	Capitalization	Capital Structure	Financial structure
Meaning	It is the total value of securities issued by a company.	Capital structure refers to the types of long term securities and their relative amount included in the capital.	Financial structure refers to all the financial resources short as well as long term .in other words financial structure refers to the entire liabilities side of the balance sheet.
Components	It includes both equity capital and debt capital.	It includes Debts, Common stocks, Preferred stocks, retained earnings and reserves.	Financial structure includes both short terms as well as long term payable
Perspective	It represents quantities of funds.	It represents qualities of funds. As it shows sources of funds.	It represents the total debt obligation of the company that it owes to the outsiders.
Objectives	The main objective is to determine the total quantity of long term funds.	The main objective is to determine the mix of different kinds of long term funds.	Main objective is to know the total liabilities of the firm.
Equation	Capitalization=equity share+preference share+long term loan and	Capital Structure= Financial Structure- Current liabilities	Financial structure= Total of liabilities

	debts,		
--	--------	--	--

FACTORS INFLUENCING CAPITAL STRUCTURE DECISION

Following factors are generally considered while making capital structure decision.

1) Corporate tax

As interest paid on debt is allowed as deduction from income, it reduces firm's tax liabilities. Therefore firm can increase its earning by increasing the amount of debt in its capital structure.

2) Types of firm

Capital structure of a firm varies depending upon their nature and size.

Public utility may employ high debt as they have regular earnings. A large company may use both long term debt and issue equity and preference share. While small and micro companies may use own capital as they might not be able to get long term loans at reasonable rate.

3) Control

Issuing equity shares dilutes the control of the existing equity shareholders. Thus if the promoters do not want to dilute their control, debt or preference capital may be issued.

4) Cash flow

Those firm which can produce stable cash flow can use more debt in their capital structure as compared to one which has unstable cash flow.

5) Capital market condition

If the Share market is on bull run equity share might be issued. But if it on the bear run issue of equity share might be risky.

6) Assets structure

Capital intensive companies generally have high debt ratio as the creditor feel cozy to provide loan , since they get the collateral for the loan they provide. On the other hand low capital intensive company have low debt ratio since they cannot provide physical collateral for loan they take.

7) Profitability

A company with high profitability will rely low on outside debt and meet its requirement through reserve and surplus.

8) Legal requirements

Legal provision plays a vital role in planning of capital structure. Raising equity is more difficult as compared to raising debt.

9) Span of finance

Funds that are needed on permanent basis can be finance through equity share, preference share or irredeemable debt. Otherwise short term loans or redeemable debenture can be issued.

10) Flotation cost

Flotation cost is the expenses incurred by companies for offering its securities to public.

Flotation cost of debt is lower than the floatation cost of equity.

Balanced Capital structure

The main objective of every financial manager is to develop a optimal capital structure which is sound and most appropriate. Balanced or Optimal capital structure generally mean a capital structure which :

- a) Maximizes the value of the company.
- b) Minimizes the cost of funds.
- c) Maximizes the benefit of the share holders by giving best EPS.
- d) Maximizes market price per share in the long run.
- e) Is fair to employees , creditors and others.

EBIT-EPS analysis

EBIT-EPS analysis is a tool for financial planning which compares various financial plans and shows a way to maximize EPS.

A firm has various options to make its capital structure which may consist

- I. Equity share only.
- II. Equity share and Preference share.
- III. Equity share and debentures.
- IV. Equity shares, preference shares and debentures.

Finance manager may choose different combinations of funds as given above, to finance its company which result in particular EPS at a given level of EBIT for different combinations.

Finance manager can choose the combination which,

- I. Is simple i.e easy to understand
- II. Yield maximum profit at minimum cost.
- III. Keep room for expansion or reduction of capital.
- IV. Ensure control of enterprise in the hand of existing equity shareholders.
- V. Ensure intensive use of funds and
- VI. Make provision for contingencies.

Thus EBIT-EPS analysis is helpful in determining sources of fund for optimal capital structure.

EBIT-EPS analysis can be better understood from the following illustration.

Illustration 1 . A company needs Rs 80,00,000 for modernization plan. The following three sources of fund were available;

- a) The company may issue 8,00,000 equity shares of Rs 10 per share.
- b) The company may issue 4,00,000 equity share of Rs 10 per share and 40,000 debentures of Rs 100 bearing 8% rate of interest.
- c) The company may issue 4,00,000 equity share of Rs 10 each and 40,000 preference share of Rs 100 each bearing 8% rate of dividend.

- I. If the company's earnings before interest and tax are Rs 5,00,000, Rs 12,00,000 and 20,00,000, what are the earning per share under each of the three sources of funds? Assume a corporate income tax rate of 40%.
- II. Which combination would be best and why.

Solution: Computation of Earnings Per Share Under three sources of fund available;

Source (a) : Equity Financing			
Particulars	Rs	Rs	Rs
EBIT	5,00,000	12,00,000	20,00,000
Less: Interest	—	—	—
EBT	5,00,000	12,00,000	20,00,000
Less: Tax@40%	(2,00,000)	(4,80,000)	(8,00,000)
Earnings after tax	3,00,000	7,20,000	12,00,000
÷No of equity share	8,00,000	8,00,000	8,00,000
Earnings Per Share	0.375	0.90	1.50
Source (b) : Equity and Debt Financing			
Particulars	Rs	Rs	Rs
EBIT	5,00,000	12,00,000	20,00,000
Less: Interest	(3,20,000)	(3,20,000)	(3,20,000)
EBT	2,00,000	8,80,000	16,80,000
Less: Tax@40%	(80,000)	(3,52,000)	(6,72,000)
Earnings After tax	1,20,000	5,28,000	10,08,000
÷No of equity share	4,00,000	4,00,000	4,00,000
Earning Per Share	0.30	1.32	2.52
Source (c) : Equity and Preference share Financing			
Particulars	Rs	Rs	Rs
EBIT	5,00,000	12,00,000	20,00,000
Less: Interest	—	—	—
EBT	5,00,000	12,00,000	20,00,000
Less: Tax@40%	(2,00,000)	(4,80,000)	(8,00,000)
Earnings After Tax	3,00,000	7,20,000	12,00,000
Less: Preference dividend	(3,20,000)	(3,20,000)	(3,20,000)
Earnings available for equity share holders	(20,000)	4,00,000	9,80,000
÷ No of equity share	4,00,000	4,00,000	4,00,000
	0.05	—	2.45

Source “b” shall be the best, as this composition employs debt as a source of finance which provide tax advantage to the firm for which the earning per share in comparison to other source is higher.

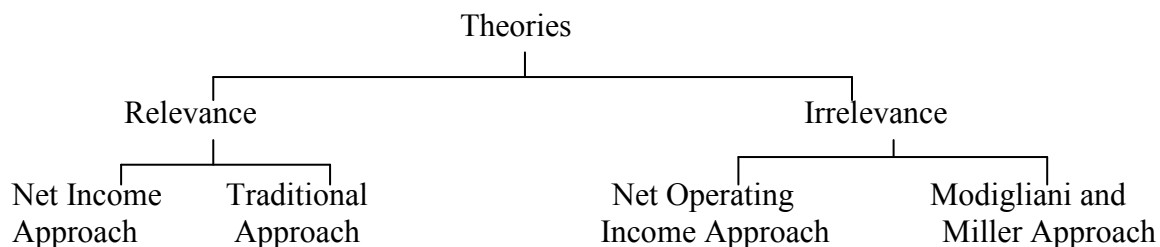
Check your progress

1. Define capital structure?
2. What is EBIT-EPS analysis?
- 3 .State some of the features of balanced capital structure.

THEORIES OF CAPITAL STRUCTURE

Different authors have propounded different theories to explain the relationship between capital structure, weighted average cost of capital and value of the firm. However below given are the four main theories of the capital structure which are most popular.

1. Net Income Approach
2. Net Operating Income Approach
3. Traditional Approach
4. Modigliani and Miller Approach



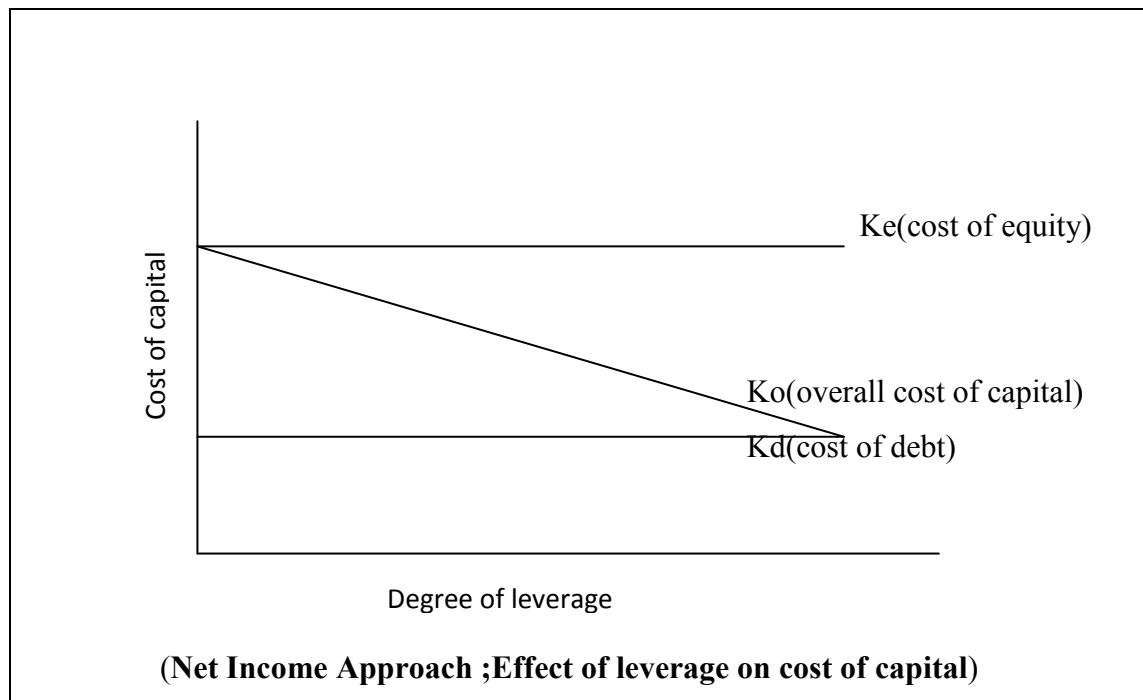
1. Net Income Approach

Net Income Approach was proposed by David Durand. Durand stated that a change in the capital structure will lead to change in the weighted average cost of capital (WACC) , which is also known as the overall cost of capital. WACC can be decrease by increasing

the debt content in the capital structure of the firm and that lead to increase in the value of the firm and value of the equity share . The situation might be opposite if the debt content are decrease. Value of the firm can be increase and WACC can be decrease only if cost of debt is cheaper than the cost of equity.

Net income approach is based on certain assumption, which are;

- Flotation cost does not exist, no corporate taxes and transaction cost.
- Confidence levels of investors are not affected by increase in debt.
- Only debt and equity as a sources of finance exist.
- Irredeemable source of finance.
- cost of debt is cheaper than the cost of equity.
- Investors are rational.
- Dividend payout ratio for all companies is uniform. i.e 1.



The above figure shows that when the portion of debt capital (k_d) is increase in the capital structure of the firm then the over all cost of capital (k_o) will decrease which result in increase in the value of the firm. On the other hand if the portion of debt capital is decrease then the overall cost of capital will increase and the total value of the firm will decrease.

The value of the firm and equity under this approach can be determined as

$$V = S + D$$

Where, V= value of a firm
 S= Market value of equity share
 D=Market value of debt

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

Where, NI= Net income available to equity share holders.
 Ke= Cost of equity capital or equity capitalization rate.

And, Weighted average cost of capital or overall cost of capital is calculated as

$$K_o = \frac{EBIT}{V}$$

Illustration 2 : Meta Company Limited is expecting an annual EBIT of Rs. 10,00,000. Company has Rs.15,00,000, 10 % debentures. The cost of equity capital of the company is 12%. Calculate total value of the firm and overall capitalization.

If the debt increased to Rs. 20,00,000, what shall be the effect on the value of the firm and the overall capitalization rate ?

Solution:

Net Income	Rs. 10,00,000
Less: Interest on 10% Debenture of Rs. 15,00,000	Rs. 1,50,000
Earnings available to equity shareholders	Rs. 8,50,000
Market Capitalization Rate	12%
Market value of the Equity (S) = 8,50,000/12%	Rs. 70,83,333
Market Value of Debenture (D)	Rs. 15,00,000

Value of the Firm (S+D) Rs. 85,83,333

Overall Cost of Capital (K_o) = $\frac{EBIT}{K_o} = \frac{10,00,000}{85,83,333} * 100$ 11.65%

Impact of increase in debt

Net Income	Rs. 10,00,000
Less: Interest on 10% Debenture of Rs. 2,00,000	Rs. (2,00,000)
Earnings available to equity shareholders	Rs. 8,00,000
Market Capitalization Rate	12%
Market Value of the Equity (S) (8,00,000/12%)	Rs. 66,66,666
Market Value of Debenture (D)	Rs. 20,00,000
Value of the Firm (S+D)	Rs. 86,66,666
Overall Cost of Capital (K _o) = $\frac{10,00,000}{86,66,666} * 100$	11.53%

The above example clearly shows that increase of debt to the capital structure decreases the overall cost of capital and increasing the value of the firm.

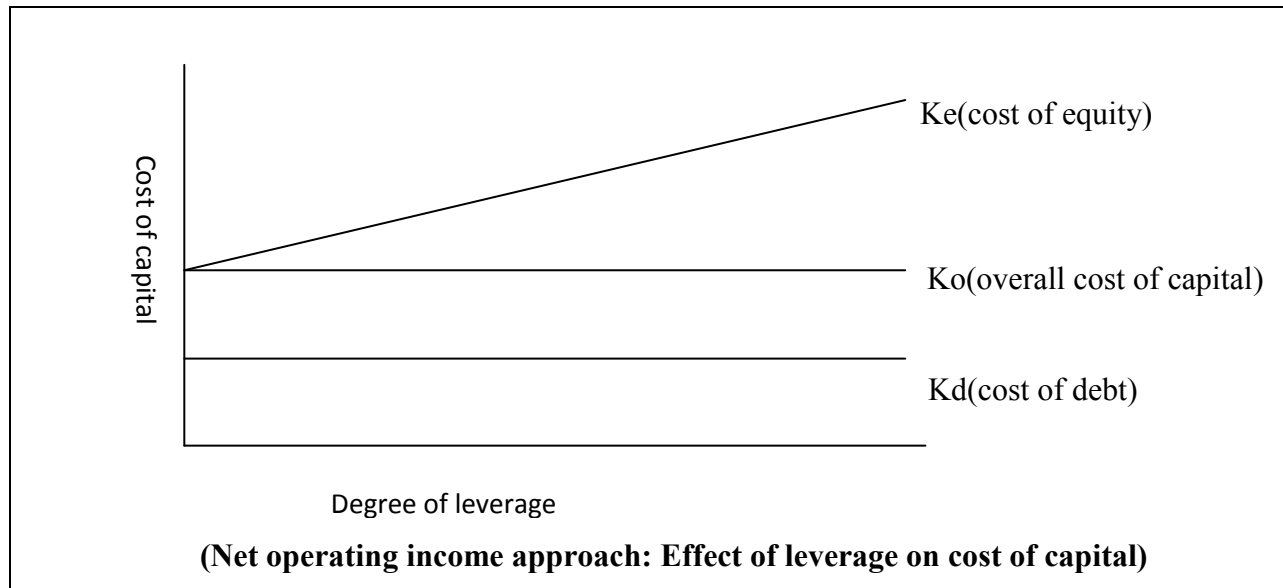
2. Net operating Income Approach

This approach is contradictory to net income approach. The approach was developed by David Durand, as per this approach value of the firm depends on operating profit and business risk and not on level of gearing i.e amount of debt in the capital structure. The main reason for this assumption is that increase in the debt increases the expectation of equity shareholders and the use of cheaper source of fund is offset by increase in cost of equity. Therefore whether the debt equity mix is 70:30 or 10:90 value of the firm remains same.

Assumption of this approach

- Debt and equity are only source of finance.
- Weighted average cost of capital is constant.
- Dividend payout ratio is 1.
- Debt capitalization is constant
- Corporate taxes and retained earning do not exist.

- Use of more debt increases the risk perception of shareholders and shareholders demands for increase in their return.
- Value of the firm is capitalize as a whole.



The above figure shows the irrelevancy of financial mix. Weighted average cost of capital did not change with the change in capital structure and the cost of equity capital increases as the debt capital in the firm increases. Thus the benefit of using a cheap source of finance is offset by the increase in the cost of equity.

The value of the firm and cost of equity or equity capitalization rate under this approach can be determined as

$$\text{Value of firm, } V = \frac{EBIT}{K_o}$$

$$\text{Cost of equity capital or equity capitalization rate} = \frac{EBIT - I}{V - D}$$

Where, EBIT = Earning before interest and tax

K_o = Overall cost of capital

V = Total market value of firm

D=Market value of debt

I= interest

Market Value of equity =V-D

ILLUSTRATION 2

1. B\$T firm has an EBIT of Rs 10,00,000 and its overall cost of capital is 12%. What is the value of equity capital as per net operating income approach if it employees debt @10% to the extent of 20%, 30% and 50% of the total capital of 40,00,000?

Solution:

Given,

	20% Debt	30% Debt	50%	Debt of total capital	
(A)->EBIT			10,00,000	10,00,000	10,00,000
Overall cost of capital (K _o)			16%	16%	16%
Value of the firm (V = EBIT/ K _o)			62,50,000	62,50,000	62,50,000
Value of debt (D)			8,00,000	12,00,000	20,00,000
(20%, 30%, 50% of ` 40 lacs)					
Value of Equity (E = V-D)			32,00,000	28,00,000	20,00,000
(B)->Interest on debt @10%			80,000	1,20,000	2,00,000
Net profit available for equity					
shareholders (A-B)			9,20,000	8,80,000	8,00,000
Ke (Net profit for equity					
shareholders / Value of Equity)			28.75%	31.43%	40%

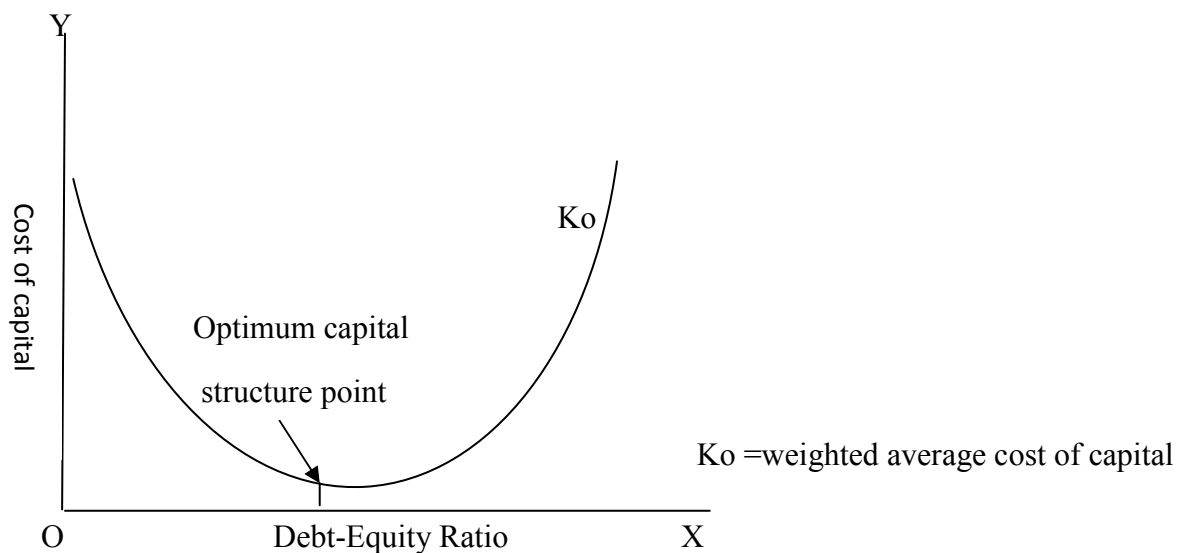
This example clearly shows that cost of equity capital increases with the increase in the proportion of debt capital.

3.Traditional Approach

The traditional approach states that there is an optimal capital structure. The optimal capital structure can be achieved when weighted average cost of capital is minimum and market value of the firm is maximum.

As per this approach proper debt-equity mix leads to optimal capital structure. When debt of the company gradually increases, then the shareholders will also start demanding for higher return because of increase in the risk. Thus optimal capital structure will increase at a certain level and becomes constant and lastly it begins to fall. So this shows that there is correlation between WACC and debt-equity ratio.

This relation can be graphically represented as below



The weighted average cost of capital is very high if debt-equity mix is zero. When the debt is used in capital structure WACC starts decreasing and after a certain point it reaches a optimal point where average cost of capital is minimum and market value of the company is

maximum and rises beyond the optimal point due to increase in financial risk as rate of debt also increases

Traditional approach can be better understood from the illustration given below.

ILLUSTRATION 3

XYZ firm has Net operating income of Rs 5,00,000 and total investment of Rs 30,00,000. The equity capitalization rate is

- 10% if no debt is used
- 11% if debt used is 40% where rate of debt is 5%
- 14% if debt used is 60% where rate of debt is 6%

Calculate market value of the firm, value of share and average cost of capital.

Solution:

Particulars	No Debt	Rs 12,00,000 debt @5 %	Rs 18,00,000 debt @ 6%
Net operating Income	Rs 5,00,000	Rs 5,00,000	Rs 5,00,000
Less: Interest	Nil	Rs (60,000)	Rs (1,08,000)
Equity shareholders earning	Rs 5,00,000	Rs 4,40,000	Rs 3,92,000
Equity capitalization rate	10%	11%	14%
Market value of equity	Rs 50,00,000	Rs 40,00,000	Rs 28,00,000
Market value of debt	Nil	12,00,000	18,00,000
Market value of firm	Rs 50,00,000	Rs 52,00,000	Rs 46,00,000
Overall cost of capital = $\frac{\text{Net operating Income}}{\text{Market value of firm}} * 100$	10%	9.62%	10.87%

From this illustration it is clear that rise in debt at the first stage increases firms value and decreases WACC, but later when more debt is being used in the capital structure value of the firm decreases and WACC increases.

4.Modigliani and Miller Approach

This approach was given by Franco Modigliani and Merton Miller in 1958. The approach is also known as M&M approach. This theory has two versions, The first version is known as Theory of Irrelevance which is similar to Net operating income approach when it is assumed that companies do not pay taxes.

Second version of the theory is similar to Net Income Approach when it is assumed that companies pay taxes.

The assumptions of this approach are,

- Investors are rational.
- Capital market is perfect, it means loans are available to the investors on same rate as firm gets, no transaction cost, all investors have same information, flotation cost is nil.
- Business risk of the firm operating in similar environment is equal i.e Net operating income have similar risk characteristics.
- The firm has 100% dividend payout ratio.
- No retained earnings.
- Corporate taxes do not exist. (removed later in 1963)

a) Theory of Irrelevance (when tax do not exist)

According to Modigliani and Miller when tax do not exist, leveraging a firm have no impact on value of the firm and overall cost of capital

The reason behind this is with the more use of debt in capital structure equity shareholders perceive higher risk and start expecting higher return and thus the benefit of using debt fund will be neutralized by increase in the cost of equity. The theory further propounds that beyond a

certain limit of debt the cost of debt increases due to increase in the financial risk but the cost of equity falls thereby.

This theory is accordance to Net Operating Income Approach which has already been discussed. But the justification behind the argument is *arbitrage process*. Arbitrage is the practice of concurrently buying and selling those securities which are out of equilibrium in the capital market.

According to Modigliani & Miller two exactly alike firm which are not in equilibrium and have different market values and WACC, arbitrage process will start, till it reach equilibrium where market value and WACC of two firm becomes equal.

The main essence of *arbitrage* here is that the investors are able to replace firm debt by their 'personal debt' or 'personal leverage'

b) Theory of relevance (when tax do exist)

This theory was developed keeping in mind the real world condition. The assumption that tax do not exist cannot be true in the real world. The Modigliani and Miller in 1963 recognized that the value of the firm will increase and overall cost of capital will decrease with the use of debt in the capital structure as interest paid on debt fund is allowed as deduction for tax purpose so the actual cost of debt is less than the nominal costs.

However in case of equity dividend paid is not allowed as deduction.

Thus by increasing the debt in the capital structure optimal capital structure can be achieved.

The value of the firm under this approach can be calculated as under

$$\text{Value of Unlevered firm (V}_u) = \frac{EBIT}{\text{Overall cost of capital}}$$

$$\text{Value of levered firm (V}_L) = V_U + tD$$

Where tD is the present value of tax saving at discount rate.

Arbitrage Process can be better understood from the below given example

ILLUSTRATION 4

X and Y are two firms, having identical risk class. Their net operating income is Rs. 2,00,000 each. Firm X is a debt free concern and Firm B has a debt of Rs. 10,00,000 at an interest of 10%. The equity capitalization rate of firm X is 16% and of firm Y is 20%. Calculate total value of the firm X and Y

Solution:

	Firm X	Firm Y
Net operating income	Rs 2,00,000	Rs 2,00,000
Less: Interest:	Nil	Rs(1,00,000)
Equity earnings	Rs 2,00,000	Rs 1,00,000
Cost of equity	16%	20%
Total market value of equity	Rs12,50,000	Rs5,00,000
Total market value of debt	Nil	Rs10,00,000
Total value of firm	Rs12,50,000	Rs15,00,000
Overall cost of capital	16%	13.33%

The above example shows, total value of firm Y (debt firm) is higher than firm X(no debt firm). However according to Modigliani & Miller this situation cannot prevails for a long time. Investors will adjust their portfolio for which they will replace firm debt by their 'personal debt' and thereby improve their earnings. This process will bring the total values of the two firms at a similar level.

Working of arbitrage process:

1. Suppose an investor owns 10 percent equity shares of Firm Y which is levered firm. He thus holds shares worth Rs. 50,000. And his earning amounts to Rs 10,000(10% of 1,00,000).
2. The investor will sell his holding to acquire 10% equity of firm X, as firm X is less risky firm.
3. The investor doesn't want to change his position, so he will purchase 10% equity in Y firm for which he requires Rs1,25,000.
4. The investor before making an investment in firm X expects a return of 16% on 1,25,000 i.e Rs 20,000
5. Further the investor does not want to change his risk position, so debt equity ratio should be same.
6. Hence investor will borrow an amount of Rs 1,00,000 @ 10% interest to maintain debt/equity ratio of 2:1
7. Now the investor has Rs 1,50,000 in hand.
8. Cash amount of Rs 1,25,000 will be invested to purchase 10% equity shares of X firm. Surplus remains in hand Rs 25,000.
9. Thus the earning is same, risk position is same but the amount invested is less and still has surplus cash in hand.
10. The investor out of his earning of Rs 20,000 from firm X pays Rs 10,000 as interest and net return equals to Rs 10,000 which is same as firm Y.

This behavior will be followed by a large number of investors which leads to a rise in the share price of firm X and a drop in firm Y. Eventually a stage will come where the total value of two firms will be equal.

Check your progress

4. What is meant by arbitrage?

5. Name some important capital structure theories..

SUMMING UP

- Capital structure refers to the mixer of various kinds of securities raised by a firm as long term finance.
- Different Capital structure theories explain the relationship between capital structure, weighted average cost of capital and value of the firm.
- Net Income Approach and Traditional Approaches are known as theory of relevance, which states that capital structure is relevant to the value of the firm.
- Net Operating income Approach and Modigliani and Miller Approach are known as theory of irrelevance, which states that capital structure is irrelevance to the value of the firm.

KEY TERMS

- **Capital:** All the Assets that has a monetary value and owned by a company.
- **EBIT:** Earnings before interest and tax.
- **EPS:** Earnings per share
- **WACC:** Weighted average cost of capital i.e average cost of capital.
- **Arbitrage:** Continuously purchasing and selling of the same kind of securities in two different markets to take the advantage of difference in price.
- **Balanced Capital structure:** Capital structure which maximizes the worth and minimizes the cost of a company.
- **Unlevered firm:** Firm having no debt in its capital structure.
- **Levered firm:** Firm having debt and equity mixed in its capital structure.

ANSWER TO “CHECK YOUR PROGRESS”

1. According to Gerstenberg “Capital structure of a company refers to the composition or make-up of its capitalization and it includes all long-term capital resources viz: loans, reserves, shares and bonds.”

2. EBIT-EPS analysis is a tool for financial planning which compares various financial plans and shows a way to maximize EPS.
3. Capital structure can be called optimal if it is,
 - a) Simple
 - b) Minimizes risk
 - c) Maximizes Return
 - d) Flexible
 - e) And has adequate liquidity.
4. Arbitrage is the practice of concurrently buying and selling those securities which are out of equilibrium in the capital market.
5. Important capital structure theories are
 - a. Net income approach theory.
 - b. Net operating income approach theory.
 - c. Modigliani and Miller approach
 - d. Traditional approach.

QUESTIONS AND EXERCISES

Short-Answer Questions

1. What is capital structure?
2. Name various theories of capital structure?
3. What is meant by balanced capital structure?
4. Write a note on Arbitrage Process.
5. Discuss some factors influencing capital structure.

Long Answer Questions

1. Define capital structure. What are the main features of optimal capital structure?
2. Explain in brief different theories of capital structure.
3. Differentiate between Capitalization, capital structure and financial structure.
4. Explain the working of arbitrage process using imaginary figures.

EXERCISE

1. XYZ company has share capital of Rs 30 lakhs, consisting of 30,000 shares of Rs100 each. The company is planning to raise another Rs 25 lakhs for expansion of the business activities through any one of the four possible alternative given below:

(i) Entirely through equity shares.

(ii) Rs 15 lakhs through equity shares and remaining through long-term borrowings at 10% interest per annum.

(iii) Rs 10 lakhs through ordinary shares and Rs 20 lakhs through long-term borrowing at 9% interest per annum.

(iv) Rs 15 lakhs through equity shares and Rs 15 lakhs through preference shares with 7% dividend.

The company's expected EBIT is Rs 10 lakhs and corporate tax rate is 40%, determine the earnings per share in each alternative and comment which alternative is the best and why.

2. Companies A and B are similar in all respects including risk factors except their capital structure, A having issued 15% debentures of 20 lakhs while B has issued only equity. Both the companies' earn EBIT 25% on their total assets of 40 lakhs. Assuming a tax rate of 45% and equity capitalization rate of 20%, Compute the value of companies A and B using (i) net income approach and (ii) net operating income.

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BLOCK 3: UNIT-I
CAPITAL INVESTMENT

Unit Structure:

- 1.1 Introduction
- 1.2 Objectives
- 1.3 Definitions
- 1.4 Nature of Capital Investment decisions
- 1.5 Need of Capital Investment Decisions
- 1.6 Factors Affecting the Capital Investment Decisions
- 1.7 Appraisal Techniques of Capital Investment Proposals
- 1.8 Summary of the Study
- 1.9 References & Suggested Readings
- 1.10 Model Questions
- 1.11 Answers to Check Your Progress and Model Questions

1.1 Introduction:

Capital investment is the process of making investment decisions in capital expenditures. Capital expenditure may be defined as an expenditure the benefits of which are expected to be received over a period of time exceeding one year and improve the existing capacity or facility of the organisation. The main characteristic of a capital expenditure is that the expenditure is incurred at one point of time whereas benefits of the expenditure are realised at different points of time in future. The capital investment decisions of the firm are commonly known as the capital budgeting or capital expenditure decisions. Capital investment or capital budgeting decision may be defined as the firm's decision to invest its current funds most efficiently in long-term activities in anticipation of an expected flow of future benefits over a series of years. Thus, capital investment decisions are also called as long term investment decisions.

1.2 Objectives:

After going through this unit you should be able to know about:

- Meaning, and nature of Capital Investment
- Need of Capital Investment decisions & Factors influencing capital investment decisions
- Appraisal techniques of capital investment proposals.

1.3 Definitions:

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

According to G.C. Philippatos, "Capital budgeting is concerned with the allocation of the firm's scarce financial resources among the available market 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 earnings from a project, with the immediate and subsequent streams of expenditures for it"

1.4 Nature of capital Investment Decisions:

Capital investment involves non-flexible long-term commitment of funds which provide benefits spread over a long period of time. The nature of capital investment decisions can be explained as under:

- Capital investment decisions incorporate a great deal of resources. Such decisions have a long term and significant effect on the profitability of the business.
- A capital investment decision represents long-term investment that cannot be reversed or withdrawn without sustaining a loss. Withdrawal or reversal of such decisions could incite huge money related setbacks to the firm.
- Decision regarding capital investment involves forecasting of cash inflows over several years for evaluating the profitability of projects. So, these decisions should be taken very carefully so that the future plans of the company are not affected adversely.
- It should safeguards the interest of the investors as well as of the firm since it avoids over-investment and under-investment in fixed assets.

1.5 Need of Capital Investment Decisions:

Capital investment decisions are the most crucial and critical decisions taken by a financial manager. The need of capital investment decision can be understand from the following points:

- Capital investment decisions affect the profitability of a firm. They also have a bearing on the competitive position of the enterprise mainly because of the fact that they relate to fixed assets. Firm's decision on investment for long-term projects has a significant influence on the rate and direction of its growth. Such decisions determine the future destiny of the company. An appropriate investment decision can yield impressive returns. A wrong decision may cause a problem for the long-term survival of the firm. Again, inadequate investment may cause problem for the firm to compete with the other business firms and the firm may face heavy loss also.
- Capital investment decision involves large amount of funds and the period of repayment of the proposals is also long. Thus, such investment decisions affect the finances of the firm for a long period of time. The length of the investment proposals may affect the accuracy of the assessment. Hence, it is crucial for the business firm to plan its investment very carefully.
- Most of the capital investment decisions are irreversible in nature. Because it is very challenging to track down the market for it and their conversion to other uses may not be financially viable. The best way to stays with the organization is to scrap the resource and bear the disasters.
- At last, capital investment includes costs and most of the organizations have limited capital assets. This underlines the requirement for insightful, wise and correct investment choices. An incorrect decision wouldn't just result in losses yet in addition keep the firm from procuring benefits from other investments. As the future is

uncertain, it requires an assessment of the future occasions. The presence of economic, political, social and technological factors make it actually a difficult task to assess the future events, probable benefits and costs accurately in quantitative terms.

1.6 Factors affecting the Capital Investment Decisions:

The factors which generally influence the capital investment decisions can be explained in the following points:

a) Amount of investment: In case a firm has unlimited funds for investment can accept all capital investment proposals which give a rate of return higher than the minimum acceptable or cut-off rate. In most cases, firms have restricted reserves and hence capital apportioning must be forced. In such a case a firm can take only such project or projects which are within its means. In order to determine which project should be taken up on this basis, the projects should be arranged in an ascending order according to the amount of capital investment required as shown below:

<u>Sl.No.</u>	<u>Project</u>	<u>Description</u>	<u>Investment required (Rs.)</u>
1.	A	Purchase of new plant	2,00,000
2.	B	Expansion of the existing plant	2,50,000
3.	C	Purchase of new sales office.	3,50,000
4.	D	Introduction of a new product line	4,50,000

In case the funds available are only 3,50,000, Project D cannot be taken up and it should, therefore, be rejected outright.

b) Cost of Capital and Minimum rate of return on investment: The administration anticipates a minimum rate of return on the capital investment. The minimum rate of return is typically settled on the basis of the cost of capital. For example, if the cost of capital is 8%, the management will not like to accept a proposal which yields a rate of return less than 8%. The projects giving a yield below the desired rate of return will, therefore, be rejected.

c) Expected rate of return: Capital Investment decisions are made in anticipation of increased return in the future. It is therefore very necessary to estimate the future return or benefits accruing from the investment proposals. There are two criteria available for quantifying benefits from capital investment decisions- (i) accounting profit and (ii) cash flows. The term accounting profit is identical, with income concept used in accounting. While in estimating cash flows, depreciation charges and other amortization charges of fixed assets are not subtracted from gross revenue, because no cash expenditure is involved.

d) Ranking of the proposals: When a number of projects appear to be acceptable on the basis of their profitability the projects will be ranked in order of their profitability in order to determine the most profitable project. Ranking of capital investment proposals is particularly necessary in two situations:

- a) Where capital is rationed, i.e., there is a limit on funds available for investment;
 - b) Where, two or more investment opportunities are mutually exclusive, i.e., only one of the opportunities can be undertaken.
- e) **Risk and Uncertainty:** Different capital investment proposals have different degrees of risk and uncertainty. Risk in capital investment decisions may be due to general economic conditions, competition, technological developments, consumer preferences, labour condition, etc. On account of these reasons the revenues, costs and economic life of a particular investment are not certain. While assessing capital investment proposals, a proper adjustment should therefore be made for risk and uncertainty.

STOP TO CONSIDER

An appraisal method should possess the following characteristics:

- a) The method must ensure a basis to distinguish between acceptable and non-acceptable projects.
- b) Ranking of projects in order of their desirability.
- c) It should have the base of selecting among several alternatives.
- d) It must be applicable to any conceivable project.
- e) It should recognise the fact that bigger benefits are preferable to smaller ones and early benefits are preferable to later ones.

1.7 Appraisal Techniques of Capital Investment Proposals:

In view of the significance of capital budgeting decisions, it is absolutely necessary that a sound appraisal method should be adopted to measure the economic worth of each investment project. There are several methods available for evaluating and ranking the capital investment proposals. In case of all these methods the main emphasis is on the return which will be derived on the capital invested in the project. In other words, the basic approach is to compare the investment in the project with the benefits derived there from. Following are the main methods generally used:

- 1. Pay-back Period Method.**
 - a) Traditional Pay-back Period method.
 - b) Discounted Pay-back Period method.
- 2. Accounting Rate of Return Method**
- 3. Discounted Cash Flow Method:**
 - a) Net Present Value (NPV) Method.
 - b) Present Value Index (PVI) Method.
 - c) Internal Rate of Return (IRR) Method.
 - d) Modified Internal Rate of Return (MIRR) Method.

These methods are explained below:

Pay-Back Period Method:

As the name denotes 'Pay-Back Period' refers to the period in which the project will generate the necessary cash to recoup the initial investment. This is the easiest method to be used for evaluation of capital expenditure. This method is also called as Pay-out or Pay-off method. The period in which we get the invested amount back is called Pay-Back period. The annual income received from the invested capital or whatever savings are there, they are called 'cash earning' or 'Net cash inflows'. On the basis of Net cash inflow, the pay-back period of investment is known. If in all the years, the net cash inflow remains the same then the invested amount is divided by the annual remains of net cash inflow which gives the pay-back period of investment. In the case of a project under consideration, if this calculated pay-back period is equal to or less than the desired pay-back period, then the project is accepted. If one project is to be chosen by this method, out of a number of projects then the project of least pay-back period is accepted. For the use of this method, the knowledge of two things is essential. First the total invested amount and Second the 'Net annual cash inflow'. Usually in every project proposal the estimated amount of investment is given and net annual cash inflow is calculated. For example, if a project requires 40,000 as initial investment and it will generate an annual cash inflow of 8,000 for ten years, the pay-back period will be 5 years, calculated as follows:

$$\text{Pay-back period} = \frac{\text{Initial Investment}}{\text{Annual Cash Inflow}} = \frac{40,000}{8,000} = 5 \text{ years}$$

Pay-back period method can of two types:

- a) **Traditional Pay-back Period Method:** In case of this method the Pay-back period is calculated without discounting the cash flows. In case of traditional pay back method, the annual cash inflow is calculated by taking into account the amount of net income on account of the asset (or project) before depreciation but after taxation. The income so earned, if expressed as a percentage of initial investment, is termed as "unadjusted rate of return". In the above example, it will be calculated as follows:

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

$$= \frac{8,000}{40,000} \times 100 = 20\%$$

- i) **Computation of pay-back period in case of even annual cash inflows-**

If there is uniform or even annual cash inflow from investment, then the following formula is used for calculation of the pay-back period:

$$\text{Pay-Back Period (P)} = \frac{\text{Initial Investment (C)}}{\text{Net Annual Return (R)}}$$

Where,

P= Pay-Back Period

C = Initial Investment

R = Uniform annual net return before depreciation but after taxes or Net Annual Cash Inflows.

Example 1: If a company by investing Rs. 80,000 gets net annual income of Rs 20,000 before depreciation but after taxes continuously for ten years, compute the pay-back period.
C 80,000

$$\begin{aligned}\text{Solution: Pay-Back Period (P)} &= \frac{\text{Initial Investment (C)}}{\text{Net Annual Return (R)}} \\ &= \text{Rs.}80,000/\text{Rs.}20,000 \\ &= 4 \text{ years}\end{aligned}$$

Example 2: Rakesh Limited wants to buy a new machine on the condition that its costs can be recovered in five years by savings therefrom.

You are given the following information:

- (1) Cost of the machine Rs. 3,00,000
- (2) Annual sales revenue generated by the new machine Rs. 5,00,000.
- (3) Variable cost 60% of sales
- (4) Annual fixed cost other than depreciation Rs. 22,500.
- (5) Life of the machine is 8 years.
- (6) Taxation to be charged at 50% of profits.

Advise the management whether the machine should be acquired or not.

Solution:

Calculation of Net Annual Return(profit):

Particulars	Details (Rs.)	Amount (Rs.)
Revenue from sales		5,00,000
Less: Variable Cost (60% of Rs.5,00,000)	3,00,000	
Fixed Cost	22,500	
Depreciation (Rs.3,00,000/8 years)	37,500	3,60,000
Profit before tax		1,40,000
Less: income tax (50%)		70,000
Profit after tax and depreciation		70,000
Add: Depreciation		37,500
Profit before depreciation but after tax		1,07,500

Initial Investment (C) = Rs.3,00,000

Net annual return before depreciation but after tax (R) = Rs.1,07,500

$$\begin{aligned}\text{Pay-Back Period (P)} &= \frac{\text{Initial Investment (C)}}{\text{Net Annual Return (R)}} \\ &= \frac{3,00,000}{1,07,500} \\ &= 2.79 \text{ years}\end{aligned}$$

As the pay-back period is 2.79 years, it is advisable that the management should acquire the machine.

Example 3: X Ltd is considering the purchase of a new machine which will carry out same operation performed by the labour. A and B are alternative models. From the following information you are required to prepare a profitability statement and work out the pay-back period:

	Machine A	Machine B
Estimated life of machine	5 years	4 years
	Rs.	Rs.
Cost of machine	1,50,000	2,50,000
Cost of indirect materials p.a.	6,000	8,000
Estimated saving in scrap p.a.	10,000	15,000
Additional Cost of supervision p.a.	12,000	16,000
Additional Cost of maintenance p.a.	7,000	11,000
Estimated savings in direct wages:		
Employees not required (Number)	150	200
Wages per employee (p.a.)	600	600

Depreciation is to be provided on straight line basic and taxation is to be charged at 50% of profits.

Which model would you recommend?

Solution:

Computation of Annual cash Inflow:

Particulars	Machine A (Rs.)	Machine B (Rs.)
Estimated saving in scrap	10,000	15,000
Estimated savings in direct wages (Employees not required x Wages per employee)	90,000	1,20,000
Total savings (A)	1,00,000	1,35,000
Additional Cost of supervision	12,000	16,000
Additional Cost of maintenance	7,000	11,000
Cost of indirect materials	6,000	8,000
Depreciation	30,000	62,500
Total Additional Cost (B)	55,000	97,500
Annual savings before tax (A-B)	45,000	37,500
Less: Tax (50%)	22,500	18,750
Annual Saving after tax	22,500	18,750
Add: Depreciation	30,000	62,500
Annual Cash Inflows	52,500	81,250

$$\text{Pay-Back Period (P)} = \frac{\text{Initial Investment (C)}}{\text{Annual cash Inflows (R)}}$$

$$\text{Pay-back period of Machine A} = \frac{1,50,000}{52,500} = 2.86 \text{ years}$$

$$\text{Pay-back period of Machine B} = \frac{2,50,000}{81,250} = 3.08 \text{ years}$$

The pay-back period of Machine 'A' is shorter than the Pay-back period of Machine 'B'. Therefore, machine 'A' is recommended.

ii) **Computation of pay-back period in case of uneven annual cash inflows-**

It may not always be possible that the annual cash inflows are uniform. The cash flow of each year may be different. In such a case cumulative cash inflows will be calculated and by interpolation, the exact pay-back period can be calculated. For example, if the project requires an initial investment of 25,000 and the annual cash inflows for 5 years are 7,000, 9,000, 8,000, 5,000 and 4,000 respectively. The pay-back period will be calculated as follows:

Year	Cash Inflows	Cumulative Cash Inflows
1	7,000	7,000
2	9,000	16,000
3	8,000	24,000
4	5,000	29,000
5	4,000	33,000

The above table shows, that in three years 24,000 has been recovered 1,000 is left out of initial investment. In the fourth year the cash inflow is 4,000. It means the pay-back period is between three to four years, ascertained as follows

$$\begin{aligned} \text{Pay-back period} &= 3 \text{ years} + \frac{1,000}{5,000} \\ &= 3.20 \text{ years.} \end{aligned}$$

STOP TO CONSIDER

The pay-back period can be used as a criterion to accept or reject an investment proposal. A project whose actual pay-back period is more than what has been pre-determined by the management will be straightaway rejected. The fixation of the maximum acceptable pay-back period is generally done by taking into account the cost of capital. For example, if the cost of capital is 20% the maximum acceptable pay-back period would be fixed at 5 years. This can also be termed as cut-off point. The projects can be arranged in an ascending order according to the length of their pay-back periods. The project having the shortest pay-back period or highest unadjusted rate of return will be preferred. For example, if the pay-back period has been fixed as 4 years, and project A has a pay-back period of 4 years and project B has a pay-back period of 3 years, project B would be preferred.

Merits:

The pay-back method has the following merits-

1. The method is very useful in evaluation of those projects which involve high uncertainty, political instability, rapid technological development of cheap substitutes, etc. These are some of the reasons which discourage one to take up projects having long gestation period. Pay-back method is useful in such cases.
2. The method makes it clear that no profit arises till the pay-back period is over. This helps new companies in deciding when they should start paying dividends.
3. The method is simple to understand and easy to work out.
4. The method reduces the possibility of loss on account of obsolescence as the method prefers investment in short-term projects.

Demerits:

The method has the following demerits-

1. The method ignores the returns generated by a project after its pay-back period. Projects having long gestation period will never be taken up if this method is followed though they may yield high returns for a long period.
2. The method does not take into account the time value of money. In other words, it ignores the interest which is an important factor in making sound investment decisions. A rupee tomorrow is worth less than a rupee today.

<p>Check Your Progress</p> <ol style="list-style-type: none">1. The length of the time needed to regain the original investment is called2. The dividing line between the acceptable and non- acceptable proposals is called point.3. While evaluating capital investment proposals pay-back period method considers the time value of money.
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b) Discounted Pay-back Period Method:

In order to overcome the criticism that pay-back period method does not take into account the time value of money, the discounted pay-back period method is recommended. In case of this method, the present value of cash inflows arising at different time intervals at the desired rate of interest (depending upon the cost of capital) are found out. The present values so calculated are now taken as the real cash inflows for determination of the pay-back period. The method considers the future estimated cash flows of a project and discounting them to the present value. This is compared to the initial outlay of capital for the investment. The period of time that a project or investment takes for the present value of future cash flows to equal the initial cost provides an indication of when the project or investment will break even. The point after that is when cash flows will be above the initial cost.

The shorter a discounted payback period is means the sooner a project or investment will generate cash flows to cover the initial cost. The general rule to accept or reject a project using the discounted payback period depends on the shorter payback period than the target timeframe.

Example 4: A project with the following cash flows is under consideration:

Initial Investment Rs.20,000.

Year	1	2	3	4
Cash Inflows	8,000	12,000	4,000	2,000

Cost of capital 10%.

You are required to calculate the Discounted Payback Period.

Solution:

Year	Discounted Cash Flow	Cumulative Discounted Cash Flow
0	(20,000)	(20,000)
1	$8,000/1.10 = 7,273$	(12,727)
2	$12,000/(1.10)^2 = 9,917$	(2,810)
3	$4,000/(1.10)^3 = 3,005$	195
4	$2,000/(1.10)^4 = 1,366$	1,561

Discounted Pay-Back Period = 2 years + (2,810/3,005) = 2.94 years

1.8 Summary of the Study:

Capital investment decisions are the long term investment decisions of the firm. These investment decisions affect the profitability of the firm. It involves large amount of funds and the period of repayment of the proposals is also long. Therefore, it is very important for the business firm to plan its investment very carefully. A business firm must adopt a sound appraisal technique for selecting the best investment proposals.

1.9 References and Suggested Readings:

- Pandey I.M., (2015), Financial Management, Eleventh Edition, Vikas Publishing House Pvt. Ltd., E-28, Sector-8, Noida-201301 (UP) India.
- Maheshwari S.N. *Financial Management Principles & Practices*. Sultan Chand & Sons Educational Publishers, New Delhi, 2014.
- Khan M.Y. & Jain P.K. *Financial Management Text, Problems & Cases*. Tata McGraw Hill Education Private Limited, New Delhi, 2010.
- Kalwar M.C. & Pathak R.K. *Fundamentals of Financial Management*. Ashok Book Stall, Guwahati, 2010.

1.10 Model Questions:

1. Define capital budgeting. Discuss the importance of capital investment decisions.
2. Discuss the characteristics of a good appraisal technique of capital investment.
3. Describe the Pay-back Period method of capital investment decisions.
4. Distinguish between Pay-back Period and Discounted Payback Period Method.
5. There are two projects A and B. The cost of the project is 30,000 in each case. The cash inflows of the projects are as under:

	Project X	Project Y
Initial Investment	Rs.10,000	Rs.10,000
Cash Inflows year-wise		
1	4,000	3,000
2	4,000	3,000
3	2,000	3,000
4	Nil	3,000
5	Nil	3,000

Compute the Pay-back Period of the projects and suggest the project which should be preferred?

6. There are two projects A and B. The cost of the project is 30,000 in each case. The cash inflows of the projects are as under:

Project A	Project B	
Initial Investment	Rs.12,000	Rs.12,000
Cash Inflows year-wise		
1	4,000	5,000
2	4,000	4,000
3	4,000	3,000
4	-	3,000
5	-	3,000

Compute the Pay-back Period of the projects and suggest the project which should be preferred?

7. A project requires an initial investment of Rs.20,000. The cash inflows of the project are as follows:

Year	1	2	3	4
Cash Inflows	8,000	12,000	4,000	2,000

Cost of capital 8%.

You are required to calculate the Discounted Payback Period.

8. Do you think that Discounted Pay-Back Period method is more acceptance than Traditional Pay-Back Period method? Explain with a suitable example.

1.11 Answer to check your progress

1. Pay-back Period; 2. Cut-off Point; 3. Discounted Pay-Back Period

Block III: Unit-II
Appraisal Techniques of Capital Investment Proposals

Unit Structure:

- 2.1 Objectives
- 2.2 Accounting or Average Rate of Return Method
- 2.3 Modern/Time-Adjusted Rate or Discounted Cash Flow (DCF) Methods
- 2.4 Evaluation of projects under Time Adjusted Rate of Return/ Discounted Cash-Flow Methods
- 2.5 Replacement of Existing Asset
- 2.6 Summary of the study
- 2.7 References and Suggested Readings
- 2.8 Model Questions
- 2.9 Answer to check your progress/ Model Questions

2.1 Objectives:

- Understand the Accounting Rate of Return method for evaluating investment decisions.
- Explain the Time-Adjusted Rate or Discounted Cash Flow (DCF) methods of capital budgeting.
- Illustrate the computation of the Net Present Value (NPV), Profitability Index (PI) and Internal Rate of Return.
- Show the comparison of net present value (NPV) and internal rate of return (IRR).

2.2 Accounting or Average Rate of Return (ARR) Method:

Long-term investment projects are generally evaluated by this method. Under this method, the investment proposals are judged on the basis of their relative profitability. For this purpose, capital employed and related incomes are considered for the entire economic life of the project and then the average yield is calculated. Such a rate is termed as Average or Accounting Rate of Return. The average rate of return (ARR) method of evaluating proposed capital expenditure is also known as the Accounting Rate of Return or Return on Investment or Average rate of return or Unadjusted Rate of Return Method. In this method the rate of return on Investment is calculated and the time factor is not taken into consideration. Under this method, accounting information is considered as the base rather than cash flows. There are a number of alternative methods for calculating the ARR. The Average Rate of Return is calculated by using any of the following formula:

$$1) \text{ Average Rate of Return (ARR)} = \frac{\text{Average annual cash inflows} - \text{Annual Depreciation}}{\text{Initial Investment}} \times 100$$

$$2) \text{ Average Rate of Return (ARR)} = \frac{\text{Average annual profits after taxes and depreciation}}{\text{Average investment over the life of the project}} \times 100$$

$$3) \text{ ARR} = \frac{\text{Average annual cash inflows} - \text{Annual Depreciation}}{\text{Average investment over the life of the project}} \times 100$$

$$4) \text{ ARR} = \frac{\text{Average annual cash inflows} - \left[\frac{\text{Initial Investment} - \text{Scrap Value}}{\text{Life of the project}} \right]}{\frac{\text{Initial Investment} + \text{Scrap Value}}{2}} \times 100$$

Where,

$$\text{Annual Depreciation} = \frac{\text{Initial Investment} - \text{Scrap Value}}{\text{Life of the project}}$$

$$\text{Average Investment} = \frac{\text{Initial Investment} + \text{Scrap Value}}{2}$$

Or,

$$\text{Average Investment} = \text{Net working capital} + \text{Scrap Value} + \frac{1}{2} (\text{Original Cost} - \text{Scrap Value})$$

The profits after taxes for each year of the project's life are firstly added and the total profits after taxes are divided by the total number of years to get the average profits after taxes. In the case of annuity, the average after-tax profits are equal to any year's profits.

In order to determine the average investment the net investment is divided by two. Under this method, it is assumed that the firm use straight line depreciation and the book value of the asset declines at a constant rate from its purchase price to zero at the end of its depreciable life. This means that, on the average, firms will have one-half of their initial purchase price in the books. Consequently, if the machine has salvage value, then only the depreciable COS (cost salvage value) of the machine should be divided by two in order to ascertain the average net investment, as the salvage money will be recovered only at the end of the life of the project Therefore, an amount equivalent to the salvage value remains tied up in the project throughout its life time. Hence, no adjustment is required to the sum of salvage value to determine the average investment Likewise, if any additional net working capital is required in the initial year which is likely to be released only at the end of the project's life, the full amount of working capital should be taken in determining relevant investment for the purpose of calculating ARR.

For example, if initial investment required to purchase of machine is Rs 13,000, salvage value Rs. 1,000, working capital Rs. 2,000, service life 6years and the straight line method of depreciation is adopted, the average investment will be Rs. $[(1,000 + 2,000) + \frac{1}{2} (\text{Rs } 13,000 - \text{Rs } 1,000)] = \text{Rs } 9,000$.

Accept/reject criterion:

Normally, business enterprises set a minimum rate of return. If there is only one project and it has to be evaluated by this method, then first we have to find out its average rate of return and compare it with the minimum rate for the acceptance of the project. The project can be accepted if its average rate of return is equal or more than the prescribed rate. When the evaluation of different projects is done and one of them has to be chosen, then the return on all projects is calculated separately and the project of highest return is selected. It may be noted that results obtained under each of the above methods will be quite different

from each other. Therefore, it is necessary to follow the same method in each case while evaluating capital investment proposals under ARR method.

Example 1: A project costs Rs.60,000 and has a scrap value of Rs.12,000. Its income before depreciation and taxes during the last first five years is Rs.12,000; Rs.14,400; Rs. 16,800; Rs.19,200 and Rs.24,000. Assume tax rate at 50% and depreciation on straight line basis. Calculate the average rate of return for the project.

Solution: Calculation of Average Income after depreciation and tax:

Year	1	2	3	4	5	Total	Average
Income before depreciation & tax	12,000	14,400	16,800	19,200	24,000	86,400	17,280
Less: Depreciation	9,600	9,600	9,600	9,600	9,600	48,000	9,600
Net Income before tax	2,400	4,800	7,200	9,600	14,400	38,400	7,680
Less: Tax @50%	1200	2400	3600	4800	7200	19200	3840
Net Income after tax	1,200	2,400	3,600	4,800	7,200	19,200	3,840

$$\text{Annual Depreciation} = \frac{\text{Initial Investment} - \text{Scrap Value}}{\text{Life of the project}} = \frac{60,000 - 12,000}{5} = \text{Rs. } 9,600$$

$$\text{Average Investment} = \frac{\text{Initial Investment} + \text{Scrap Value}}{2} = \frac{60,000 + 12,000}{2} = \text{Rs. } 36,000$$

a) Average Rate of Return on Initial Investment

$$= \frac{\text{Average annual cash inflows after taxes and depreciation}}{\text{Initial Investment}} \times 100$$

$$= \frac{3,840}{60,000} \times 100 = 6.40\%$$

b) Average Rate of Return on Average Investment

$$= \frac{\text{Average annual profits after taxes and depreciation}}{\text{Average investment over the life of the project}} \times 100$$

$$= \frac{3,840}{36,000} \times 100 = 10.67\%$$

Example 2: From the following information calculate the Average Rate of Return of two machines – Machine 1 & Machine 2.

	Machine 1	Machine 2
Cost of Machine	1,50,000	1,50,000
Additional net working capital required	15,000	20,000
Estimated life of machine	5 years	5 years
Estimated scrap value	10,000	10,000
Income Tax Rate	50%	50%

Year	1	2	3	4	5
Annual earnings before depreciation & tax:					
Machine 1	15,000	25,000	35,000	70,000	90,000
Machine 2	1,00,000	70,000	50,000	30,000	10,000

Solution:

We know that,

Average Investment = Net working capital + Scrap Value + $\frac{1}{2}$ (Original Cost - Scrap Value)

$$\begin{aligned} \text{Machine 1} &= 15,000 + 10,000 + \frac{1}{2} (1,50,000 - 10,000) \\ &= 25,000 + 70,000 = \text{Rs. } 95,000 \end{aligned}$$

$$\begin{aligned} \text{Machine 2} &= 20,000 + 10,000 + \frac{1}{2} (1,50,000 - 10,000) \\ &= 30,000 + 70,000 = \text{Rs. } 1,00,000 \end{aligned}$$

Calculation of depreciation: $\text{Depreciation} = \frac{\text{Initial Investment} - \text{Scrap Value}}{\text{Life of the machine}}$

$$\text{Machine 1 \& Machine 2} = \frac{1,50,000 - 10,000}{5} = \text{Rs. } 28,000$$

Average earnings before depreciation and tax = $\frac{\text{Total annual earnings before depreciation and tax}}{\text{Life of the machine}}$

$$\begin{aligned} \text{Machine 1} &= \frac{15,000 + 25,000 + 35,000 + 70,000 + 90,000}{5 \text{ years}} \\ &= \frac{2,35,000}{5 \text{ years}} \\ &= \text{Rs. } 47,000 \end{aligned}$$

$$\begin{aligned} \text{Machine 2} &= \frac{1,00,000 + 70,000 + 50,000 + 30,000 + 10,000}{5 \text{ years}} \\ &= \frac{2,60,000}{5 \text{ years}} = \text{Rs. } 52,000 \end{aligned}$$

Calculation of Average Earnings after depreciation and tax:

	Machine 1	Machine 2
Average earnings before depreciation & tax	47,000	52,000
Less: Depreciation	28,000	28,000
Average earnings before tax	19,000	24,000
Less: Tax @50%	9,500	12,000
Average earnings after tax	9,500	12,000

Calculation of Average Rate of Return on Average Investments:

$$\text{Average Rate of Return} = \frac{\text{Average earnings after taxes and depreciation}}{\text{Average investment}} \times 100$$

$$\text{Machine 1} = \frac{9,500}{95,000} \times 100 = 10\%$$

$$\text{Machine 2} = \frac{12,000}{1,00,000} \times 100 = 12\%$$

Merits of Average Rate of Return Method:

The merits of this method are:

1. Simple- This method is quite simple to understand.
2. This method considers the savings over the entire economic life of the project. Hence, it provides a better comparison of the projects as compared to the pay-back method.
3. In this method profitability of different projects is evaluated, so comparison of different projects is possible.
4. In this method while evaluating a capital investment project the concept of 'net earnings' or net income after depreciation is used. Therefore, it is theoretically very sound which is absent in case of all other methods.
5. This method is quite useful for the analysis of long-term projects because it considers the whole life of the project.
6. An investor can make best use of this method for evaluating the projects for investing his wealth in the most profitable sector.

Demerits of Average Rate of Return Method:

The method suffers from the following disadvantages:

1. This method does not take into account the time value of money. The comparative study is essential for the evaluation of different projects and for this purpose the calculation of present value of cash inflows of different projects is necessary. But this is not done in this method.
2. In this method the profits affected by micro factors are not measured and only average annual profits are considered.
3. It is quite difficult to find out in this method whether the rate of return earned on investment is fair or not. Generally the minimum rate of return on the investment is

decided by top management. The projects having less than this rate are not considered.

4. In this method, the income and investment words are used which have got many meaning. So there is uncertainly.
5. There are different methods for calculating the Accounting Rate of Return due to diverse concepts of investments as well as earnings. Each method gives different results. This reduces the reliability of the method.

2.3 MODERN/ TIME-ADJUSTED RATE OF RETURN/ DISCOUNTED CASH FLOW (DCF) METHOD:

From the above discussions it has been made clear that the pay-back period method and accounting rate of return method do not consider the time factor, so these methods cannot give the true results. The discounted cash flow technique is an improvement on these two methods. It takes into account both the interest factor i.e. cost of capital (r) as well as the return after the pay-back period. **Shri S. C. Kuchhal** stated that "In recent years, the time discounted rate of return has come to be recognised as the most meaningful tool for financial decision-making with respect to future commitments and projects." The time adjusted rate of return is based on this theory that one rupee obtained after one year or any other period is less valuable than the one rupee received today. In other words, it is said that one rupee obtained in future will be less than one rupee to today. This decrease ordinarily depends on the interest rate leaving beside other non-monetary factors. So, in any investment or project the time adjustment should be made for future earnings. The decision should be taken on the basis of comparing the cost of investment and the present value of future earnings. The present value of future earnings can be known like compound interest. In compound interest method, any amount is taken in present and it is compounded with a certain rate of interest for a specified period. In the present value method it is seen what is the present value of certain amount received in future or what is the original amount which if invested would have been equal to the amount received in future.

Discounted cash flow technique recognises that Re. 1 of today (the cash outflow) is worth more than 1 received at a future date (cash inflow). The method involves three stages:

- i) Calculation of both cash inflows and cash outflows over the full life of the asset.
- ii) Discounting the cash flows so calculated by a discount factor.
- iii) Aggregating of discounted cash inflows and comparing the total with the discounted cash outflows.

If in any business, 10% return is obtained then today's invested Rs. 100 will become Rs. 110 after one year, Rs. 121 after two years and Rs. 133.1 after three years. The present value of any amount received in future after a definite period can be calculated by the following mathematical formula or with the help of present value tables:

$$PV = \frac{C1}{(1+r)^1} + \frac{C2}{(1+r)^2} + \frac{C3}{(1+r)^3} + \frac{C4}{(1+r)^4} + \dots + \frac{Cn}{(1+r)^n}$$

Where,

PV = Present value of future cash inflows

C = Cash Inflows, n = number of years

R= Rate of interest

There are three methods based on this time adjusted rate of return. These are:

1. Net Present Value Method
2. Profitability Index Method
3. Internal Rate of Return Method

2.4 Evaluation of projects under Time Adjusted Rate of Return/ Discounted Cash-Flow Methods:

1. Net Present Value (NPV) Method:

The net present value method is quite important for the analysis of capital investments and it is based on time adjusted rate of return. In this method, the cash inflows received in future are discounted with required earning rate to determine their present value. This present value is compared with the cost of the project or investment. The Net Present Value (NPV) is the difference between the total present value of future cash inflows and the total present value of future cash outflows. Therefore, it is also called as excess present value method or net gain method. The NPV method is generally considered to be the best method for evaluating the capital investment proposals. This method is used quite easy when management has decided the minimum rate of return on investment.

The net present value can be computed by using the following equation:

$$\text{Net Present Value} = \text{Present Value of Cash Inflows} - \text{Initial Investment}$$

Or,

$$\text{NPV} = \text{PV} - \text{C}$$

Where,

NPV= Net Present Value

PV = Present Value of Cash Inflows

C= Initial Investment

Decision Rule: In case of this method cash inflows and cash outflows associated with each project are first worked out. If the present value of the cash inflows is equal to or more than the initial investment, then the proposal is accepted. When management has to choose only one project out of available many alternative projects, then that project whose net present value is highest is selected. Under this method, Profit after tax but before depreciation represents cash inflows.

Merits of NPV:

- The NPV method considers all cash flows.
- NPV method is based on the concept of the time i.e. time value of money is considered.
- This method is considered as the true measure of profitability.
- It satisfies the value addition principle (i.e., NPV's of two or more projects can be added).
- It considers the Shareholders Wealth Maximization (SWM) principle.

Demerits

- NPV method requires estimates of cash flows which is a tedious task.
- It requires computation of the opportunity cost of capital which is practically difficult.
- Sensitive to discount rates value of money.

Example 3: Calculate the net present value for a small sized project requiring an initial investment of Rs. 30,000 and which provides net cash inflow of Rs. 8,000 each year for six years. Assume the cost of funds to be 8% p.a. and that there is no scrap value.

Solution:

The present value of an annuity of Re.1 for 6 years at 8% p.a. interest is Rs. 4.623.

Hence, the present value of Rs. 8,000 at end of 6 year comes to: $(8,000 \times 4.623) = \text{Rs. } 36,984$

$$\begin{aligned} \text{Net Present Value} &= \text{Present Value of Cash Inflows} - \text{Initial Investment} \\ &= \text{Rs. } (36,984 - 30,000) \\ &= \text{Rs. } 6,984 \end{aligned}$$

Therefore, the net present value of the project is Rs. 6,984.

Example 4: The management of Future Ltd. wants to invest Rs. 1,00,000 in a project which will give earnings for five years. The earnings after tax but before depreciation will be Rs. 20,000 in the first in the year. Rs. 30,000 in the second year Rs. 40,000 in the third year, Rs. 20,000 in the fourth year and Rs. 10,000 in the fifth year.

Suggest management whether this project is worth-while to be taken, if management has suggested 10% discount rate for the computation of present value.

The present value of Rs. 1 for five years at 10% discount rate is 0.909, 0.826, 0.751, 0.683 and 0.621 respectively.

Solution:

Calculation of Present Value of Cash Inflows:

Year	Cash Inflow	P.V. of Re.1 at 10% discount	P.V. of Cash Inflows
1	20,000	0.909	18,180
2	30,000	0.826	24,780
3	40,000	0.751	30,040
4	40,000	0.683	27,320
5	10,000	0.621	6,210
Total			1,06,530

We know that,

$$\text{Net Present Value (NPV)} = \text{Present Value of Cash Inflows (PV)} - \text{Initial Investment (C)}$$

$$= \text{Rs. } (1,06,530 - 1,00,000) = \text{Rs. } 6,530$$

As the net present value of the project is positive, it can be suggested that the project should be accepted by the management.

Example 5: From the following information, calculate the net present value of the two projects and suggest which of the two projects should be accepted assuming a discount rate of 12%.

	Project X	Project Y
Initial Investment	Rs. 30,000	Rs. 40,000
Estimate Life	5 years	5 years
Scrap Value	2,000	3,000

The profits before Depreciation and after taxes (Cash-Flows) are as follows:

Year	1	2	3	4	5
Project X	8,000	12,000	15,000	6,000	4,000
Project Y	20,000	15,000	8,000	5,000	4,000

Solution:

Calculation of Present Value of Cash Inflows:

Year	Cash Inflow		P.V. factor at 12% discount	P.V. of Cash Inflows	
	Project X	Project Y		Project X	Project Y
1	8,000	20,000	0.893	7,144	17,860
2	12,000	15,000	0.797	9,564	11,955
3	15,000	8,000	0.712	10,680	5,696
4	6,000	5,000	0.636	3,816	3,180
5	4,000	4,000	0.567	2,268	2,268
5 (Scrap)	2,000	3,000	0.567	1,134	1,701
Total Present Value				34,606	42,660

$$\text{Net Present Value (NPV)} = \text{Present Value of Cash Inflows (PV)} - \text{Initial Investment (C)}$$

$$\text{Project X} = \text{Rs. } (34,606 - 30,000) = \text{Rs. } 4,606$$

$$\text{Project Y} = \text{Rs. } (42,660 - 40,000) = \text{Rs. } 2,660$$

As the net present value of the Project X is higher than the net present value of Project Y, therefore, Project 'X' should be accepted by the management.

Note: The net present value of Re.1 at 12% discount can be calculated as follows:

Year	1	2	3	4	5
Present Value of Re.1 at 12% discount	$\frac{1}{(1+\frac{12}{100})^1}$ = 0.893	$\frac{1}{(1+\frac{12}{100})^2}$ = 0.797	$\frac{1}{(1+\frac{12}{100})^3}$ = 0.712	$\frac{1}{(1+\frac{12}{100})^4}$ = 0.636	$\frac{1}{(1+\frac{12}{100})^5}$ = 0.567

Example 6: From the following information calculate the net present value of the project and suggest whether we should go in for the project or not assuming a discount rate of 12%.

Project Cost - Rs. 30 Lakhs

Estimated Life - 10 years

Scrap value - Rs. 3 Lakhs

Annual Profit (after tax and depreciation) Rs. 3 Lakhs.

At 12% p.a. the present value of one rupee received annually for 10 years is Rs. 5.65 and the value of one rupee received at the end of 10th year in Re. 0.322.

Solution:

Calculation of Present Value of Cash Inflows:

Particulars	Amount (Rs.)
Annual Profit (after tax and depreciation)	3,00,000
Add: Depreciation ($\frac{30,00,000-3,00,000}{10}$)	2,70,000
Annual Cash inflow after tax but before depreciation	5,70,000
Present Value of annual cash inflows for 10 years (5,70,000 x 5.65)	32,20,000
Add: Present value of scrap at the end of 10 th Year (3,00,000 x 0.322)	96,600
Total present value of cash inflows during the life of the project	33,16,600

Net Present Value = Present Value of Cash Inflows – Initial Investment

$$= \text{Rs. } (33,16,600 - 30,00,000) = \text{Rs. } 3,16,600$$

As the net present value of the project is positive, therefore, the project should be accepted.

2. Profitability Index (PI) or Benefit-Cost Ratio (B/C Ratio):

Profitability Index (PI) is another time-adjusted technique of capital budgeting. This technique is similar to the Net Present Value (NPV) method. The profitability index measures the present value of returns per rupee invested, while the NPV is based on the difference between the present value of future cash inflows and the present value of cash outlays. A major shortcoming of the NPV method is that, being an absolute measure, it is not a reliable method to evaluate projects requiring different initial investments. The Profitability Index method provides a solution to this kind of problem. It is, in other words, a relative measure.

This method is also known as the Benefit-Cost Ratio (B/C ratio) because the numerator measures benefits and the denominator costs. A more appropriate description would be present value index. It may be defined as the ratio which is obtained dividing the present value of future cash inflows by the present value of cash outlays. The measurement is done by use of the following formula:

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

The biggest disadvantage of Net present value is that in this method those projects cannot be evaluated in which there is huge difference in initial capital investments. For this Profitability Index or Benefit Cost Ratio is used.

Accept-Reject Rule: Using the B/C ratio or the PI, a project will qualify for acceptance if its PI exceeds one. If the result is one or more, then the project is accepted and if it is less than 1 the project is rejected. Under this method, ranks can be assigned to the projects for the purpose of selection of the projects. The highest rank will be given to the project with the highest PI, followed by others in the same order. The project with positive NPV will have Profitability Index greater than one. Profitability Index below one means that the project's NPV is negative.

Example 7: From the following information, calculate the Profitability Index of the two projects and suggest which of the two projects should be accepted assuming a discount rate of 12%.

	Project X	Project Y
Initial Investment	Rs. 25,000	Rs. 35,000
Estimate Life	4 years	4 years
Scrap Value	2,000	3,000

The profits before Depreciation and after taxes (Cash-Flows) are as follows:

Year	1	2	3	4
Project X	8,000	12,000	15,000	6,000
Project Y	20,000	15,000	8,000	5,000

Solution:

Calculation of Present Value of Cash Inflows:

Year	Cash Inflows		P.V. factor at 12% discount	Present Value of Cash Inflows	
	Project X	Project Y		Project A	Project B
1	8,000	20,000	0.893	7,144	17,860
2	12,000	15,000	0.797	9,564	11,955
3	15,000	8,000	0.712	10,680	5,696
4	6,000	5,000	0.636	3,816	3,180
4 (Scrap)	2,000	3,000	0.636	1,272	1,908
Total Present Value				32,476	40,599

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

$$\text{PI (Project A)} = \frac{\text{Rs.}32,476}{\text{Rs.}30,000} = 1.08$$

$$\text{PI (Project B)} = \frac{\text{Rs.}40,599}{\text{Rs.}35,000} = 1.16$$

As the Profitability Index for both the projects is greater than 1, both the projects are acceptable. Since the Profitability Index of Project 'B' is more than Project 'A', therefore, it can be suggested to accept Project 'B'.

3. Internal Rate of Return Method:

The third method based on the Time Adjusted Rate of Return is internal rate of return method. In present value method and profitability index method, the expected rate of return is already known. So the present value of future earnings can be calculated quite easily. If we presume that we don't know the expected rate of return then in such a condition the future value of cash inflows should be made equal to the present value of initial investment. For this purpose the rate used, is also called discounting cash rate, internal rate of return, time adjusted rate, yield rate etc.

Decision Rule: In this method the managers first estimate the amount of investment and cash inflow from the project. Afterwards the cash inflows of a project is made equal to the initial investment by taking some discounting rate and if the required rate or hurdle rate is less than this calculated internal rate of return, the project is accepted. If many projects have to be evaluated then the project with highest internal rate of return is put at the first place, the second highest rate of return at second place and so on and so forth.

Merits:

- IRR method considers all cash flows.
- This method is also a true measure of profitability.
- IRR method is based on the concept of the time value of money.
- Generally, consistent with wealth maximization principle.

Demerits:

- IRR requires the estimates of cash flows which is a difficult task in practice.
- Does not hold the value addition principle
- It is not useful for selecting the correct proposal from the mutually exclusive projects.
- This method yields multiple rates at times.
- Relatively difficult to compute and time consuming.

Computation of IRR:

The computation of IRR is done in following two circumstances:

- (a) When the cash inflow is even in all the years;
- (b) When the cash inflow is uneven in different years.

- a) **Even cash inflows-** If the annual cash inflow is equal or even in all the years than the P.V

Factor is calculated by dividing the initial investment by annual cash inflow, as

$$\text{PV Factor} = \frac{\text{Initial Investment}}{\text{Annual Cash Inflows}}$$

After computation of P.V. Factor it is compared with the cumulative present value table for the period of economic life of the project and traced the nearest factor to this calculated P.V. factor this rate will be internal rate of return of the project. If accurate P.V. factor is not available in the table, then Internal Rate of Return will be in between two factors and nearest factor's rate may be taken as internal rate of return.

Example 8: Determine the internal rate of return using annuity method from the following data:

Initial Investment	Rs.10,000.
Annual Cash Inflows:	
First year	Rs. 2,637.83
Second year	Rs. 2,637.83
Third year	Rs. 2,637.83
Fourth year	Rs. 2,637.83
Fifth year	Rs. 2,637.83

Solution: P.V. factor = $\frac{\text{Initial Investment}}{\text{Annual Cash Inflows}} = \frac{\text{Rs.10,000}}{\text{Rs.2,637.83}} = 3.791$

By looking the present value table against five year the P.V. factor 3.791 and we find it against 10%, therefore, the internal rate of return is 10%.

Check Your Progress- 1

1. Fill in the blanks with appropriate words:
 - a) Under IRR method, a project is accepted if its internal rate of return is higher than the
 - b) Under Benefit Cost Ratio method, a project should be accepted when it has a greater than one.
 - c) method does not consider the time value of money.
 - d) NPV is the difference between the total present value of future cash inflows and
2. Describe the situations under which Accounting rate of return method is acceptable.
3. State any three differences between Net Present Value and Profitability Index method.

b) Uneven Cash inflow:

If the cash inflows of a project are different in different years, then trial and error method is used for the computation of internal rate of return. First we add up cash inflows of all the years and divide it by the life of the project and average annual cash inflow. After this we divide the initial investment by this average annual cash inflow and try to find out the nearest internal rate of return with the help of above mentioned procedure. When we reach for nearest two internal rates of return in between these the actual internal rate is there then with the help of following formula, we can find actual internal rate of return:

$$IRR = A + \frac{PVA - C}{PVA - PVB} (B-A)$$

Where.

A = Lower trial rate

B= Higher trial rate

C=Initial investment or original investment

PVA= Present value of cash inflows with lower trial rate

PVB= Present value of cash inflows with higher trial rate.

Example 9: Determine the Internal Rate of Return using annuity method.

Initial Investment Rs. 10,000

Cash Inflows:

First year Rs. 5,000

Second year Rs. 5,000

Third year Rs. 2,000

Solution: Average Cash Inflow = $(5,000+5,000+2,000) \div 3 = \text{Rs. } 4,000$

$$P.V. \text{ factor} = \frac{\text{Initial Investment}}{\text{Annual Cash Inflows}} = \frac{\text{Rs.}10,000}{\text{Rs.}4,000} = 2.5$$

This 2.5 P.V. value against column of three year is near to 10% rate, therefore we shall take 10% and 12% rates for discounting:

10% Rate of Return				12% Rate of Return			
Year	Cash Inflow	P.V of Re.1	P.V. of Cash Inflow	Year	Cash Inflow	P.V of Re.1	P.V. of Cash Inflow
1	5,000	0.909	4,545	1	5,000	0.893	4,465
2	5,000	0.826	4,130	2	5,000	0.797	3,985
3	2,000	0.751	1,502	3	2,000	0.712	1,424
Total			10,177	Total			9,874

$$\begin{aligned}
 \text{IRR} &= A + \frac{\text{PVA} - C}{\text{PVA} - \text{PVB}} (\text{B}-\text{A}) \\
 &= 10 + \frac{10177-10,000}{10177-9,874} (12-10) \\
 &= 10 + \frac{177}{303} \times 2 \\
 &= 10 + 1.17 \\
 &= 11.17\%.
 \end{aligned}$$

Therefore, the internal rate of return is 11.17%.

Stop to Consider

Both IRR and NPV methods consider the time value of money and they are also consistent with the wealth maximization objective. They give same accept-reject results in case of conventional independent projects. But in case of mutually exclusive projects under a number of situations the IRR method can give a misleading result. For this reason the use of the NPV method is preferable.

Example 10: A company proposes to install a machine involving a Capital Cost of Rs.3,60,000. The life of the machine is 5 years and its salvage value at the end of the life is nil. The machine will produce the net operating income after depreciation of Rs.68,000 per annum. The company's tax rate is 45%. The present value factors for 5 year are as follows:

Discounting Rate:	14%	15%	16%	17%	18%
Cumulative Factor:	3.43	3.35	3.27	3.20	3.13

You are required to calculate the internal rate of return of the proposal.

Solution:

Calculation of Annual Cash Inflow:

Particulars	Amount (Rs.)
Net Operating Income after Depreciation per annum	68,000
Less: Tax @ 45%	30,600
Profit after depreciation and Tax	37,400
Add: Depreciation (Rs.3,60,000/5years)	72,000
Cash inflow after tax but before depreciation	1,09,400

$$\text{PV Factor} = \frac{\text{Initial Investment}}{\text{Annual Cash Inflows}} = \frac{\text{Rs.3,60,000}}{\text{Rs.1,09,400}} = 3.29$$

The P.V. factor against column of five year is near to 15% rate, therefore we shall take 15% and 16% as trial rates to calculate the Internal Rate of Return (IRR).

We know that,

$$\begin{aligned}
\text{IRR} &= A + \frac{\text{PVA} - C}{\text{PVA} - \text{PVB}} (\text{B}-\text{A}) \\
&= 15 + \frac{3,66,490 - 3,60,000}{3,66,490 - 3,57,738} (16 - 15) \\
&= 15 + \frac{\text{Rs. } 6,490}{\text{Rs. } 8752} \times 1 \\
&= 15 + 0.74 \\
&= 15.74\%
\end{aligned}$$

Here,

A = 15 (Lower trial rate)

B = 16 (Higher trial rate)

C = Rs. 3,60,000(Initial Investment)

PVA = Rs.1,09,400 x 3.35= Rs. 3,66,490 (Present value of cash inflows with lower trial rate)

PVB = Rs.1,09,400 x 3.27= Rs. 3,57,738 Present value of cash inflows with higher trial rate)

2.5 Replacement of Existing Asset:

Capital budgeting decisions have also to be taken because the assets require constant replacements. With the technological improvements assets may become outdated and obsolete. Those assets can be replaced firm with the new assets which operate more economically. The main reason behind the replacement is to improve operating efficiency and reduce costs. The savings in cost will reflect in the increased profits, but the firm's revenue may remain unchanged. An equipment or asset may have to be replaced before its useful life because a more economic alternative is available in view of constant technological developments. This helps in reduction in the costs and increases the operational efficiency. In such a case, it will be necessary to determine the most favourable time for replacement of the asset. If a new machine is intended to replace an existing machine, the proceeds so obtained from its sale reduce the cash outflows required to purchase the new machine and hence, part of relevant cash flows. Replacement decisions are also called as Cost Reduction Investments as it help to introduce more efficient and economical assets. The replacement decisions involving substantial modernization and technological improvements can enhance revenues as well as reduce costs.

Example 11: J.K. Ltd. is thinking to replace or repair a particular machine, which has just broken down. Last year's running and maintenance cost of the machine cost Rs.20,000 and with the age of the machine in recent years these costs have been increasing in real terms. A spent of Rs.19,000 for immediate repair will expand the life of the machine to 5 years. If the machine is not repaired it can be sold immediately to realise about Rs.5,000 (Ignore loss/gain on such disposal).

Alternatively, the company can buy a new machine for 49,000 with an expected life of 10 years with no salvage value after providing depreciation on straight line basis. In this case, running and maintenance costs will reduce to Rs.14,000 each year and are not expected to increase much in real terms for a few years at least. J.K. Ltd. regards a normal return of 10% p.a. after tax as a minimum requirement on any new investment. Considering capital

budgeting techniques, which alternative will you choose? Take corporate tax rate of 50% and assume that depreciation will be charged on the straight line basis.

The Present Value of Re.1 p.a. at 10% for 5 years is Rs.3.791 & 10 years Rs.6.145.

Solution:

Evaluation of Proposal to Repair or Buy:

Particulars	Amount (Rs.)
i) Proposal to repair existing machine	
Present Value of after-tax Cash Outflows:	
Immediate Cost of Repairs net of tax (50% of 19,000)	9,500
Equivalent Annual Cost for 5 years = (9,500/3.791)	2,506
Running and Maintenance Cost per annum net of tax (50% of 20,000)	10,000
Total Net Equivalent Cash Outflows per annum	12,506
ii) Proposal to buy a new machine	
Present Value of after-tax Cash Outflows:	
Purchase Cost of New Machine	49,000
Less: Sale Proceeds of Old Machine	5,000
	44,000
Equivalent Annual Cost for 10 years = (44,000/6.145)	7,160
Tax Saving on account of Depreciation (49,000/10) x 50%	(2,450)
Running and Maintenance Cost per annum net of tax (50% of 14,000)	7,000
Total Net Equivalent Cash Outflows per annum	11,710

The above computations show that net equivalent cash outflows per annum in case of buying a new machine Rs. 11,710 is less than net equivalent cash outflows of 12,506 for repairing of the existing machine. Hence, it is appropriate for the company to go for buying a new machine.

Alternatively,

Particulars	Amount (Rs.)
i) Proposal to repair existing machine	
Present Value of after-tax Cash Outflows:	
Immediate Cost of Repairs net of tax (50% of 19,000)	9,500
Running and Maintenance Cost for 5 years (20,000 x 50 % x 3.791)	37,910
Total Net Present Value after tax Cash Outflows for 5 years	47,410
Net Equivalent Cash Outflows per annum = (47,410/3.791)	12,506
ii) Proposal to buy a new machine	
Present Value of after-tax Cash Outflows:	
Purchase Cost of New Machine	49,000
Less: Sale Proceeds of Old Machine	5,000
	44,000

Tax Saving on account of Depreciation $(49,000/10) \times 50\%$ (2,450)	
Running and Maintenance Cost per annum net of tax (50% of 14,000) 7,000	27,960
4,550	71,960
Net Cash Outflow for 10years $(Rs.4,550 \times 6.145)$ Equivalent Annual Cost for 10 years = $(44,000/6.145)$ Net Equivalent Cash Outflows per annum $(Rs. 71,960/6.145)$	11,710

The net equivalent cash outflows per annum in case of purchase of a new machine Rs.11,710 is less than net equivalent outflows of 12,506 in case repairing of the existing machine. Hence, it is appropriate that the company should go for purchasing a new machine.

Check Your Progress 2

1. State the steps in the calculation of NPV.
2. Explain the concept of IRR. How is IRR calculated for even and uneven cash flows?
3. State any three differences between IRR and NPV method.
4. NPV method is more acceptable than IRR method. Why? Give some reasons.

2.6 Summary of the Study:

Investments involve cash flows and the profitability of an investment project is determined by evaluating its cash flows. The accounting rate of return (ARR) method considers the savings over the entire economic life of the project. In ARR method the rate of return on investment is calculated and the time factor is not taken into consideration. NPV, PI and IRR are the discounted cash flow (DCF) techniques for appraising the worth of an investment project. The net present value (NPV) method is a process of calculating the present value of the project's cash flows, using the opportunity cost of capital as the discount rate, and finding out the net present value by subtracting the initial investment from the present value of cash flows. Under the NPV method, the investment project is accepted if its net present value is positive. The internal rate of return (IRR) is that discount rate at which the project's net present value is zero. Under the IRR rule, the project will be accepted when its internal rate of return is higher than the opportunity cost of capital. Profitability index (PI) is the ratio of the present value of cash inflows to initial cash outlay. It is a variation of the NPV rule. PI specifies that the project should be accepted when it has a profitability index greater than one. A conflict of ranking can arise between the NPV and PI methods, in case of mutually exclusive projects. Under such a situation, the NPV rule should be preferred since it is consistent with the wealth maximization principle.

2.7 References and Suggested Books:

- Pandey I.M., (2015), Financial Management, Eleventh Edition, Vikas Publishing House Pvt. Ltd., E-28, Sector-8, Noida-201301 (UP) India.
- Maheshwari S.N. *Financial Management Principles & Practices*. Sultan Chand & Sons Educational Publishers, New Delhi, 2014.
- Khan M.Y. & Jain P.K. *Financial Management Text, Problems & Cases*. Tata McGraw Hill Education Private Limited, New Delhi, 2010.
- Kalwar M.C. & Pathak R.K. *Fundamentals of Financial Management*. Ashok Book Stall, Guwahati, 2010.

2.8 Model Questions:

1. How do you calculate the accounting rate of return? What are its limitations?
2. Under what circumstances do the net present value and internal rate of return methods differ?
3. Explain the merits and demerits of the time-adjusted methods of evaluating the investment projects.
4. A company provide the following particulars of a capital project:
Initial Capital Investment Rs. 12,000.
Annual Cash Inflow Rs. 2,000,
Scrap Value - Nil,
Life of the project - 8years.

At 10% cost of capital, present value of Re. 1 received annually for 8 years is Rs. 5.3349.

You are required to calculate:

- (i) Pay-back period,
 - (ii) Accounting Rate of Return (ARR),
 - (iii) Present Value Index.
5. A company has to select one of the two alternative projects whose particulars are given below:

Particulars	Project A (Rs.)	Project B (Rs.)
Initial outlay	1,18,720	1,00,970
Net cash flow at the end of the year:		
1st year.	1,00,000	10,000
2nd year.	20,000	10,000
3rd year	10,000	20,000
4th year	10,000	1,00,000

The company can arrange necessary fund at 8%. Compute NPV & PI of each project and suggest the company which project should be accepted under NPV & PI method.

[The PV factor of Re.1 received at the end of 1st year is 0.926, 2nd year is 0.857, 3rd year is 0.794 and 4th year is 0.735.]

6. A company has to select one of the two alternative projects whose particulars are given below:

Particulars	Project A (Rs.)	Project B (Rs.)
Initial outlay	11,000	10,000
Net cash flow at the end of the year:		
1st year.	2,000	1,000
2nd year.	2,000	1,000
3rd year	1,000	2,000
4th year	5,000	10,000

Using the Internal Rate of Return (IRR) method suggests which project is preferable.

7. Describe the Discounted Cash Flow methods of capital budgeting.

2.9 Answer to Check Your Progress/ Model Questions:

CYP-1: a) Opportunity Cost of Capital; b) Profitability Index; c) ARR; d) Initial Investment.

M.Q-4: i) 6 years, ii) 8.33%, iii) 0.889

M.Q-5: Project A: NPV = Rs. 6,310; PI =1.05; **Project B:** NPV = Rs. 6,240; PI =1.06

M.Q-6: Project A (IRR-11.3%)

Block III: Unit-III

Working capital management and estimation of working capital

Unit Structure:

- 3.1 Introduction
- 3.2 Objectives
- 3.3 Meaning, concept and necessity of Working Capital
- 3.4 Classification of working capital
- 3.5 Adequate working capital and its advantages
- 3.6 Factors determining working capital requirements:
- 3.7 Management of working capital
- 3.8 Estimation/ calculation of working capital
- 3.9 Summing up
- 3.10 References and Suggested readings
- 3.11 Model questions
- 3.12 Answer to check your progress

1.1 Introduction

A business house requires money/fund for different operations and for different purposes. In a composite form, such requirement can be termed as “capital”. Taking the operations and the purposes as the bases, capital requirement may be fixed capital or working capital. The amount of fund which gets blocked in enhancing or creating the production facilities on a permanent basis is called fixed capital. This can be explained with the help of examples such as: purchase of fixed assets like land, building, machinery, etc. Moreover, there is another portion which needs to be used for the day-to-day working of the business organization. This fund which gets invested for short term purposes is known as working capital or revolving capital. Instances can take the form of: purchase of raw material, payment of wages and salaries, etc. Working capital is considered as the life blood of the business due to the fact that there are several factors associated with maintaining an adequate level of working capital. Such factors include: solvency of the business, uninterrupted supply of raw materials, regular payment of wages and salaries, etc. The following sections and sub-sections explain the concept and aspects associated with working capital and its management.

1.2 Objectives

As mentioned above, this unit attempts to explain the concept and management of working capital. **After thoroughly reading this unit, you will be able to understand:**

- **The meaning, concept and necessity of Working Capital,**
- **Classification of working capital,**
- **Adequate working capital and its advantages,**
- **Factors determining working capital requirements,**

- **Management of working capital,**
- **Estimation/ calculation of working capital.**

1.3 Meaning, concept and necessity of Working Capital:

The introductory paragraph has brought into focus a brief note on what working capital is all about. A business firm has varied fund requirements and based on the term for which it requires funds, two types of capital may be required. The one which deals with the short term arrangement of funds so that the day-to-day operations keep on going well, is called working capital or revolving capital. It is also termed as circulating capital because the amount of fund keeps on circulating in different forms of current assets from one another.

Working capital has been defined by Genestenberg as: “Circulating capital means current assets of a company that are changed in the ordinary course of business from one form to another, as for example, from cash to inventories, inventories to receivables, receivables into cash”.

There are two concepts of working capital:

- **Balance sheet concept**: This concept of working capital can be interpreted in two ways: in broad sense (Gross Working Capital) and in narrow sense (Net Working Capital). In the broad sense, working capital refers to the gross amount of funds invested in current assets of a firm. Current assets are those assets of the firm which can be converted into cash within a period of one accounting year. On the other hand, in the narrow sense, working capital is the excess of current assets over the current liabilities of the firm. In this approach, working capital is termed as Net Working Capital which can be either positive or negative. This is so because, if the current assets of the firm exceeds current liabilities, the resulting figure (net working capital) comes out to be positive and vice versa.
- **Operating cycle or Circular flow concept**: The operating cycle or circular flow concept of working capital is based on the working capital cycle of a firm. This cycle implies the time frame which starts with purchase of raw material and other stuff and ends with realization of cash from selling goods. The time duration required to complete one cycle indicates the working capital requirement of a firm. **Longer is the cycle, larger is the working capital requirement.**

It is important to understand the “why” factor of working capital. The answer to this “why” lies in the fact that there is always a certain amount of gap that exists between production and realization of cash from the operation (or Sales). Such time gaps exist in between purchase of raw materials and production, production and sales, and so on. In summarized form, the need to have working capital arises to purchase raw materials, to pay bills and other expenses on time, to offer credit facilities to customers, etc.

Stop to consider

In a nutshell, working capital can be understood as that portion of the capital required by a business organization which helps to keep the pace of its operation uninterrupted. Two concepts are usually followed: balance sheet concept and the operating cycle concept.

Check your progress

- What do you understand by working capital?
- What are current assets and current liabilities?
- What are Gross Working Capital and Net Working Capital?
- Explain in brief the operating cycle concept of working capital.

Self asking question

- What do you think can be the different uses of working capital?

1.4 Classification of working capital

Working capital can be categorized into two groups or types:

- a. **On the basis of concept:** On the basis of concept, working capital can be grouped as: Gross Working Capital and Net Working Capital. (The concepts have already been explained in the previous section).
- b. **On the basis of time:** On the basis of time, working capital can again be sub-divided into:
 - **Permanent working capital:** Also known as fixed working capital, this implies the minimum amount of fund which is needed to maintain the circulation of current assets. In every business, there is a minimum level of current assets which is needed continuously to carry out the operations. This amount is considered as permanent or fixed working capital which usually grows with the growth of the size of the business. This can again be sub classified into: regular and reserve working capital.
 - **Temporary working capital:** In order to meet the seasonal demand and certain special requirements, this portion of working capital remains invested as temporary or seasonal working capital. It can further be sub classified as: seasonal working capital (the one which is needed to meet seasonal demands) and special working capital (the one which is needed to meet special requirement such as launching additional marketing campaigns, etc.).

1.5 Adequate working capital and its advantages

Human body cannot survive without adequate flow of blood and on a similar note; adequate working capital is of immense importance in any business organization. Irrespective of the size and nature of business, adequate level of working capital is a must. The following points highlight the advantages associated with having the adequate level of working capital in a business:

- a. The first and foremost benefit is it enables a firm to **face crisis** in the situations of emergencies.
- b. **Uninterrupted flow of production** can be financed with the help of adequate level of working capital.
- c. It also helps in **making timely and prompt payment** to the creditors and different other expenses such as wages, salaries, etc.
- d. Making timely payment and uninterrupted flow of production can contribute towards building **goodwill** of the firm, too.
- e. Business is all about grabbing opportunities and converting the threats into strengths. Possession of adequate level of working capital can help the firms in **exploiting market conditions**.

Stop to consider

Classification of working capital can be done on the basis of concept (Gross Working Capital and Net Working Capital) and time (Permanent Working Capital and Temporary Working Capital). Apart from the classifications, it is indeed of utmost importance to understand why a business firm needs adequate level of working capital. There can be several reasons such as: building goodwill, making timely payment, etc.

Check your progress

- What are the different types of working capital?
- Why is it important to have an adequate level of working capital?

Self asking question

- What can be the scenario if a firm has excessive or inadequate level of working capital?

1.6 Factors determining working capital requirements:

So far it has been well understood that working capital is the part and parcel of a business and its importance can never be ignored. However, a noteworthy point here is that the “adequate level of working capital” is not universal for all the businesses. It means depending upon certain factors and points, working capital requirements may vary from business to business. The following section briefly explains the factors which determine working capital requirements of a business:

- a. **Nature of business:** Nature or line of business determines, to a considerable extent, the requirements of working capital. Trading and financial firms require larger investment in current assets, whereas manufacturing units require sizeable amount of working capital. In case of public utility undertakings such as railway, electricity, etc., requirement of working capital is even smaller.

- b. **Scale of operation:** Scale of operation or size of the business also influences the working capital requirements of a business. Greater is the size or larger is the operation; more is the requirement of working capital.
- c. **Working capital cycle:** Working capital normally goes through a cycle. In case of manufacturing units, it starts with purchase of raw material, conversion into finished goods through work-in-progress, debtors and finally realization of cash. Length of the cycle has considerable amount of say in determining the working capital requirement: longer cycle requires more working capital.
- d. **Stock turnover:** The rate at which the stock turns into sales also influences the working capital requirement. A business unit having high stock turnover rate needs lower investment in working capital and vice versa.
- e. **Credit policy:** In case a business purchases on credit and sales in cash, the working capital requirement will be lesser. Again, in case of a business which buys in cash and sells on credit, such requirements will be higher.
- f. **Changes in Price level:** If price level goes up, in order to maintain the same level of current assets, more funds will be needed and vice versa.
- g. **Seasonal changes:** Seasonal changes also impact the working capital requirements. In case of those businesses where raw material is not available throughout the year, purchase of raw material takes place only in the busy season. Hence during that time, requirement of funds for working capital will be more.

1.7 Management of working capital:

The main objective of having an adequate level of working is to make sure that the business firm can be able to operate in the short term, that it has sufficient cash to service the long term debt and to meet the operational expenses. As working capital is about current assets and current liabilities, management of working capital can be understood to deal with the aspects associated with managing the components of working capital. The decisions related to working capital management are about short term financing and involves studying the relationship between the short term assets and short term liabilities of a firm. As mentioned above, having an optimum level of working capital can help a firm to operate in the short term. Apart from this, working capital management is concerned with sticking to the adequate level of working capital so that neither it is excessive nor it is below the required level. The consequences associated inadequate level of working capital can be dangerous and as such, it is pivotal to devote considerable attention towards management of working capital.

With a view to design an appropriate working capital management policy, certain principles can be applied. They are mentioned below:

- a. **Principle of risk variation:** It deals with the current asset policies, the amount of investment in current assets and its relationship with degree of risk and profitability. Depending upon the relationship, the management may prefer to go for conservative policy (where investment in working capital is more and profitability is comparatively less) or aggressive policy (where investment in working capital is less and profitability is comparatively more).

- b. **Principle of cost of capital:** In order to arrange working capital, the management has different sources which come with different cost and risk attached to them (higher risk comes with lower cost and vice versa). This principle enables management to decide a proper mix between the two elements.
- c. **Principle of equity position:** This principle is about total amount of investment made in current asset. To be more specific, this principle enables the management to invest in total current asset or working capital in such a manner that each rupee invested in current asset contributes towards net worth of the business.
- d. **Principle of maturity of payment:** This principle is again concerned with the sources of working capital finance. It states that every possible effort should be made to relate maturity of any sort of payment and flow of generation of funds.

1.8 Estimation/ calculation of working capital.

With a view to run a business smoothly, having the requisite amount of working capital is a must; and to have the requisite amount of working capital, its estimation is a must. There are certain methods with the help of which working capital requirement estimation can be done. These methods and their calculations have been explained in the following section:

- a. **Percentage of sales method:** This is considered to be a simple method of calculating working capital requirement of a firm. As the name suggests, this method is based on the relationship between the sales and working capital of a firm.

Example 1: The sales of a company in a year amount to Rs. 30,00,000 with the working capital requirement of Rs. 90,000. Assuming there is a linear relationship between sales and working capital requirement, if in the subsequent year, the sales goes up to Rs. 45,00,000, the working capital requirement becomes 30% of sales: Rs. 13,50,000.

Example 2:

Inventories (a).....	7,500
Debtors (b).....	5,000
Cash and bank (c)	2,500
Gross working capital (d)=(a+b+c).....	15,000
Creditors (e)	5,000
Net working capital (f)=(d-e)	10,000
Sales revenue (g)	18,000
Gross working capital to sales (h).....	83% (rounded off)
Net working capital to sales (i).....	56% (rounded off)

Hence, with the help of the above two examples, it can be seen that under percentage to sales method, a linkage is established between the two elements: sales and working capital.

- b. **Regression analysis method:** This method is based on forecasting working capital requirement with the help of regression analysis whereby the value of the dependent variable can be ascertained from the value of the independent variable. The relationship between sales and working capital is shown by the following equation:

$$y = a + bx$$

Here, y being the dependent variable represents working capital

a=intercept of the least square

b=slope of the regression line

x being the independent variable represents sales

Example 3: From the following details, calculate the working capital requirement of a company assuming the sales of the year 2006, to be Rs. 595:

<u>Year</u>	<u>Sales (x)</u>	<u>Working Capital(y)</u>	<u>xy</u>	<u>x²</u>
2001	280	185	51800	78400
2002	300	245	73500	90000
2003	410	335	137350	168100
2004	490	360	176400	240100
2005	530	4102	17300	280900
n=5	$\sum x=2010$	$\sum y=1535$	$\sum xy=656350$	$\sum x^2=857500$

The relationship between sales (x) and working capital (y) is given by the following equation:

$$y = a + bx$$

The value of 'a' and 'b' can be obtained using following equations:

$$\sum y = na + b\sum x$$

$$\sum xy = a\sum x + b\sum x^2$$

On the basis of the figures of the table given above, the following two equations can be developed to calculate the values of "a" and "b":

$$1535 = 5a + 2010b \dots \dots \dots (i)$$

$$656350 = 2010a + 857500b \dots \dots (ii)$$

Solving equation (i) and (ii), a = - 10.58 and b = 0.79.

Using the regression equation and values of 'a' and 'b', the amount of working capital can be calculated for the assumed sales of Rs 595 for the year 2006, as follows:

$$y = - 10.58 + 0.79 (595) = 459.47$$

Thus, the working capital estimated is Rs 459.47 for the assumed sales of Rs 595 for the year 2006.

- c. **Operating cycle method:** This method is based on the operating cycle concept of working capital. It has already been discussed that the cycle starts with the purchase

of raw materials and ends with the realization of cash. The time duration required to complete one cycle determines the working capital requirements of a firm.

The following formula is used to calculate the working capital requirement:

Working capital required=

$$\text{Cost of goods sold} \times \frac{\text{operating cycle (days)}}{365 \text{ or } 360 \text{ days}} + \text{desired cash balance}$$

Example 4: From the following details, calculate working capital requirement assuming 360 days in a year:

Cost of goods sold: Rs. 48,00,000

Operating cycle: 60 days

Desired level of cash: Rs. 75,000

Therefore; expected working capital requirement=

$$\begin{aligned} &\text{Cost of goods sold} \times \frac{\text{operating cycle (days)}}{365 \text{ or } 360 \text{ days}} + \text{desired cash balance} \\ &= 48,00,000 \times \frac{60}{360} + 75,000 \end{aligned}$$

= Rs. 8,75,000

- d. **Cash Forecasting Method:** This method necessitates forecasting of cash receipts and cash disbursements during a future period of time. All possible sources of receiving cash and probable channels of disbursing cash have to be considered. Excess of cash receipts over cash payments imply surplus and excess of payments over receipts represents working capital requirement during a specific period of time.

Example 5: In a manufacturing concern, prime cost of a unit is expected to be Rs. 40 out of which Rs. 16 is for materials and Rs. 24 for labour. Additionally, variable expenses per unit are expected to be Rs. 8 and fixed expenses per month is Rs. 30000. Payments for materials are to be made following the month of purchase. One third of the sales are in cash and the remaining are on credit; which are to be settled in the next month. Expenses are to be paid in the month in which they are incurred. Number of units produced and sold is as follows. Selling price per unit is Rs. 80. Without considering the question of stock, prepare a monthly statement of working capital requirement:

Month and number of units:

January: 800

February: 1,200

March: 1,800

April: 2,100

	January	February	March	April
Payments:				
Materials	....	14,400	19,200	28,800
Wages	21,600	28,800	43,200	50,400
Fixed exp	30,000	30,000	30,000	30,000
Variable exp	7,200	9,600	14,400	16,800
	58,800	82,800	1,06,800	1,26,000
Receipts:				
Cash sales				
Debtors	24,000	32,000	48,000	56,000
	....	48,000	64,000	96,000
	24,000	80,000	1,12,000	1,52,000
Working capital required (payments-receipts)	34,800	2,800	....	....
Surplus	.....	....	5,200	26,000

- e. Projected Balance sheet method:** By forecasting future current liabilities and assets, a projected balance sheet for a future date is prepared under this method. The excess of estimated current assets over the estimated current liabilities represent the amount of working capital required.

Example 6: With the help of the following information, we are required to estimate the working capital requirement:

Projected annual sales: 1,00,000 units

Selling price Rs. 8 per unit

% of net profit on sales: 25%

Average credit period allowed to customers: 8 weeks

Average credit period allowed by suppliers: 4 weeks

Average stock holding in terms of sales requirement: 12 weeks

Allow 10% for contingencies.

Current assets:

Debtors (8 weeks): $6,00,000 \times 8/52$92,308

Stock (12 weeks): $6,00,000 \times 12/52$1,38,462

Less, Current liabilities:

Creditors (4 weeks): $6,00,000 \times 4/52$46,154

Net working capital.....1,84,616

Add, 10% for contingencies.....18,462

Required amount of working capital.....2,03,078

Stop to consider

There are different factors which influence the amount and level of working capital requirement of a business concern. Such factors include: nature and size of the firm, length of operating cycle, price level changes, stock turnover rate, credit policies of the firm, etc. Management of working capital is all about deciding the optimum mix of working capital required by the firm and to be invested in different current assets, with the help of certain principles.

Check your progress

- Briefly state some of the factors which help in determining the working capital requirement of a firm.
- Mention the principles of working capital management policy.
- Name the different methods of estimation of working capital requirement.

1.9 Summing up

- Working capital may be defined as the amount of capital needed by a business unit in the short term so as to finance the day-to-day operations.
- There are two concepts of working capital: balance sheet concept and operating cycle concept.
- Under the balance sheet concept, working capital may take the form of Gross Working Capital or Net Working Capital. Again, under the operating cycle, working capital requirement is linked with the length of operating cycle of a business
- Working capital may be classified into two categories: on the basis of concept (Gross Working Capital and Net Working Capital) and on the basis of time (Permanent Working Capital and Temporary Working Capital).
- It is always necessary for any business to have an adequate level of working capital. In case the level of working capital goes up or down significantly, the business firm may have to face danger of idle funds, or not getting enough credit facilities, etc.
- Optimum level of working capital or adequate amount of working capital depends upon several factors such as: nature and size of the firm, credit policy, stock turnover rate, seasonal variation, length of working capital cycle, changes in price level, growth and expansion plans, etc.
- Working capital management policy of a firm primarily deals with the relationship among profitability, liquidity and structural health of the organization concerned. For such policies, there are certain principles which are usually followed by the management.
- There are different methods used for calculation and estimation of working capital requirement of a business concern. Usually the methods which are adopted are:

percentage of sales method, cash forecasting method, operating cycle method, projected balance sheet method, regression analysis method.

1.10 References and Suggested readings

1. Management Accounting Principles and Practices by Shashi K. Gupta and R. K. Sharma (13th Revised Edition, 2014), Kalyani Publishers.
2. Study material on Advanced Financial Management, The institute of cost accountants of India.
3. SHROTRIYA, D. V. (2019). Methods of Estimation of Working Capital Requirement.

1.11 Model questions

- a. Define working capital.
- b. What is meant by the term working capital? What are the concepts associated with working capital?
- c. Why is working capital termed as revolving capital? What are the different types of working capital?
- d. Write short notes on:
 - Gross working capital
 - Net working capital
 - Permanent working capital
 - Temporary working capital
- e. Why does a firm need to have an adequate level of working capital?
- f. Is there any consequence associated with not having an adequate level of working capital? If so, why and what?
- g. Explain the various factors determining working capital requirement of a firm.
- h. What is meant by working capital management? What are the principles associated with sound working capital management?
- i. Assuming a linear relationship between sales and working capital, estimate the working capital requirements with the help of the following information:

Equity share capital.....	2,00,000
8% Debenture.....	1,00,000
Reserves and surplus.....	50,000
Long term loans.....	50,000
Sundry creditors.....	80,000
Fixed assets less Depreciation.....	3,00,000
Inventories	1,00,000
Sundry debtors.....	70,000
Cash at bank.....	10,000

Sales for the year amounted to Rs. 10,00,000 and it is assumed to be Rs. 12,00,000 for the following year.

- j. Taking the estimated sales of Rs. 200 Lakhs, calculate the working capital requirements following the Regression analysis method:

Year	sales (in lakh)	working capital
2013-14	60	12
2014-15	80	15
2015-16	120	20
2016-17	130	21
2017-18	160	23

- k. Assuming 360 days in a year, calculate working capital requirement using operating cycle method:

Cost of goods sold: 8,00,000

Operating cycle: 90 days

Minimum desired level of cash: 1,50,000.

1.12 Answer to check your progress

Q. What do you understand by working capital?

Answer: Working capital, in simple, can be understood as that portion of the capital requirement of a business firm which is needed to be maintained so as to make sure that the operations on daily basis are continued without any interruption.

Q. What are current assets and current liabilities?

Answer: Current assets are those assets which are usually realized or converted to cash within one accounting year. For instance: debtors, cash at bank, stock, etc. Current liabilities are those obligations of a firm which are to be settled within the current accounting year. For instance: creditors, bills payable, outstanding salary, etc.

Q. What are Gross Working Capital and Net Working Capital?

Answer: Gross Working Capital is one of the concepts of working capital which implies the total amount of funds invested in current assets. Again, Net Working Capital is another concept of working capital which represents the excess of current assets over current liabilities.

Q. Explain in brief the operating cycle concept of working capital.

Answer: The operating cycle concept of working capital is based on the working capital cycle which starts with the purchase of raw materials for the purpose of production along with other required resources. Once the production process gets started, the goods are converted into stock, finished goods and then to receivables or debtors. Finally cash is realized and the process again gets continued as earlier. As per this concept, the length of the cycle determines the amount of working capital requirement of a firm.

Q. What are the different types of working capital?

Answer: Working capital may be classified into two groups:

- On the basis of concept (gross working capital and net working capital)
- On the basis of time (permanent working capital and temporary working capital)

Q. Why is it important to have an adequate level of working capital?

Answer: Having an adequate level of working capital is necessary as:

- it helps in payment of dues in time,
- helps in building reputation of the firm,
- helps the firm in exploiting favourable market conditions,
- enables the firm to face difficult situations,
- Uninterrupted supply of raw materials, etc.

Q. Briefly state some of the factors which help in determining the working capital requirement of a firm.

Answer: There are different factors which help in determining the working capital requirement, and these include: nature and size of the business, working capital cycle, seasonal variations, credit policy of the business, length of production cycle, stock turnover rate, etc.

Q. Mention the principles of working capital management policy.

Answer: The principles which are followed by a concern to design and develop a good working capital policy are: principle of risk variation, principle of cost of capital, principle of equity position, principle of maturity of payment.

Q. Name the different methods of estimation of working capital requirement.

Answer: The methods which are usually followed in estimating working capital requirements of a firm are:

Percentage of sales method, operating cycle method, cash forecasting method, projected balance sheet method, regression analysis method.

Q. What can be the scenario if a firm has excessive or inadequate level of working capital? (SAQ)

Answer: It is always desirable and necessary that every business organization has adequate level of working capital. Having inadequate or excess level of working capital for any business may turn out to be dangerous and the circumstances may be as follows:

Excess working capital may lead to:

- Idle funds which implies inability on the part of the firm to earn a proper return on investment.
- Unnecessary purchase of materials.
- Ineffective credit policy and speculative transaction.

Inadequate working capital may lead to:

- Inability to pay dues in time, leading to reduced goodwill,
- Difficulty in exploiting favourable market condition,
- Difficulty in purchasing the required quantity of materials,
- Inefficiency as the firm cannot pay the day-to-day expenses timely.

BLOCK III : Unit-IV

Unit Structure:

- 4.1 Introduction
- 4.2 Objectives
- 4.3 Cash Management
 - 4.3.1 Motives for Holding Cash
 - 4.3.2 Objectives of Cash Management
 - 4.3.3 Scope of Cash Management
 - 4.3.4 General Principles of Cash Management
 - 4.3.5 Tools of Cash Planning and Control
 - 4.3.6 Advantages of Cash Management
- 4.4 Receivables Management
 - 4.4.1 Cost of Receivables Management
 - 4.4.2 Factors affecting size of Receivables
 - 4.4.3 Scope of Receivable Management
 - 4.4.3.1 Credit Policies
 - 4.4.3.2 Credit Terms
 - 4.4.3.3 Collection Policies
- 4.5 Inventory Management & Control
 - 4.5.1 Objectives of Inventory Management
 - 4.5.2 Cost of Inventory
 - 4.5.3 Dangers of over/under investment in inventory
 - 4.5.4 Techniques of Inventory Management
 - 4.5.4.1 EOQ
 - 4.5.4.2 ABC Technique
 - 4.5.4.3 Level Setting
 - 4.5.4.4 Perpetual Inventory System
 - 4.5.4.5 VED Analysis
 - 4.5.4.6 Turnover Ratio Techniques
 - 4.5.5 Inventory Valuation
- 4.6 Summing Up
- 4.7 References and Suggested Readings
- 4.8 Model Questions
- 4.9 Answers to Check Your Progress

4.1 Introduction

Management of working capital is of vital importance for the survival and efficient working of a business. One of the main reasons for the need for management of working capital is due to the time gap between production and realization of cash from sales. However, there are many factors contributing to the same. The basic goal of working capital management is to

manage the current assets and current liabilities in such a way that a satisfactory level of working capital is maintained. Effective working capital management is possible by making decisions and managing the composition and level of current assets and current liabilities effectively. The policies concerning the major constituents of working capital namely, Cash, Inventory and Receivables have a significant impact on the day-to-day financial and operational control of the firm. A detailed study on the various aspects of these components of working capital will be made in this unit.

4.2 Objectives

This unit is an attempt to understand the management of the major components of working capital. After going through this unit you will be able to –

- Explain the meaning and objectives of cash management, its scope and tools of cash planning and control.
- Discuss the meaning and scope of receivables management and the costs involved, and factors which affect size of receivables.
- Explain the meaning and objectives of inventory management and the costs involved, and apply techniques used in management of inventories.

4.3 Cash management

Cash refers to the assets like money and instruments like cheques, bank drafts, near cash items like marketable securities etc. It is of utmost importance to the daily operations of a business concern owing to its high liquidity.

According to J. M. Keyens, “It is the cash which keeps a business going. Hence every enterprise has to hold necessary cash for its existence”.

Cash management is the application of general principles of management in handling cash by a firm. It is basically concerned with collection, disbursement and handling of cash in a manner that the liquidity and profitability of the firm is maintained.

Sales of a firm generate cash which is used in the disbursement for operational activities. The surplus or deficit can be invested or borrowed as the need be, which the firm tries to achieve at the minimum cost along with liquidity and control. A well designed system of cash management aims at prevention of insolvency, minimizing the duration of account receivable, efficient and prompt collection while optimizing the profitability through proper investment of idle funds. This results in improving the overall financial position of the firm.

STOP TO CONSIDER

Cash refers to money in coins or notes, as distinct from cheques, money orders, or credit. Cash management is concerned with collection, disbursement and handling of cash in order to maintain liquidity and profitability of the firm. It leads to efficient investment and utilization of funds which improves the financial position of the firm.

4.3.1 Motives for holding cash

A firm needs to maintain cash with itself but the question arises is why so. As put forward by John Maynard Keynes, liquidity preference involves three basic motives –

- i. **Transaction motive** – A firm involves in numerous day to day transactions like sales and purchases of goods and services, sales and acquisition of capital assets, meeting various obligations among others. The collection of cash may not be synergized with the disbursement due to which cash balance is required to act as buffer. The amount of cash to be held depends on the regularity of receipts and disbursements.
- ii. **Precautionary motive** – At times, there is uncertainty regarding the receipts and disbursements of cash in the operational activities due to magnitude and timing of cash flows. This results in maintaining cash balance to counter the shocks of uncertainties and provide protection.
- iii. **Speculative motive** – Speculation forms the basis for holding of cash balance. Firms with additional cash balance have the opportunity to make profit arising from fluctuations in commodity prices, interest rates, foreign exchange rates and prices of securities.

STOP TO CONSIDER

There are primarily three motives for the holding of cash namely, transaction motive, precautionary motive and speculative motive. Apart from this, there also exists **Compensating motive** which tends to compensate banks for certain services provided by them. This motive is not related to Keynes, but with commercial banks that require borrowers to leave certain part of their borrowed funds in deposit at the bank. It not only raises the effective interest rate for banks but also gives access to funds for banks to advance additional loans.

Check Your Progress

- Question 1. What is cash?
Question 2. What do you understand by cash management?
Question 3. Why should a firm hold cash?
Question 4. What is compensating motive?

4.3.2 Objectives of cash management

The objective of cash management is to exercise control over the cash position of the firm in order to avoid risk of insolvency and usage of excess cash in a profitable manner. The objectives can be better understood from the relevance of cash in the operational activities as highlighted below:

- i. To meet with the daily requirements of business.

- ii. To oblige with the payments schedule.
- iii. To face sudden contingencies.
- iv. To optimize on viable profitable opportunities.
- v. To maintain cash reserves for future growth and expansion.

STOP TO CONSIDER

Cash management intends to maintain proper control over the cash position by channelizing the flow of cash from surplus to deficit areas and strike a balance between liquidity and profitability.

4.3.3. Scope of cash management

Scope of cash management refers to a wide array of activities enveloped within its ambit. The activities/functions of cash management revolve around handling the cash needs of a business firm which can be grouped as under:

- i. **Cash planning** – Cash planning is a management process of forecasting the future need of cash resources and various uses for a specified period. It is concerned with formulation of appropriate cash policies and procedures for continuity in business operations. Good cash planning aims at providing cash, not only for regular but also for irregular and abnormal needs.
- ii. **Managing cash flows**–Cash flow comprises of cash inflow i.e., the flow of cash coming inside the business and cash outflow i.e., cash moving out of the business. The managing of the cash flows occurs, if a firm succeeds in accelerating the rate of cash inflow while minimizing the cash outflow. Management of cash can be fostered by following the practices of quick recovery of collections, limiting unnecessary inventories, exercising better control over payments etc.
- iii. **Optimum cash level** - A sound liquidity position of the firm is reflected by its cash level. Every effort must be taken to plan, manage and control cash, thus facilitating timely settlement of obligations and meeting necessary requirements. Optimizing the cash level also furthers establishing the equilibrium between risk and the related profit expected to be earned by the company.
- iv. **Investing idle cash** - Idle cash indicates the surplus cash or the excess of cash inflows over cash outflows which do not have any immediate use or obligation to be met. Usually, holding of cash by firms is meant to face any contingency relating its working needs and maintain its credibility and reputation. But cash in idle form, does not have any utility, neither it fulfils any obligation nor it generates any return. Further permanent disposal of such cash is not advisable, as the firm may again need this cash after a short while. The funds should be investible in such avenues which generate some amount of return to the firm instead of being idle and can also be easily made available for quick withdrawal as and when required.

Self-Asking Questions

Question 1. Do you think cash management helps in improving the overall financial position of a firm?

Question 2. Idle cash is one of the major issues of Cash management. Comment.

Question 3. Keynes suggests three motives behind Liquidity preference. Do you agree with him? Support your answer with proper explanation.

Question 4. The functional areas of cash management act as the avenues for exercising cash control. Do you agree? Justify your answer.

4.3.4 General principles of cash management

According to Harry Gross some general principles of cash management make management of cash efficient. The principles of management are as follows:

- 1. Determinable Variations of Cash Needs:** A reasonable portion of funds, in the form of cash is required to be kept aside to overcome the period anticipated as the period of cash deficit.
- 2. Contingency Cash Requirement:** These constitute unforeseen calamities, which are too difficult to be provided for in the normal course of the business viz., rejections of wholesale product, large amount of bad debts, strikes, lockouts etc. Such contingencies always demand for special cash requirements that was not estimated and provided for in the cash budget.
- 3. Availability of External Cash:** Availability of funds from outside sources aid in providing credit facility to the firm. As such if a firm succeeds in acquiring sufficient funds from external sources like banks or private financiers, shareholders, government agencies etc., the need for cash reserves diminishes.
- 4. Maximizing Cash Receipts:** Efficiency in cash receipts results in minimizing cash requirements of a firm. Concentration or decentralised banking, Lock Box System, Reviewing Credit procedures, minimizing credit period etc. may prove helpful in this context.

(A) Concentration Banking: Under this system, several collection centres for collection of cash is established in different areas. The payments are received in such centres and then deposited with the local bank by these centres and thereby get transferred to the concentration bank account operated by the head office.

(B) Lock Box System: Under this system, the local post offices boxes are rented out in different cities and the customers deposit their remittances to it which is then collected by the authorized lock bank and transferred to the concentration bank operated by the head office.

(C) Reviewing Credit Procedures: Review of the credit procedures facilitates the identification of slow paying customers and thereby determination of the volume of blocked cash. Evaluation of credit policies provides necessary flexibility in

operations. A highly strict credit policy leads to rejections of sales which curbs down the cash inflow. While extreme lenient credit policy results in rapid slow payments and bad debts which in turn reduces cash inflows.

STOP TO CONSIDER

Minimizing the cash needs can be facilitated by Concentration or Decentralised Banking, Lock Box System, Reviewing Credit Procedures, Minimizing Credit Period etc.

5. **Minimizing Cash Disbursements:** Every firm strives towards minimizing or controlling the cash disbursements by preventing fraudulent practices, serving time draft to creditors of large sum, making staggered payments to creditors and for payrolls etc., so that the ulterior benefits can be derived from maximizing cash receipts.
6. **Maximizing Cash Utilization:** The urge to maximize cash utilization leads to the germination of the principle of striking a balance between profitability and liquidity. Optimum utilization of cash results in attaining the motive of maximizing cash receipts and minimizing cash disbursements. Firms may have surplus funds which lie idle and so do not generate any return but it may nevertheless, be essential for timely repayment of obligations. Therefore, efforts should be made in investing these funds in such avenues which can be easily converted into money.

4.3.5 Tools of cash planning and control

Tools of cash planning consist of methods which establish the future cash level in a firm namely, (i) Net Cash Forecast (ii) Cash Budget (iii) Working Capital Position.

1. **Net Cash Forecast** – Forecasting the net cash refers to the estimation of cash inflows and cash outflows. On the basis of estimated inflow of cash, cash outflows are planned. Two methods of forecasting the cash position are – (a) Cash Flow Method (b) Adjusted Earning Method
2. **Cash Budget** – Cash Budget is a systematic forecast of cash requirements (inflows and outflows) showing the probable surplus or deficiency of cash. The forecasting of cash flow involves consideration of other operational policies like sales, production, marketing etc.
3. **Working Capital Position Analysis**– Working Capital Position analysis forecasts the value of current assets and current liabilities to know the cash position of business.

STOP TO CONSIDER

The popular cash planning tools which help to determine the future cash level of a firm are Net Cash Forecast method, Cash Budget method and Working Capital Position method.

Tools of Cash Control regulate the flow of cash for operational purposes to a great extent. These comprise of (i) Cash Budget Report (ii) Inflow and Outflow of Cash (iii) Ratio Analysis.

1. **Cash Budget Report** – A cash budget is a supplementary report to cash budget which presents a comparison between actual and budgeted cash receipts and payments indicating the points of deviations. Such deviations may be investigated to take appropriate action for rectification.
2. **Cash Flow Statement** – Cash Flow statement helps to check the cash position and keep the cash flows in control.
3. **Ratio Analysis** – Cash ratios are used to explain the efficiency of cash management like current ratios, quick ratio, receivable turnover ratio, inventory turnover ratio, cash position ratio etc.

STOP TO CONSIDER

The operational flow of cash can be regulated by the tools of cash control namely, Cash Budget Report, Inflow and Outflow of Cash and Ratio Analysis.

Check Your Progress

- Question 5. What is Concentration Banking?
Question 6. What is meant by Lock Box System?
Question 7. How does review of credit procedures facilitate maximization of cash?
Question 8. What is Working Capital Position Analysis?
Question 9. What is Cash Budget Report?
Question 10. What do you understand by Ratio Analysis?
Question 11. What are the two methods of forecasting net cash position of a firm?

4.3.6 Advantages of cash management

Management of cash is very essential to the working of a firm. It can be considered as the lifeblood of business as it needs to keep circulating round the various activities for proper and efficient execution. Cash is required for managing the day to day transaction effectively. The management of cash helps to achieve and maintain the optimum level of working capital, thus mitigating the problems of cash shortage in the operational and expansion activities of the firm. It is pivotal for maintaining the solvency of the firm so that debts and obligations may be repaid or met in time. A balance can be maintained between the cash inflows and cash outflows, thereby resulting in maximum utilization of cash resources.

Self-Asking Questions

- Question 5. Do you think the application of general principles of cash management actually brings in efficiency? Justify your answer.
Question 6. How can a firm maximize its cash receipts efficiently in order to manage its cash position in an effective manner?
Question 7. Can the same tools be used for Cash Planning as well as Cash Control? Elaborate your answer.

4.4 Receivables Management

Receivables imply something to be received. In terms of a business, receivables indicate amounts owed to business, also regarded as assets. Receivables represent the claims of an enterprise against its customers which result due to the extension of credit facility to the customers.

As per J. Hampton, “Receivables are assets accounts, representing amount owed to the firm as a result of the sale of goods or services in the ordinary course of business.”

Trading in credits or credit sales generate receivables, which the firm expects to collect in the near future within a stipulated time period. Trade credits are dealt in by the firm in order to allow the customers a reasonable time for making the payment regarding their purchases.

Receivables are one of the most important components of current assets. The existence of receivables not only helps businesses to boost the sales but also generates costs and risks for them. Management of receivables act as a good strategy to effect cash sales, thereby increase profits and also maintain liquidity owing to its easy convertibility into cash.

Receivable management is a process of managing the account receivables of a business firm. Account receivables refer to the credit extended by the firm to its customers and are treated as liquid assets. It involves taking decisions regarding the investment to be made in trade debtors by the enterprise. Making decisions on the right amount to be lent to its customers in the form of credit sales is very significant as it affects the overall cash position of the firm for various operational activities.

STOP TO CONSIDER

Receivable Management or Managing Accounts Receivables means collecting the payments due for sales in a timely manner. When any services, products or solutions are sold to clients or customers, the money is owed to the business and collection of that money is termed as Receivables Management.

4.4.1 Costs of Receivables Management

Funds get tied up to a certain extent while maintaining and managing the receivables of a firm, and thus the following costs get associated with it, which are:

1. **Collection Cost:** These are costs incurred in collecting receivables from customers to whom credit sales are made, and includes additional expenses on creation and maintenance of a credit department with staff, accounting records etc.
2. **Capital cost:** Additional costs are incurred while extending credit facilities due to the time gap between the date of credit sales and the date of final payment. Funds which get tied up due to the extension of credit could have been profitably employed in other potential avenues.

3. **Delinquency Costs:** These costs occur due to failure of the customers to pay within the credit period. Such additional costs may be with regard to steps initiated to collect the overdue like reminders, legal notices, etc.
4. **Default Costs:** Bad debts arise due to non-payment of dues by the customers. Firms incur costs as customers fail to make any payment even after repeated reminders. Such costs are termed as default costs

STOP TO CONSIDER

There are mainly four cost of managing the receivables of an enterprise – collection cost, capital cost, delinquency cost and default cost.

Check your Progress

- Question 12. What do you understand by receivables?
 Question 13. What is meant by management of receivables?
 Question 14. What are the various costs involved in managing receivables by a firm?
 Question 15. State the factors affecting the size of receivables.

4.4.2 Factors affecting size of receivables

The amount of investment in receivables is influenced by numerous factors. There are some factors which affect every type of business in general and also affect the size of receivables. However, there are some which can be controlled by the firm and have a short term bearing on the size of investment in receivables. Such specific factors include the following:

1. **Terms of sales:** The terms of sales have a close link with the size of receivables. The terms of credit should be market based and in tune with that of the competitors so that optimum benefit can be derived from investment in receivables.
2. **Volume of credit sales:** The quantum of credit to be extended on total sales also determines the size of receivables. Generally, there exists a positive relationship between the two. Higher the credit sales, greater the size of receivables and vice versa.
3. **Credit policy of the firm:** Depending upon the type of credit policy adopted by the firm, whether liberal or tight, the affect is seen on the size of receivables.
4. **Customer's Profile:** Customer base with good credit risks also influences the size of receivables to a great extent. Credit can be extended in a greater amount to such customers since chances of losses are the minimum.

Self-Asking Questions

- Question 8. Do you think the size of receivables can be influenced? Give reasons for your answer.
 Question 9. How do the funds of a firm get tied up when managing and maintaining its receivables? Elaborate.

4.4.3 Scope of receivables management

The scope of receivables management envisages the various aspects or issues which are enveloped within the ambit of its operational capacity. Since receivables management is concerned with handling of the receivables of the firm, therefore it covers the activities right from the formulation of credit policies to determining the credit terms while controlling the receivables. The various aspects of receivables management can be discussed under the heads – Credit Policy, Credit Terms and Collection Policies which may be customized and specific with respect to a firm. Depending upon various factors and situations, enterprises formulate and revise their strategies.

STOP TO CONSIDER

Management of receivables involves consideration of three main aspects - *Credit Policy*, *Credit Terms* and *Collection Policies*. Credit Policy involves *credit standards* and *credit analysis*.

4.4.3.1 Credit Policy

A **credit policy** is a set of guidelines which fixes the credit and payment terms for customers and establishes a clear course of action for late payments. While fixing a credit policy, the main decision revolves around the fact whether to give credit or not. In case credit is given, the next task is to determine the extent and duration of such credit.

1. Credit standards

Credit standards represent the fundamental conditions for offering the facility of credit to customers. The firm's credit standards are generally influenced by willingness and ability of the customer to pay, his financial position and prevailing economic condition. The credit standards can be:

- a. **Tight credit standards** – Less credit will be extended; which imply lesser sales, lower amount of receivables, more creditworthy customers, smaller collection period, less collection efforts and other associated costs, or
- b. **Liberal credit standards** – More credit can be extended easily which imply higher sales, higher amount of receivables, less creditworthy customers, longer collection period, more collection efforts and other associated costs.

2. Credit Analysis

Credit Analysis refers to collection of the personal and financial information of credit applicants and analyzing the same to take sound decision of credit extension. Credit analysis, facilitates the decision regarding grant of credit, amount of credit to be extended etc.

Credit information can be obtained from *internal sources* (forms and documents submitted by customers, history of payment pattern etc.) and *external sources* (credit rating, bank references, financial statements etc.). The credit information so obtained

can be analyzed *quantitatively* (Ageing Schedule, Ratio analysis, trend analysis etc.) and *qualitatively* (subjective interpretation of various financial statements, references from suppliers etc.).

STOP TO CONSIDER

Credit Standards may be either tight or liberal depending upon the firm's capacity to effect sales and cost. *Credit Analysis* is based on information which can be obtained from *internal and external sources*, and can be analysed *quantitatively or qualitatively*.

Check Your Progress

Question 16. What is credit policy?

Question 17. What is credit standard?

Question 18. What is credit analysis?

Question 19. Give examples of internal and external sources from which credit information can be collected.

Question 20. Give examples of quantitative and qualitative methods of analyzing credit information collected.

4.4.3.2 Credit Terms

Credit terms refer to the terms and conditions under which the credit is extended to the customers. The emphasis is mainly on the repayment conditions. Its two main components are

1. Credit Period

Credit period is the duration for which credit can be extended to the customers. A greater credit period or average collection period reflects *higher sales* and consequently involves *increased collection effort*.

2. Cash Discount Terms

Cash discount is an advantage made available to the customer to pay their dues or obligations early and avail the discount. Thus, the payable amount is reduced by the discount amount.

4.4.3.3 Collection Policies

Collection policies are guidelines or procedures to be followed so that effective collection of the receivables is ensured. The aim is to minimize the incidents of bad debts so that cash payments are accelerated with regard to non-regenerative customers while retaining the loyal customers. The collection policies so formed affect profitability.

Collection Efforts refer to the total costs the firm is willing to bear so that the credit extended can be recovered. It depends on the firm offering tight or liberal credit standards as explained earlier.

STOP TO CONSIDER

The two main components of *Credit Terms* are *Credit Period* and *Cash Discount Terms*. Collection policies aim to minimize the bad debts which affect profitability.

Self-Asking Questions

Question 10. Formulation of credit policy of a firm depends upon the extent and duration of credit. Do you agree? Give proper justification.

Question 11. How do you think receivables management facilitates the control of receivables? Give support for your answer.

4.5 Inventory Management and Control

Inventory is considered to be a strategic component in the working capital structure of a business concern. It is the most significant constituent in the current asset of a business. Therefore it is of great concern that inventories be managed efficiently. L. R. Harvard observes that “The proper management and control of inventory not only solves the acute problems of liquidity but also increases annual profits and causes substantial reduction in the working capital of a firm.” Inventory management covers a large number of problems inclusive of fixing of maximum and minimum levels, determining the size of inventory, formulating and regulating the issues, receipts and inspection procedures, determining economic order quantity, proper storage facilities among others.

The dictionary meaning of inventory is “a complete list of items such as property, goods in stock, or the contents of a building etc.” Generally it is perceived as a stock of goods, however in the accounting language, goods refer to the stock of finished goods only.

The Accounting Research and Terminology Bulletin has defined inventory as “the aggregate of those items of tangible personal property which

- (i) are held for sale in ordinary course of business.
- (ii) are in the process of production for such sales, or
- (iii) are to be currently consumed in the production of goods or services to be available for sale.

When applied to a manufacturing organization, it is not only the stock of finished goods, but also stock of partly finished goods, raw materials and stores. The aggregate of all such components makes up ‘inventory’. As defined by S. E. Bolten, “The term ‘inventory’ refers to the stockpile of the product a firm is offering for sale and the components that make up the product.” As for a non-manufacturing concern, it refers to those goods which are owned by the firm for sale to customers in the normal course of business.

The composition of inventory varies from firm to firm. However, in general, the aggregate inventory consists of four broad groups namely,

- (a) Raw materials

- (b) Stores and Spares
- (c) Work-in-progress or Semi-processed goods
- (d) Stock-in-trade or Finished goods

The management of inventory becomes pivotal when company holds inventory. The funds of the firm are tied up in the inventory which involves storage cost and interest and opportunity cost.

Inventory management is an approach for ensuring track of the flow of inventory, right from the procurement of goods and its storage to the outflow of the raw material or stock till the manufacturing units or to the market. It is a system which ensures that right quality of material is available in the right quantity at the right time and right place with the right amount of investment.

STOP TO CONSIDER

Inventory consists of four broad groups namely, *Raw materials, Stores and Spares, Work-in-progress or Semi-processed goods* and *Stock-in-trade or Finished goods*.

Matz, Curry and Frank state that “Because materials constitute such a significant part of product cost and since this cost is controllable, proper planning, purchasing, handling and accounting are of great importance.”

4.5.1 Objectives of inventory management

The objectives of inventory management are:

- (a) To control and reduce the chances of disruption in the production flow due to shortage of raw material, stock and spares.
- (b) To avoid blockage of excessive capital in inventories.

Therefore, it is essential to have sufficient control over inventories which not only solves the problem of liquidity but also gives a boost to the profitability of the firm. Excessive inventory remains idle. In order to avoid this situation, the investment in inventories should be optimum (just adequate).

4.5.2 Costs of inventory

Inventory is an inevitable avenue for investment in the running of a business. Funds are necessary for procurement of inventory and as such various risks and costs get associated with it. Proper management of inventory revolves around managing or balancing the various costs in order to minimize the total cost. The specific costs associated with holding of inventory mainly are:

- 1. Ordering costs**—It is the cost of placing and receiving an order and includes stationery, postage, telephone, cost of typing dispatch orders, reminders, advertisements etc. and related clerical costs. Greater the number of orders, greater is the ordering cost.

2. **Carrying costs** – These costs, also known as storage costs or holding costs, are incurred due to storage, handling, insurance etc. of inventory and includes rent of godowns, salaries of staff for receipt, issue and proper storage, loss due to obsolescence, repair charges, interest charges etc. The carrying cost is proportionate to the size of the order placed.
3. **Stock out costs** – The cost incurred due to the non-stocking of an inventory is known as stock out cost which considers the opportunity cost arising out of the loss in production by the idle cost of a line. This may result in rush orders bearing extra charges on such orders. Proper maintenance of safety stock ensures the control of such cost.

STOP TO CONSIDER

The costs involved with holding of inventory are *ordering cost*, *carrying cost* and *stock out cost*.

4.5.3 Dangers of over/under investment

Significant investment in inventories may result into severe perils for the firms such as:

- (i) Blockage of funds without any utility, thus resulting in loss of profit
- (ii) Unnecessary carrying cost, and
- (iii) Liquidity risk.

Over the required level of inventories ties up the funds of business, and makes it unavailable for other uses, thus arises an opportunity cost. The carrying cost, which includes cost of shortage, handling, insurance, recording and inspection, vary in proportion to the quantum of inventory. Rise in such costs further impair the profitability of the firm. While too low level of inventories interrupts the production flow leading to underutilised resource capacity and shortfall in revenue. An efficient management of inventory follows avoidance of excessive inventory and in scanty so that only sufficient inventory is maintained for smoothly carrying out the operational activities. Right quantity should be ordered at the right time from the right sources at the right price so that effective investment along with reduction in wastages can be ensured.

Check Your Progress

- Question 21. What is meant by inventory?
- Question 22. What do you understand by inventory management?
- Question 23. Why is it needed to manage inventory?
- Question 24. What is ordering cost?
- Question 25. What is carrying cost?
- Question 26. What is stock out cost?

4.5.4 Techniques of Inventory management

Every firm adopts different techniques for management of inventory considering the various costs related with handling inventory depending upon the circumstances. Some of the commonly used techniques for inventory management are the following:

4.5.4.1 Economic Order Quantity

EOQ stands for Economic Order Quantity, also known as Re-ordering quantity, may be defined as the optimum quantity which can ideally be purchased each time most economically. It is that size of the quantity of a material ordered that gives maximum economy i.e., minimum total annual cost and ultimately contributes towards maintaining the material at the optimum level and at minimum cost. The total cost of a material consists of:

- (i) Total acquisition cost: It is the buying cost of materials.
- (ii) Total ordering cost: It is the cost of placing an order with the supplier. For example, clerical cost of placing an order, postal charges and telephone bill for placing an order, cost of stationery and other consumables, processing and receiving costs etc.
- (iii) Total carrying cost: It is the cost of holding the stock in storage. It is inclusive of loss in the form of interest on investment on inventory, cost of storage space, loss arising out of breakage, obsolescence etc, cost of insurance, cost of operating the stores like salaries, rent etc.

Ordering and carrying costs are opposite in nature. Greater the quantity, larger is the carrying cost while lower is the ordering cost and vice-versa. At EOQ, ordering cost and carrying cost are equal i.e., a balance is struck between the same.

The following is the mathematical formula for determining EOQ:

$$Q = \frac{\sqrt{2AO}}{c}$$

Where Q stands for quantity to be ordered

C stands for carrying cost

A stands for annual consumption

O stands for ordering cost

Illustration 1.

Find out EOQ. Annual demand 12,000 units. Ordering cost Rs 100 per order. Inventory carrying cost per annum order Rs 15 per unit

Ans: Given, A = 12,000 units

$$O = \text{Rs } 100$$

$$C = \text{Rs } 15$$

$$\text{EOQ} = \frac{\sqrt{2AO}}{C} = \frac{\sqrt{2 \times 12,000 \times 100}}{15} = 400 \text{ units}$$

Illustration 2.

Compute EOQ and total variable cost. Annual demand 5,000 units; Unit price Rs. 20; Order cost Rs. 16; Storage rate 2% p.a.; Interest rate 12% p.a.; Obsolescence rate 6% p.a.

Ans: Here, A = 5,000 units

$$O = \text{Rs } 16$$

$$C = \text{Rs } (12+2+6) \% \text{ of Rs } 20 = \text{Rs } 4$$

$$\text{EOQ} = \sqrt{2AO}/C = \sqrt{2 \times 5,000 \times 16}/4 = 200 \text{ units}$$

$$\text{No. of orders} = 5,000/200 = 25$$

Calculation of variable cost.

$$\text{Ordering cost (Rs. } 16 \times 25) = \text{Rs } 400$$

$$\text{Add: Average carrying cost } (1/2 \times 200 \times \text{Rs } 4) = \text{Rs } 400$$

$$\text{Total variable cost} = \text{Rs } 448$$

Illustration 3. Annual demand for a particular item of an inventory is 10,000 units. Inventory carrying cost per unit per year is 20% and ordering cost is Rs 40 per order. The price quoted by supplier is Rs 4 per unit. However, the supplier is willing to give discount of 5% for orders of 1,500 units or more. Is it worthwhile to avail of the discount offer?

Ans:

Here, Annual consumption (A) = 10,000 units

Ordering cost (O) = Rs 40

Carrying cost © = 20% of Rs 4 = Re 0.80

$$\text{EOQ} = \sqrt{2AO}/C = \frac{\sqrt{2 \times 10,000 \times 40}}{0.80} = 1,000 \text{ units}$$

Total cost on basis of EOQ.

$$\text{Cost of item (Rs } 4 \times 10,000) = \text{Rs } 40,000$$

$$\text{Add: Ordering cost (Rs } 40 \times 10) = \text{Rs } 400$$

$$\text{Add: Average Carrying cost } (1/2 \times 1,000 \times 0.80) = \text{Rs } 400$$

Total annual cost = Rs 40,800

Total cost on basis of discount offered 5%

Cost of material = Rs [4 – (5% of 4)] = Rs 3.80

Carrying cost = 20% of Rs 3.80 = Re 0.76

No. of orders = 10,000 / 1,500 = 6.66 = 7 (approx)

Cost of material (Rs 3.80 x 10,000) = Rs 38,000

Add: Ordering cost (Rs 40 x 7) = Rs 280

Add: Average carrying cost (1/2 x 1,500 x 0.76) =Rs 570

Total annual cost = Rs 38,850

Hence, it is worthwhile to buy at 5% discount as it saves an amount of Rs (40,800 – 38,850) = Rs 1,230.

STOP TO CONSIDER

EOQ is the optimum quantity which can ideally be purchased each time most economically. It is the optimal order quantity that minimizes the total cost associated with ordering, receiving, and holding inventory. EOQ is suitable in situations where demand, ordering, and holding costs remain stable over time. The total cost consists of acquisition, ordering and carrying costs. Ordering and carrying costs are opposite in nature.

4.5.4.2 ABC Technique

ABC Technique is a value based system of material control. In this technique materials are analysed according to their value so that costly and more valuable materials are given greater attention and care. All items of materials are classified according to their value – high, medium and low values, which are known as A, B and C items respectively. ABC technique is sometimes called Always Better Control method.

A items – It consists of high value items forming a small percentage of the total items; tightest control is to be exercised on account of the high cost.

B items – It consists of the medium value materials; normal control procedures are to be exercised.

C items – It consists of low value materials representing a large number of items; with simple and economic methods of control.

Thus ABC technique is a selective control which aims at concentrating efforts on those materials where attention is needed most. This is so because it is unwise to give equal attention to all items in stock. The items are listed and ranked according to their descending importance showing quantity and value of each item.

‘A’ Class Items (High Consumption Value)	‘B’ Class Items (Moderate Consumption Value)	‘A’ Class Items (Low Consumption Value)
Very Strict Control	Moderate control	Loose control
No or very low safety stocks	Low safety stocks	High safety stocks
Maximum follow-up and expediting	Periodic follow-up	Follow-up and expediting in exceptional cases
Rigorous value analysis	Moderate value analysis	Minimum value analysis
Handled by top management	Handled by middle management	Can be fully delegated

STOP TO CONSIDER

ABC technique stands for Always Better Control. This technique is used to exercise control on materials where it is mostly needed and thereby classifies items into three groups – A (High Consumption Value), B (Moderate Consumption Value), and C (Low Consumption Value).

4.5.4.3 Level Setting

Level setting involves setting of different levels for the purpose of efficient investment in and utilization of materials. Various levels of inventory are fixed to see that no excess inventory is carried and simultaneously there will not be any stock outs. The following levels are generally required to be fixated, namely,

Maximum level represents the maximum quantity of an item of material which can be held at any time.

$$\text{Maximum stock level} = \text{Re-ordering level} + \text{Re-ordering Quantity} - (\text{Minimum Consumption} \times \text{Minimum Re-ordering period})$$

Minimum level is the stock level below which stocks are not allowed to fall. It is the quantity of materials which the organization should maintain at all times.

$$\text{Minimum stock level} = \text{Re-order level} - (\text{Normal Consumption} \times \text{Normal Re-order period})$$

Re-ordering level is the point at which the purchase requisition for fresh supplies is initiated by the stores department.

$$\text{Re-ordering level} = \text{Minimum level} + (\text{Average consumption} \times \text{Average lead period})$$

OR

$$= \text{Maximum consumption} \times \text{Maximum re-order period} / \text{Lead period}$$

Danger Level is fixed below the minimum stock level and if stock reaches below this level, urgent action for replenishment of stock should be taken to prevent stock out position.

$$\text{Danger Level} = \text{Average Consumption} \times \text{Lead Time for Emergency Purchases}$$

Average Stock Level is the average of minimum and maximum stock levels.

$$\text{Average level} = (\text{Minimum Stock Level} + \text{Maximum Stock Level}) / 2$$

OR

$$= \text{Minimum Stock Level} + \frac{1}{2} \text{Reorder Quantity}$$

STOP TO CONSIDER

Level setting involves setting of different levels for effective management of inventory namely Maximum stock level, Minimum stock level, Re-ordering level, Danger Level and Average level.

Illustration 4.

Compute minimum stock level from the following information:

Supply period 4 to 8 months

Consumption rate:

Maximum 600 units per month

Minimum 100 units per month

Normal 300 units per month

Yearly 3,600 units

Storage costs are 50% of stock value

Ordering costs are Rs. 400 per order

Price per unit of material Rs. 64

Ans: We know, Minimum level = Re-ordering level – (Normal usage x Normal delivery period)

Now, Re-ordering level = Maximum usage x Maximum re-order period

$$= 600 \text{ units} \times 8 = 4,800 \text{ units}$$

Normal delivery period = $\frac{1}{2}$ (Maximum period x Minimum period)

$$= \frac{1}{2} (8 + 4) = 6 \text{ months}$$

So, Minimum level = $4,800 - (300 \times 6) = 3,000 \text{ units}$

4.5.4.4 Perpetual Inventory System

A perpetual inventory system is defined as “the method of recording stores balances after each receipt and issue to facilitate regular checking and obviate closing down for stock-taking.” Thus under this system, current balance of stores is always shown in records, any receipts being added to and any issues being deducted from the balance after each transaction. The records used for this system are bin card and stores ledger.

ICWA, U.K. has defined it as a “system of records maintained by the controlling department which reflects the physical movement of stocks and their balance. A perpetual inventory is usually checked by a programme of continuous stock taking. However, both are not synonymous.”

A perpetual inventory system is comprised of the following:

- (i) Bin card: It is a quantitative record of receipts, issues and closing balances of the items of stores.
- (ii) Stores ledger: It records not only the physical movement of stocks but also their values.
- (iii) Continuous stock taking: It is the regular physical verification of stocks. It ensures the accuracy of the perpetual inventory records. It is done through a programme so that all the items of stocks are verified in a year.

STOP TO CONSIDER

ICWA, U.K. has defined it as a “system of records maintained by the controlling department which reflects the physical movement of stocks and their balance. A perpetual inventory is usually checked by a programme of continuous stock taking. However, both are not synonymous.”

Perpetual Inventory System comprises of Bin Card, Stores Ledger and Continuous Stock taking. A perpetual inventory system records the changes in inventory in real time.

4.5.4.5 VED Analysis

VED means Vital Essential and Desirable. This analysis is used primarily for the control of spare parts. Spare parts are divided into three categories – Vital Essential and Desirable.

The spares whose absence even for a short period of time will stop production for quite some time and the cost of such stoppage of production is very high are known as Vital spares. These parts invite maximum attention.

Those spares the absence of which cannot be tolerated for more than a few hours or a day and the cost of loss of production is very high and which are essential for the continuance of production are known as Essential spares and require less rigorous attention than in Vital spares.

Desirable spares are those spares which are needed but whose absence for a short period will not stop production. These require less attention.

4.5.4.6 Turnover Rate Techniques

Inventory turnover ratio can also be exercised for management and control on material. Inventory turnover ratio is calculated as

$$\text{Inventory turnover ratio} = \frac{\text{Cost of materials consumed during the period}}{\text{Cost of average stock held during the period}}$$

Average stock is the average of the opening stock and closing stock. The stock turnover ratio can also be determined as:

$$\text{Inventory turnover in days} = \frac{\text{Days during the period}}{\text{Inventory Turnover Ratio}}$$

Different kinds of materials will require varied degree of control. A low ratio indicates slow moving stock, accumulation of obsolete stock, carrying of too much stock while a high turnover ratio reflects fast moving stock and less movement in stock.

4.5.5 Inventory valuation

Since inventories appear at different stages of operational process of business, the valuation of inventory becomes a complicated one. Various concepts and computation processes of values have been formulated for use in case of inventory valuation.

Output value: It is the value assigned to finished goods inventories which exist in the form of Discounted money receipts, Current selling prices and Net realizable value.

Input value: It is the measurement of resources used to bring the inventory to its present condition and location. The main methods used for such valuation are –Specific Cost, First-In-First-Out (FIFO), Last-In-First-Out (LIFO), Average Cost, Cost or Market Price whichever is lower etc.

FIFO means that materials are issued to production in the order in which they are purchased i.e., materials are first issued from the first or earliest lot till it is exhausted and then from the second lot till its exhaustion and so on. The principles followed by this method are the following:

- Materials are priced at the actual cost.
- Charge to production for material cost is at the oldest prices of materials in stock and closing stock is valued at the latest price paid.

This method is suitable under the following circumstances:

- (i) Materials purchased are bulky and heavy and the unit prices of materials are more in number
- (ii) The purchases are few in number
- (iii) Materials to be issued can be easily identified
- (iv) Materials are of slow consumption but of high price
- (v) The market is competitive and jobs are not done according to customer's specification
- (vi) The material prices are steady or falling

LIFO means that material issues are to be priced in the reverse order of purchase i.e., the price of the latest available consignment is taken for pricing the issues of materials and the process goes on. It is based on the principle that last purchased materials are issued at current costs to jobs or work orders unless the purchase has been made a long time ago. The following principles are adopted under this method:

- Materials are priced at actual cost
- Charge to production for material cost is at the latest prices paid
- Closing stock is valued at the oldest prices paid.

This method is suitable under the following circumstances:

- (i) Materials purchased are bulky and unit prices of materials are high
- (ii) Purchases are quite few in number
- (iii) Materials issued are easily identified to a particular purchased lot
- (iv) Prices of material are rising because materials are issued at current market prices i.e., replacement cost and profits become lower and tax burden is also less.

The size and turnover along with physical nature of the inventories, frequency and magnitude of price fluctuations, prevailing practices in the field of operation etc., are the general considerations while selecting the appropriate method of valuation of inventory.

Illustration 5.

The Malaysia Oil Co. closes its accounts at the end of each month; information for the month of June 2004 is given.

Sales Rs 2,50,000; Administration expenses Rs 5,000

Inventory, June 1 50 tons @ Rs 1,000 Rs 50,000

Purchases (including carriage inward)

June 10 150 tons @ Rs 800 Rs 1,20,000

June 20 150 tons @ Rs 900 Rs 1,35,000

Inventory, June 30 100 tons

Compute by FIFO (i) inventory valuation on June 30 (ii) amount of cost of goods sold for June and (iii) Profit/ Loss for June

Ans:

(i) Calculation of inventory value, June 30

100 tons @ Rs 900 = Rs 90,000

(ii) Calculation of cost of goods sold

Opening inventory (50 tons @ Rs 1,000) = Rs 50,000

Add: Purchases

150 tons @ Rs 800 = Rs 1,20,000

150 tons @ Rs 900 = Rs 1,35,000

Less: Closing inventory = Rs 90,000

Rs 2,15,000

(iii) Calculation of profit/loss

Sales Rs 2,50,000

Less: Cost of goods sold Rs 2,15,000

Rs 35,000

Less: Administration expenses Rs 5,000

Profit Rs 30,000

Illustration 6.

The following information is provided for Shorbhog Candle Producing Company for the fortnight of April 2011.

Materials in hand

Stock on 1.4.2011 = 100 units at Rs 5 per unit

Purchases of materials:

5.4.2011 300 units at Rs 6

8.4.2011 500 units at Rs 7

12.4.2011 600 units at Rs 8

Issue of materials:
6.4.2011 250 units
10.4.2011 400 units
14.4.2011 500 units

Calculate using FIFO and LIFO methods of pricing issues:

- (i) *The value of materials consumed during the period; and*
(ii) *The value of stock of materials on 15.4.2011*

Ans:

Statement showing stores value under FIFO :

Particulars	Receipts			Issues			Balance		
	Units	Cost per unit	Total cost	Units	Cost per unit	Total cost	Units	Cost per unit	Total cost
1.4.2011 To balance b/d							100	5	500
5.4.2011 Goods received note no.	300	6	1800				100	5	500
6.4.2011 Requisition slip no.				100	5	500	300	6	1800
8.4.2011 Goods received note no.	500	7	3500	150	6	900	150	6	900
10.4.2011 Requisition slip no.				250	7	1750	500	7	3500
12.4.2011 Goods received note no.	600	8	4800	150	6	900	250	7	1750
14.4.2011 Requisition slip no.				250	7	1750	600	8	4800
				250	8	2000	350	8	2800

- (i) Value of materials consumed during the period :

100 @ Rs 5 = Rs 500

150 @ Rs 6 = Rs 900

150 @ Rs 6 = Rs 900

250 @ Rs 7 = Rs 1,750

250 @ Rs 7 = Rs 1,750

250 @ Rs 8 = Rs 2,000

Total value = Rs 7,800

(ii) Value of stock of materials on 15.4.2011 = 350 units @ Rs 8 = Rs 2,800

Statement showing stores value under LIFO:

Particulars	Receipts			Issues			Balance		
	Units	Cost per unit	Total cost	Units	Cost per unit	Total cost	Units	Cost per unit	Total cost
1.4.2011 To balance b/d							100	5	500
5.4.2011 Goods received note no.	300	6	1800				100	5	500
6.4.2011 Requisition slip no.				250	6	1500	300	6	1800
8.4.2011 Goods received note no.	500	7	3500				100	5	500
10.4.2011 Requisition slip no.				400	7	2800	50	6	300
12.4.2011 Goods received note no.	600	8	4800				500	7	3500
14.4.2011 Requisition slip no.				500	8	4000	100	7	700
							100	5	500
							50	6	300
							100	7	700
							600	8	4800
							100	8	800

(i) Value of materials consumed during the period :

250 @ Rs 6 = Rs 1,500

400 @ Rs 7 = Rs 2,800

500 @ Rs 8 = Rs 4,000

Total value = Rs 8,300

(ii) Value of stock of materials on 15.4.2011 = 100 units @ Rs 5 = Rs 500

50 units @ Rs 6 = Rs 300

100 units @ Rs 7 = Rs 700

100 units @ Rs 8 = Rs 800

Total :Rs 2300

Self-Asking Questions

Question 12. Does under or over investment in inventory affect liquidity?

Question 13. The valuation methods of inventory are varied. Comment.

Question 14. Do you think LIFO and FIFO are applicable in all circumstances?

4.6 Summing Up

- ❖ Cash management is the application of general principles of management in handling cash by a firm. It is basically concerned with collection, disbursement and handling of cash in a manner that the liquidity and profitability of the firm is maintained.
- ❖ There are primarily three motives for the holding of cash namely, transaction motive, precautionary motive and speculative motive.
- ❖ Scope of cash management includes the activities/functions of cash management revolve around handling the cash needs of a business namely, *cash planning, managing cash flow, optimum cash level* and *investing idle cash*.
- ❖ Minimizing the cash needs can be facilitated by Concentration or Decentralised Banking, Lock Box System, Reviewing Credit Procedures, Minimizing Credit Period etc.
- ❖ Tools of cash planning consist of methods which establish the future cash level in a firm namely, (i) Net Cash Forecast (ii) Cash Budget (iii) Working Capital Position.
- ❖ Tools of Cash Control regulate the flow of cash for operational purposes to a great extent. These comprise of (i) Cash Budget Report (ii) Inflow and Outflow of Cash (iii) Ratio Analysis.
- ❖ Receivable Management or Managing Accounts Receivables means collecting the payments due for sales in a timely manner. There are mainly four cost of managing the receivables of an enterprise – collection cost, capital cost, delinquency cost and default cost.
- ❖ The amount of investment in receivables is influenced by *Terms of sales, Volume of credit sales, Credit policy of the firm* and *Customer's Profile*.
- ❖ Management of receivables involves consideration of three main aspects - *Credit Policy, Credit Terms* and *Collection Policies*. Credit Policy involves *credit standards*

and *credit analysis*. Credit Standards may be either tight or liberal depending upon the firm's capacity to effect sales and cost. *Credit Analysis* is based on information which can be obtained from *internal and external sources*, and can be analysed *quantitatively or qualitatively*. The two main components of *Credit Terms* are *Credit Period* and *Cash Discount Terms*. Collection policies aim to minimize the bad debts which affect profitability.

- ❖ Inventory management is a system which ensures that right quality of material is available in the right quantity at the right time and right place with the right amount of investment. The costs involved with holding of inventory are *ordering cost, carrying cost* and *stock out cost*.
- ❖ An efficient management of inventory follows avoidance of excessive inventory and in scanty so that only sufficient inventory is maintained for smoothly carrying out the operational activities. Right quantity should be ordered at the right time from the right sources at the right price so that effective investment along with reduction in wastages can be ensured.
- ❖ The popular techniques used for inventory control are Economic Order Quantity, ABC Analysis, VED Analysis, Level Setting, Perpetual Inventory System and Turnover Rate Techniques.
- ❖ The main methods used for inventory valuation are – Specific Cost, First-In-First-Out (FIFO), Last-In-First-Out (LIFO), Average Cost, Cost or Market Price whichever is lower.

4.7 References and Suggested Readings

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4.8 Model questions

1. What do you mean by cash resources?
2. Why cash funds are needed?
3. Explain the compensating motive of holding cash.
4. What are the objectives of cash management?
5. What do you understand by cash planning?

6. Explain Lock Box system.
7. Explain the scope of receivables management.
8. What do you understand by credit terms?
9. Explain credit standards.
10. Explain the meaning of optimum credit policy.
11. What do you understand by receivables management?
12. Explain the procedure of evaluating credit applicants.
13. What are the important components of credit policy of a firm?
14. What is Debtor's Ageing Schedule?
15. Explain the meaning of optimum credit policy.
16. Why is it necessary to hold inventory?
17. What is ABC Analysis?
18. What do you understand by reorder level?
19. What is continuous stock taking?
20. What are the carrying costs of inventory?
21. Explain the meaning of inventory.
22. Explain the formula of EOQ.
23. Explain the formula of determination of maximum and minimum inventory level.
24. State the general principles of cash management.
25. Cash management facilitates a number of advantages. Explain.
26. What do you mean by cash planning and cash control?
27. Explain the meaning of cash management and the principal motives for holding cash and liquid assets?
28. How do you gain efficiency in maximizing cash receipts?
29. Explain the main tools of cash planning and cash control.
30. Cash management has a limited scope in business operation. Do you agree with the statement? Give proper justification.
31. Explain the meaning of receivables. Describe various costs associated with receivables.
32. Describe in detail the various factors affecting investment in receivables.
33. The scope of receivables management covers the activities right from the formulation of credit policies to determining the credit terms while controlling the receivables. Elaborate the statement.
34. What is inventory management? Describe its objectives.
35. Explain the different techniques used for inventory control.
36. Explain the costs associated with inventory control and management.
37. Discuss in brief the factors determining the optimum level of investment in inventory.
38. Explain the various methods of inventory valuation.
39. Anil Co. buys its annual requirement of 36,000 units in 6 instalments. Each unit cost Re. 1 and the ordering cost is Rs. 25. The inventory carrying cost is estimated 20% of unit value. Find the total annual cost of the existing inventory policy. How much money can be saved by using EOQ?

40. A manufacturing firm purchases 2,000 units of a particular item annually at the price of Rs. 20. The ordering cost per order is Rs. 50 and the inventory carrying cost is 25%. Find the optimal order quantity and minimum total cost. If 3% discount is offered by the supplier for a purchase of 1,000 or more units, should the firm accept the offer?

4.9 Answersto *Check Your Progress.*

1. Cash refers to money in coins or notes, as distinct from cheques, money orders, or credit.
2. Cash management is concerned with collection, disbursement and handling of cash in order to maintain liquidity and profitability of the firm. It leads to efficient investment and utilization of funds which improves the financial position of the firm.
3. There are primarily three motives for the holding of cash namely, transaction motive, precautionary motive and speculative motive.
4. Compensating motive which tends to compensate banks for certain services provided by them.
5. Several collection centres for collection of cash is established in different areas. The payments are received in such centres and then deposited with the local bank by these centres and thereby get transferred to the concentration bank account operated by the head office.
6. The local post offices boxes are rented out in different cities and the customers deposit their remittances to it which is then collected by the authorized lock bank and transferred to the concentration bank operated by the head office.
7. Review of the credit procedures helps locate the slow paying customers, thus volume of blocked cash gets ascertained. Depending upon an extreme strict or extreme lenient credit policy, the sales will be rejected or slow payments and bad debts will arise which reduces cash flow.
8. Working Capital Position analysis forecasts the value of current assets and current liabilities to know the cash position of business.
9. A cash budget is a supplementary report to cash budget which presents a comparison between actual and budgeted cash receipts and payments indicating the points of deviations.
10. Cash ratios are used to explain the efficiency of cash management like current ratios, quick ratio, receivable turnover ratio, inventory turnover ratio, cash position ratio etc.
11. Two methods of forecasting the cash position are – (a) Cash Flow Method (b) Adjusted Earning Method
12. Receivables represent the claims of an enterprise against its customers which result due to the extension of credit facility to the customers.

13. Receivable Management or Managing Accounts Receivables means collecting the payments due for sales in a timely manner.
14. There are mainly four cost of managing the receivables of an enterprise – collection cost, capital cost, delinquency cost and default cost.
15. The amount of investment in receivables is influenced by *Terms of sales, Volume of credit sales, Credit policy of the firm* and *Customer's Profile*.
16. A credit policy is a set of guidelines which fixes the credit and payment terms for customers and establishes a clear course of action for late payments.
17. Credit standards represent the fundamental conditions for offering the facility of credit to customers.
18. Credit Analysis refers to collection of the personal and financial information of credit applicants and analyzing the same to take sound decision of credit extension.
19. Internal sources - forms and documents submitted by customers, history of payment pattern
External sources - credit rating, bank references, financial statements
20. Quantitative - Ageing Schedule, Ratio analysis, trend analysis
Qualitative - subjective interpretation of various financial statements, references from suppliers
21. Inventory is “the aggregate of those items of tangible personal property which are held for sale in ordinary course of business, or are in the process of production for such sales, or, are to be currently consumed in the production of goods or services to be available for sale.
22. Inventory management is a system which ensures that right quality of material is available in the right quantity at the right time and right place with the right amount of investment.
23. It is essential to manage and have sufficient control over inventories which not only solves the problem of liquidity but also gives a boost to the profitability of the firm. Excessive inventory remains idle. In order to avoid this situation, the investment in inventories should be optimum
24. It is the cost of placing and receiving an order and includes stationery, postage, telephone, and cost of typing dispatch orders, reminders, advertisements etc. and related clerical costs.
25. These costs, also known as storage costs or holding costs, are incurred due to storage, handling, insurance etc. of inventory and includes rent of godowns, salaries of staff for receipt, issue and proper storage, loss due to obsolescence, repair charges, interest charges etc.
26. The cost incurred due to the non-stocking of an inventory is known as stock out cost which considers the opportunity cost arising out of the loss in production by the idle cost of a line.

BLOCK III : Unit-V

Unit Structure:

- 5.1 Introduction
- 5.2 Objectives
- 5.3 Sources of Working Capital
- 5.4 Regulation of Bank Credit
 - 5.4.1 Dahejia committee Report 1969
 - 5.4.2 Tandon committee Report 1974
 - 5.4.3 Chore committee Report 1980
 - 5.4.4 Marathe committee Report 1982
 - 5.4.5 Chakravarty committee Report 1985
 - 5.4.6 Kannan committee Report 1997
- 5.5 Summing Up
- 5.6 References and Suggested Reading
- 5.7 Model Questions
- 5.8 Answers to Check your Progress

5.1 Introduction

Working capital is the essence of any business. There must be adequate funds to meet day to day expenses and to finance the short-term assets which includes debtors, receivables, and inventories. Proper management of working capital is necessary to strike a balance between liquidity and profitability. While liquidity is ardent for survival, a firm cannot do without profitability either. Inadequate working capital is disastrous whereas redundant working capital is a criminal waste. Locating the various sources of working capital enables the easy accessibility to fund various short-term requirements of the firm. Banks play an important role in financing working capital to the organizations but many times, such finance or credit gets misutilised. The various committees strengthening the procurement of working capital and the need for bank credit has been dealt with in this chapter in details.

5.2 Objectives

This unit is an attempt to understand the issues involved in regulation of bank credit in terms of working capital. After going through this unit you will be able to –

- Identify the various sources of working capital
- Describe the norms used by banks for financing working capital requirements
- Identify various study groups on financing of firm's working capital needs for bank credit
- Elaborate the objectives and recommendations of various study groups

5.3 Sources of Working Capital

Sources of working capital indicate the pockets or avenues from which funds for daily requirements can be raised or procured. The working capital requirements of a firm may be permanent and/or variable and can be financed from internal and/or external sources.

Working capital can be obtained from the following sources:

1. Long term sources

Any firm requiring working capital for a long term may avail of the long-term sources. This is generally divided into two parts –

(i) Owned Sources

The owned sources comprise of the following:

- a. **Shares** – Shares may be equity or preference. Preference shares carry preferential rights in respect of dividend at a fixed rate and repayment of capital at the time of winding up. While equity shares do not have any fixed commitment charge and dividend is paid when sufficient amount of profits are available.
- b. **Retained earnings**–A certain portion of profits may be retained for reinvestment for efficiency in business activities. This is a regular and cost-free source of working capital.
- c. **Reserves**– Reserves are similar to retained earnings and do not have any charge on business income. This may include reserves for specific purpose as well as free reserves.

(ii) Borrowed Sources

- a. **Debentures** – Debentures are acknowledgement of debt to its holder creating a fixed charge on the profits of the firm.
- b. **Long term Debts** – Long term debts may be obtained from financial institutions or industrial bodies, investment companies etc which bear a fixed rate of interest.

2. Short term sources

Short term sources are generally meant for temporary or variable working capital requirements which are categorised as follows:

(i) Internal

- a. **Depreciation Funds** – Such funds are retained profits generally created for purchasing any fixed asset. In case no fixed asset is purchased, depreciation funds may be utilised for financing working capital.
- b. **Outstanding Payments** – At times, payment for wages, salaries, rent etc. may be kept pending although the services have been availed. This also serves as a source of working capital.
- c. **Provision for Taxation** – A certain amount from the profits is kept as provision for payment of taxes for future periods. This amount can be utilised for working capital purposes until the payment of taxes have been made.

(ii) External

- a. **Trade credit** – Trade credit refers to the credit received from suppliers, generally, of raw materials on credit purchases made.

- b. **Letters of Credit** – The credit notes operating in the financial and business world comprising of bills payable, promissory note etc also serve as sources of working capital.
- c. **Bank Credit** – Banks provide working capital credit in the form of short-term loans, overdraft, cash credit, rediscounting of bills etc.
- d. **Public Deposits** – One more alternative is the issue of public deposits which is directly related with the image of the company seeking to invite such deposits.

STOP TO CONSIDER

Apart from the few external sources mentioned, Advance from customers, Finance Companies, Indigenous money lenders, Governmental Assistance etc may also be explored for funding the requirement of working capital.

Depending upon the choice of sources of working capital, whether form long term or short term, the working capital financing policy is formulated. A company may use *Matching or Hedging Approach*, *Conservative Approach* or *Aggressive Approach* by a mix-match of the various sources of working capital available.

Check Your Progress

- Question 1. Give the meaning of sources of working capital.
- Question 2. Mention the various long-term sources of working capital.
- Question 3. State the external sources of working capital

5.4 Regulation of Bank Credit

Banks advance finance in the form of long-term loans for permanent assets and short-term loans for working capital finance. However, there lie differences in interest rates. Generally higher interest rate is charged on long-term loans and a lower interest rate on working capital loans. The high risk and greater administrative cost are inherent in long term loans owing to which these are more expensive. The low interest rate on working capital loans is more advantageous to the industrial players. To make credit forwarded by banks more effective and refrain from reliance on industries on bank credit alone, various initiatives were undertaken by the government.

Reserve Bank of India (RBI) regulates bank with respect to short-term bank credit to ensure equitable distribution of credit to industries with a view to promote weaker sections of small industry, agricultural and new entrepreneurs. Certain norms have been followed by banks in granting working capital finance to companies. RBI had formed various committees over the decades to regulate bank credit. Various study groups were formed by RBI to frame guidelines for follow up of bank credit. These study groups identified various tasks like, recognizing the elements of working capital requirements and banks for providing such finance, quantum of bank credit to advance, improvements in process of lending (if any) etc. Based on their findings and observations, ways and means were suggested for making the bank credit an effective instrument for economic growth, industrialization as well as to

improve the financial health of the banking sectors. Various committees have been constituted by the RBI for the purpose of regulating working capital finance. Reports submitted by the following committees are significant in this respect:

1. Dahejia Committee Report 1969
2. Tendon Committee Report 1974
3. Chore Committee Report 1980
4. Marathe Committee Report 1982
5. Chakravarty Committee Report 1985
6. Kannan Committee Report 1997

5.4.1 Dahejia Committee

Under the chairmanship of Mr. V. T. Dahejia, the National Credit Council (NCC) formed the 'Dahejia Study Group' in the year 1968. The major observations of the group included in the report submitted in September 1969 were, namely,

- a. A significantly higher rise in short-term bank credit was witnessed comparative to the growth in industrial output.
- b. The practice of investment in fixed assets and expansion of bank loans was prevalent with the use of Short-term bank credit.
- c. The duration of credit grant provided was abnormally long.
- d. Working capital loans were being sanctioned without proper need based assessment considering the projected financial statements. This has led to the problems of double/multi-financing.

All these observations indicated the presence of inflation in bank credit. Thus, the study group mainly aimed at checking the inflation & diversion of bank credit. Based on the observations of the Dahejia Committee, the following suggestions were recommended:

1. Any application of credit must be supplemented with the current and projected financial situations of the firms. This may be done through Cash Flow Analysis. This will help to analyse the trend of assets and liabilities and thereby control the diversion of credit towards other avenues (liabilities and assets).
2. Firms should limit their credit access to one bank only so as to avoid and prevent problems of double/multi-financing. However, a 'consortium arrangement' may be adopted when one bank cannot meet its large credit requirements.
3. A credit period of maximum 60 days (90 days in special cases) should be maintained to prevent undue lengthy credit period which will lead to proper and efficient utilisation of funds. Further, for effective control, very high interest rates should be charged on such firms after 90 days.
4. Considering the opportunity cost due to unutilized funds remaining idle, levy of progressive commitment charge and interest on the unutilized limits of credit was suggested. This would restrict the firms from getting very high credit limits.
5. The cash credit requirement of the firms should be maintained in two distinct categories namely, (i) Hard core components representing minimum level of raw

materials, finished goods and stores which the industry requires for maintaining a given level of production and which is made on a formal term loan basis and (ii) Short-term components representing the fluctuating part of current assets. This would enable the effective regulation of cash credit accounts RBI has also provided industry wise rules for minimum inventory levels.

The report by Dahejia committee also highlighted the weaknesses spotted in the existing system of working capital finance, namely,

- a) The borrower has the upper hand in deciding the amount of credit. The banker does not decide how much to lend, hence credit planning by the banker is not effective.
- b) Other sources are not much preferred by borrowers despite availability, rather credit from banks is prioritised by the borrowers over the former.
- c) Credit availability is not made on the basis of level of operations but upon the amount of security provided by borrower.

STOP TO CONSIDER

The Dahejia study group focussed on regulating inflation & diversion of bank credit. Financial credential reports with proper estimates for application of credit would help control the diversion of credit towards other avenues.

Credit access to be restricted to one bank alone for dealing with double/multi-financing. Credit period to be shortened to maximum 60 days (90 days in special cases) with very high interest rates charged beyond. Levy of progressive commitment charge and interest on the unutilized limits of credit was suggested. The cash credit requirement of the firms identified as (i) Hard core components and (ii) Short-term components.

Check Your Progress

Question 4. State the major observations of Dahejia Committee.

Question 5. What is multi-financing?

Question 6. What are the two distinct categories of working capital credit requirements?

5.4.2 Tandon Committee

The Tandon Committee was formed in July, 1974 under the chairmanship of Mr. Prakash Tandon in order to formulate guidelines for bank credit. This report is treated as a landmark in the history of financing working capital by the commercial banks in India.

The terms of reference in line with the objective of bank credit guidelines are:

- (i) To put forward guidelines for commercial banks to follow up and monitor credit so as to ensure proper utilisation of funds and administer safety of advances.
- (ii) To make recommendations for collating and providing periodical information that may be obtained by banks from the borrower.
- (iii) To propose inventory norms for different industries.

- (iv) To advise the parameters for reasonable capital structure and sound financial basis with respect to credit requirements.
- (v) To review the existing patterns of financing working capital requirements by cash credit or overdraft, etc. require any modifications and also recommend the possible modifications.
- (vi) To make suggestion on any other related aspect of working capital financing as referred by RBI.

The committee identified the following major weaknesses after studying the existing system of working capital finance provided to industry:

- (i) The banks do not exercise any kind of credit appraisal or planning. The decision of borrowing quantum lies with the borrower.
- (ii) The practiced approach to lending is based on security which results in division of funds to investment in fixed assets.
- (iii) Bank finance is considered as the primary source of finance and not supplementary to other sources of finance.
- (iv) The periodicity of availability of working capital finance should be shortened otherwise it might lead to blockage of funds in inventories.

The recommendations of the Tandon Committee focus on the bank lending practices and can be broadly classified into four groups. The major recommendations are as follows:

(A) Inventory and receivable norms:

The borrowers are allowed to keep reasonable current assets particularly inventory and debtors. Bank finance should be made available for the normal current assets based on economic ordering levels and certain level of safety only. Such finance should not be made available for profit making or to storing excess inventory. Even in case of bills receivables banks should finance only those in line with the practices of the borrower's firm and industry. The norms are majorly focussed on the time period of bank credit. The limit of the raw materials is expressed as so many months of total consumption in the year. The work-in-progress limit is determined as so many months of cost of production, while the finished goods and bills receivable limits are determined by cost of sales and credit sales respectively. The Tandon Committee has suggested norms for fifteen industries. These norms have been specified to deal with inflationary situation as well. These norms are not rigid, some flexibility is allowed. In case of power cuts, strikes, breakdown of machinery, etc., deviation from such norms could be permitted, but for short period only.

(B) Lending norms:

Tandon Committee has recommended and introduced the concept of Maximum Permissible Bank Finance (MPBF) in the working capital finance by commercial banks. It was suggested that banks should attempt to supplement the borrowers' resources in financing the current assets. The current assets to be financed by banks must be reasonable and based on norms. It has recommended that trade creditors and

other current liabilities should be first used to finance the current assets. The remaining current assets, known as **working capital gap**, should be financed particularly by banks in the form of bank credit and through long-term borrowings or owner's funds. The committee has suggested three alternative methods for working out the MPBF. Each successive method reduces the involvement of short-term bank credit to finance the current assets.

The committee has suggested three alternative methods for determining (MPBF or) the level of working capital to be financed with bank borrowings.

First method:In the first method, a minimum of 25% of the Working Capital Gap (CA-CL, excluding bank borrowing) should be contributed by the borrower through long-term funds and remaining 75% can be financed from bank borrowings.

This method will give a minimum current ratio of 1:1.

$MPBF = 75\% \text{ of } (Current \text{ Assets} - Current \text{ Liabilities})$ i.e. 75% of Net Working Capital.

Second method:Under this method, the borrower should provide 25% of the total current assets through long-term funds and this will give a current ratio of 1.33:1.

The borrower has to contribute a minimum of 25% of total current assets from long-term funds.

$MPBF = (75\% \text{ of } Current \text{ Assets}) - Current \text{ Liabilities}$

Third method:In this method, the borrower should contribute from long-term sources to the extent of core current assets (Fixed Current assets) and 25% of the balance of the current assets. The remaining of the working capital gap can be met from bank borrowings which will further strengthen the current ratio.

The borrower has to contribute the entire hard core current assets and a minimum of 25% of the balance of current assets from long-term funds.

$MPBF = (75\% \text{ of } Soft \text{ Core } Current \text{ Assets}) - Current \text{ Liabilities}$

The committee recommended the first method primarily as a stop-gap method till borrowers get accustomed to the new approach of lending. The borrowers who are already in the second method would not be allowed to revert to the first stage.

STOP TO CONSIDER

There are three alternative methods for determining MPBF viz.,

- (i) $MPBF = 75\% \text{ of } (Current \text{ Assets} - Current \text{ Liabilities})$ i
- (ii) $MPBF = (75\% \text{ of } Current \text{ Assets}) - Current \text{ Liabilities}$
- (iii) $MPBF = (75\% \text{ of } Soft \text{ Core } Current \text{ Assets}) - Current \text{ Liabilities}$

(C) **Style of Credit:**The Tandon committee also suggested the bifurcation of total credit (or MPBF) into two components namely, (i) Loan (Fixed) component – It represents the minimum level of borrowing expected to be used for the entire year and (ii) Demand cash credit (Fluctuating) component – It represents the fluctuating needs and is reviewed periodically. The demand cash credit component involves a slight higher interest rate than the loan component which provides the borrower an incentive for better planning. Apart from this, a part of the total credit should be financed by bills.

(D) **Information and Reporting System:**

To ensure prevention of unplanned use of cash credit facility and proper maintenance of reasonable level of inventories and receivables, introduction of a new information system was suggested. The following documents are to be submitted to the commercial banks periodically:

- (i) Copy of the annual audited financial statements
- (ii) Copy of a projected financial statement and funds flow statement
- (iii) Quarterly budgeting cum reporting statements
- (iv) Monthly Stock Statement

The report given by Tandon committee has brought a change in the approach of bankers and borrowers and has brought financial discipline for lending by commercial banks.

Check Your Progress

- Question 7. State the norms regarding inventory and receivables.
Question 8. What is working capital gap?
Question 9. What is MPBF?
Question 10. Mention the two components of MPBF.

Illustration 1.

Calculate MPBF as per three methods suggested by Tandon Committee.

Current Liabilities (in Rs. Lakhs): Creditors 120, Other Current Liabilities 40, Bank Borrowing 250.

Current Assets (in Rs. Lakhs): Raw material 180, Work-in-progress 60, Finished Goods 100, Receivables 150, Other Current Assets 20.

The total Core Current Assets (CCA) are Rs. 200 lakhs

Solution:

As per the three methods the MPBF may be calculated as follows:

Method I: $MPBF = 0.75 (CA - CL) = 0.75 (510 - 160) = Rs.262.50$ lakhs

Method II: $MPBF = 0.75 (CA) - CL = 0.75 (510) - 160 = Rs.222.50$ lakhs

Method III: $MPBF = 0.75 (CA - CCA) - CL = 0.75 (510 - 200) - 160 = Rs. 72.50$ lakhs

Illustration 2

Compute Maximum Bank Borrowings permissible under three methods of Tandon Committee norms and comment.

Current liabilities (Rs. in lakhs): Creditors for purchases 200; Other current liabilities 100; Bank borrowings including bills discounted with bankers 400

Current assets (Rs. in lakhs): Raw materials 400; work-in-progress 40; Finished Goods 180; Receivables including bills discounted with bankers 100; Other current assets 20

Assume core current assets are Rs. 190 lakhs

Solution:

Using Method I

Total Current Assets	740
Less: Current Liabilities	<u>300</u>
Working Capital	440
25% from long term sources	<u>110</u>
Maximum Permissible Bank Finance	330
Actual Bank borrowing	<u>400</u>
Excess Bank borrowing	70

Comment: The excess bank borrowings of Rs. 70 lakhs may be converted into long term loans.

Note: $MPBF = 0.75 (CA - CL) = 0.75 (740 - 300) = 300$

Using Method II

Total Current Assets	740
Less: 25% from long term sources	<u>300</u>
	555
Less: Current Liabilities	<u>300</u>
Maximum Bank Borrowings permissible	255
Actual Bank borrowing	<u>400</u>
Excess Bank borrowing	145

Comment: The excess bank borrowings of Rs. 145 lakhs may be converted into long term loans.

Note: $MPBF = 0.75 (CA) - CL = 0.75 (740) - 300 = 255$

Using Method III

Total Current Assets	740
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Less: Core Current Assets	<u>190</u>
Real Current Assets	550
25% from long term sources	<u>137.50</u>
	412.50
Less: Current Liabilities	<u>300</u>
Maximum Bank Borrowings permissible	<u>112.50</u>
Actual Bank borrowing	<u>400</u>
Excess Bank borrowing	287.50

Comment: The borrower has to finance the core current assets also from the long term sources. Hence the excess bank borrowings of Rs. 287.50 lakhs may be converted into long term loans i.e., one for Rs. 190 lakhs and another for Rs. 97.50 lakhs (287.50 – 190).

Note: $MPBF = 0.75 (CA - CCA) - CL = 0.75 (740 - 190) - 300 = 112.50$

5.4.3 Chore Committee

After the implementation of the recommendations made in the report by Tandon Committee, RBI formed another Working Group under the chairmanship of Mr. K.B. Chore, Chief Officer, Department of Banking operation and development, RBI in March 1979. The objective was to strengthen the system of credit management and their regulations. The Chore Committee mainly focussed on: (a) Reviewing the credit system with reference to large gaps between sanctioned limits and actual funds utilized. (b) Promote credit discipline by suggesting alternative types and modes of credit facilities which would improve the bank's funds management (c) Making recommendation on any other related matter.

The following major recommendations were suggested in the report submitted by Chore Committee:

1. **Forms of Lending** – The existing system of three types of lending namely, cash credits, loans and bills should be retained.
2. **Withdrawal of bifurcation of credit limits** – The bifurcation of cash credit limits into a loan component and a fluctuating cash credit component as per this Committee did not find proper acceptance neither on the part of the banks nor the borrowers. Therefore, it was proposed to remove the bifurcated credit limits within overall credit limit and the differential interest rates there on.
3. **Separate limits for peak and non-peak levels** – Depending upon the peak and non-peak level, banks need to fix separate credit limits to reduce the amount of unutilized funds. The banks must also indicate the periods during which the separate limits would be utilised by the borrowers. In case, there is no existing seasonal trend, peak-level and normal requirements should be treated as identical and limits should be

fixed on that basis. The borrower needs to indicate the requirement of funds for the quarter by submitting a statement within the limits sanctioned for the peak-level and non-peak level periods. This form the basis for quarterly review of the accounts.

4. **Submission of Quarterly statements** - The borrowers need to submit quarterly statements for enjoying working capital limit of Rs.50 lakhs and above and they will have to bring gradual additional contribution based on second method of lending as prescribed by the Tandon Committee.
5. **Encouraging bill finance** –Cash credit limits should be converted into bill limits for financing sales as it is a more disciplined mode of financing.
6. **Sanction of temporary limits** – Any requirement of funds more than the borrower’s credit limits, should be levied with a penalty (or extra interest of one percent) over the normal rate charged on the limits except in banks where it is exempted by RBI.

STOP TO CONSIDER

A few other recommendations made by this committee are highlighted below:

(a) Banks should provide exemption of inventory norms and credit over and above the limit only in exceptional cases. (b) Banks should follow the credit procedures very strictly at their level with respect to instructions issued by RBI. (c) Borrowers should provide all information timely for speedy processing of credit applications. (d) It is proposed to remove stamp duty on bills to promote the use of bills for financing. (e) It is proposed to set up autonomous financial institutions on the lines of discount houses in U.K. to encourage financing through bills. (f) The credit limits should be properly assessed in relation to production at the industry level. (g) A cell should be formed with chairman’s office at the central office of each bank to properly follow the measures of credit control. (h) The central office of a bank from time to time review the utilization of credit limit and inventory level of each branch. (i) The communication channels and systems should be improved to increase the speed of collection of bills and cheques by banks. (j) It is proposed to provide simple forms for speedy submission of return. (k) RBI should issue strict guidelines to ensure that borrowers don’t get involved in double or multi financing. (l) Large borrowers should provide data about their dues to small units in their quarterly reports. Thus, banks on this basis fix some portion of bills discounting only for the payment to small units.

5.4.4 Marathe Committee

RBI appointed a committee under the chairmanship of Mr. S.S. Marathe to review the operability of the Credit Authorization Scheme (CAS) for bank credit. The focus of this committee mainly revolved around:

- a) The objectives and scope of CAS and suggesting potential changes.
- b) Verification of Credit appraisal procedure in banks.
- c) Modification of banks’ recommendation to RBI for granting credit to the borrower.
- d) Modification of the existing form of credit application given by borrowers to banks.

- e) Examination of the system for compliance of requirements, processing of applications, etc.

The principal recommendations of the Marathe committee are highlighted below:

- i. The third method of lending suggested by the Tandon committee should be dropped and working capital requirements should be financed by bank credit according to the second method of lending.
- ii. A 'Fast-Track Scheme' was introduced in order to improve the quality of credit appraisal in banks. It recommended that commercial banks can release 50% of the additional credit required by the borrowers (75% in case of export oriented manufacturing units) without prior approval of the RBI, provided the following requirements are fulfilled:
 - a. The future estimates for production, sales, chargeable current asset, current liabilities other than bank borrowings, and net working capital are reasonable in terms of the trends identified and assumptions regarding the possible trends during the future projected period.
 - b. The classification of assets and liabilities as 'current' and 'non-current' is as per the guidelines issued by the RBI.
 - c. The projected current ratio is not below 1.33:1.
 - d. Quarterly information and operating statement (form 1, form 2, and 3) must be submitted by the borrower for the past six months within the prescribed time for the entire period of credit.
 - e. The borrower must undertake to timely submission of his annual account regularly to the bank. Further, the borrower's facilities need to be reviewed by the bank at least once in a year even if the borrower does not require enhancement in credit facilities.

These suggestions focus on reducing complexity of credit procedure. Thus, if banks are self-disciplined with respect to guidelines of RBI, credit lending may improve significantly.

Self-Asking Questions

Question 1. Do you think that the recommendations made by Tandon Committee forms the basis of the Chore Committee?

Question 2. Which method do you think is best for calculation of MPBF? Give your reasons.

Question 3. Which committee focuses on reducing complexity of credit procedure? Explain how.

5.4.5 Kannan Committee

Indian Banks Association (IBA) formed a committee on headed by Mr. K. Kannan, Chairman and Managing Director of Bank of Baroda, in 1996 with a view to examine various aspects of working capital finance including assessment of MPBF. The objective of this committee was to liberalize banks and provide more freedom with respect to devising their own system and credit policies. The main recommendations laid down its report submitted in 1997 are as follows:

1. It was recommended to provide freedom to banks so that their own flexible system of working capital finance could be developed. The aim is to increase the speed and efficiency of credit delivery. However, the operational policies should be drafted while keeping the overall guidelines of RBI in mind.
2. It also suggested that **line of credit system (LCS)** should replace the then existing system of assessment/fixation of sub-limits within total working capital requirements.
3. The committee recommended the withdrawal of regulations imposed by Tandon Committee which were further strengthened by Chore Committee. A new system was suggested in lieu of the earlier system which is as follows:
 - a. Desirable Bank Finance (DBF) method based on ‘Cash Deficit Lending’ to be used in place of old ‘Liquidity Level Lending’ system. Under the old system, the credit requirement of each borrower was asserted by the banks on the grounds of risk analysis, their overall financial status forecasted liquidity level, industry profile, market reports, etc. which was very complex.
 - b. New system of line of credit(LCS) should replace the then existing system of assessment/fixation of sub-limits within total working capital requirements.
 - c. The banks may continue using the turnover method as a tool to determine the requirement of small borrowers. However, this method of assessment has been extended for small and tiny industries upto total credit limits of Rs. 2 crore which was earlier fixed at Rs. 1 crore.
 - d. Adoption of Cash budgeting system can be done for computing the working capital finance in respect of large borrowers.
 - e. The present method of MPBF with necessary modification or any other system can be retained by the banks, if found appropriate.
 - f. There must be transparent policy and guidelines for credit dispensation for each broad category of economic activity.
 - g. The usage of RBI’s instrument relating to directed credit, quantitative limits on lending and prohibitions of credit have been allowed to be in operation. The present reporting system to RBI under the Credit Monitoring Arrangement (CMA) shall also continue in force.

Check Your Progress

Question 11. What is Line of Credit System?

Question 12. What is Fast Track Scheme?

Question 13. What is turnover method?

5.4.6 Chakravarty Committee

The Reserve Bank of India appointed another committee under the chairmanship of Sukhamoy Chakravarty to review the working of the Indian monetary system and submitted its report in April, 1985.

The committee made major recommendations with regard to the working capital finance:

(i) Penal Interest for Delayed Payments:

The committee has advised the government to insist all public sector units, large private sector units and government departments so that penal interest payment clause included in their contracts for payments delayed beyond a specified period. The penal interest may be fixed at 2 per cent higher than the minimum lending rate of the supplier's bank.

(ii) Classification of Credit Limit Under Three Different Heads:

The committee also proposed that the total credit limit to be sanctioned to a borrower should be considered under the three heads:

- (1) *Cash Credit I* to include supplies to government,
- (2) *Cash Credit II* to cover special circumstances, and
- (3) *Normal Working Capital Limit* to cover the balance credit facilities.

(iii) Different Interest Rates:

The interest rates proposed for the three heads are also different. Basic lending rate of the bank should be charged to Cash Credit I maximum prevailing lending rate to Cash Credit II, and the Normal Working Capital Limit be charged as below:

- For Cash Credit Portion: Maximum prevailing lending rate of the bank.
- For Bill Finance Portion: 2% below the basic lending rate of the bank.
- For Loan Portion: The rate may vary between the minimum and maximum lending rate of the bank.

5.5 Summing up

- ❖ Reserve Bank of India (RBI) regulates bank credit especially short-term bank credit so that equitable distribution of credit to industries is ensured with a view to promote weaker sections of small industry, agricultural and new entrepreneurs.
- ❖ Certain norms have been followed by banks in granting working capital finance to companies.
- ❖ Various study groups or committees have been formulated for granting of credit by banks.
- ❖ Each company's working capital is determined as per the norms. These norms are based on the recommendations of Tandon committee, later on Chore committee and then Kannan committee.
- ❖ Limit for maximum permissible bank finance (MPBF) was first introduced by Tandon committee

5.6 References and Suggested Reading

- Kalwar, M. C. & Pathak, R. K. 2007. Financial Management. 2nd edition. Ramesh Book Depot. New Delhi.
- Bannerjee, B. 2010. Fundamentals of Financial Management. PHI Learning Pvt. Ltd. New Delhi
- Tulsian, P. C. &Tulsian, B. 2021. Financial Management. 5th edition. S. Chand & Co. Pvt. Ltd.

5.7 Model Questions

1. How many committees have been found regarding bank finance of working capital? Name them.
2. Under whose chairmanship was Chore committee constituted?
3. When was the Tandon committee constituted and who chaired this committee?
4. State the formula of calculating MPBF using the third approach as recommended by Tandon committee.
5. Discuss the norms laid down by the Tandon Committee for meeting the working capital needs by banks.
6. What suggestions were given by Tandon committee regarding the change of credit system?
7. Describe the recommendations of Chore Committee.
8. State the methods given by Tandon Committee for financing of working capital by banks.
9. Briefly describe the recommendations of Chakravarty Committee.
10. Calculate the MPBF according to Tandon Committee.
Current Assets Rs. 5,00,000 (excluding core current assets)
Core Current Assets Rs. 2,00,000
Current Liabilities Rs. 1,50,000
11. When did the Kannan Committee submit its report? Highlight the major recommendations laid down in the report.
12. Review the major recommendations made by Marathe committee.
13. Elaborate the new system recommended by the Kannan Committee in lieu of the system brought forward by Tandon committee.
14. Explain the salient features of the 'Fast-Track Scheme'.
15. How do you think the Dahejia Committee determined the presence of inflation in bank credit?

5.8 Answers to Check your Progress

1. Sources of working capital indicate the pockets or avenues from which funds for daily requirements can be raised or procured.
2. The long-term sources of working capital are categorised as follows:
 - a. Owned Sources - The owned sources comprise of the following:
Shares, Retained Earnings and Reserves
 - b. Borrowed Sources - The owned sources comprise of the following:
Debentures Long term Debts
3. The external sources of working capital are the following:

- a. Trade credit
 - b. Letters of Credit
 - c. Bank Credit
 - d. Public Deposits
 - e. Advance from customers
 - f. Finance Companies
 - g. Indigenous money lenders
 - h. Governmental Assistance
4. The major observations of the Dahejia Committee were:
 - a. A significantly higher rise in short-term bank credit was witnessed comparative to the growth in industrial output.
 - b. The practice of investment in fixed assets and expansion of bank loans was prevalent with the use of Short-term bank credit.
 - c. The duration of credit grant provided was abnormally long.
 - d. Working capital loans were being sanctioned without proper need based assessment considering the projected financial statements. This has led to the problems of double/multi-financing.
 5. Double or multi-financing is the practice of engaging with multiple financial providers to secure financing against the same underlying asset.
 6. The two distinct categories of working capital credit requirement of the firms are (i) Hard core components and (ii) Short-term components.
 7. The norms regarding inventory and receivables as suggested by the Tandon committee are
 - (i) The borrowers are allowed to keep reasonable current assets particularly inventory and debtors.
 - (ii) Bank finance should be made available for the normal current assets based on economic ordering levels and certain level of safety only. Such finance should not be made available for profit making or to storing excess inventory.
 - (iii) Even in case of bills receivables banks should finance only those in line with the practices of the borrower's firm and industry.
 - (iv) The norms are majorly focussed on the time-period of bank credit. The limit of the raw materials is expressed as so many months of total consumption in the year. The work-in-progress limit is determined as so many months of cost of production, while the finished goods and bills receivable limits are determined by cost of sales and credit sales respectively.

The Tandon Committee has suggested norms for fifteen industries. These norms have been specified to deal with inflationary situation as well. These norms are not rigid, some flexibility is allowed. In case of power cuts, strikes, breakdown of machinery, etc., deviation from such norms could be permitted, but for short period only.

8. The working capital gap in simple words is the difference between total current assets and total current liabilities other than bank. It can also be defined as Long term sources less long term uses.
Working capital gap= Current assets – current liabilities (other than bank borrowings)
9. MPBF stands for Maximum Permissible Bank Finance is a method of working capital assessment. Under the MPBF, the corporates are discouraged from accumulating too much of stocks of current assets and are recommended to move towards very lean inventories and receivable levels.
10. The two components of MPBF are (i) Loan (Fixed) component – It represents the minimum level of borrowing expected to be used for the entire year and (ii) Demand cash credit (Fluctuating) component – It represents the fluctuating needs and is reviewed periodically.
11. An LOC is an arrangement between a financial institution - usually a bank - and a client that establishes the maximum loan amount the customer can borrow. The borrower can access funds from the line of credit at any time if they do not exceed the maximum amount (or credit limit) set in the agreement.
12. A 'Fast-Track Scheme' was introduced to improve the quality of credit appraisal in banks. It recommended that commercial banks could release 50% of the additional credit required by the borrowers (75% in case of export-oriented manufacturing units) without prior approval of the RBI.
13. The turnover method is a tool to determine the requirement of small borrowers. Under this method, the aggregate fund-based working capital limits are computed based on Minimum of 20% of their projected annual turnover. The borrower has to bring the margin of 5% of the annual turnover of such borrowers as margin money. This method of assessment has been extended for small and tiny industries upto total credit limits of Rs. 2 crores.

BLOCK IV : Unit-I

Dividend Decision and Forms of Dividend

Unit Structure:

- 1.1 Introduction
- 1.2 Objectives
- 1.3 Why Firms pay Dividend
- 1.4 Dimensions of Dividend Policy
- 1.5 Forms of Dividend
- 1.6 Forms of dividend policy
- 1.7 Constraints on paying dividend
- 1.8 References
- 1.9 Questions

1.1 Introduction

The net earnings of the organisation which are paid out to the shareholders is known as dividend. When any organisation earns profit, it is able to pay a portion of it to its shareholders while the portion of earning which is not distributed among shareholders and re-invested in the business is known as retained earnings. There is an inverse relationship between retained earnings and dividends paid. The larger the dividend paid less is the retention and vice-versa. The unit will discuss mainly on dividend decision taken by widely held public limited companies as closely held corporation's shares are predominately held by small group of shareholders.

Dividend decision is a major decision taken out of the financial management decisions. It must be taken keeping in view the firm's objective of wealth maximisation. There are two school of thought on dividend relationship with valuation of firm. One school of thought talks about relevancy of dividend decision on value of the firm. On the other hand, other talks about irrelevance of dividend decision on value of the firm. The Board of directors are the one who takes the dividend decision.

1.3 Why Firms pay Dividend

When an investor invests in stocks their primary reason to invest is mainly to earn dividend and earn through capital gains. Companies pay dividend to reward the investors and attract them to keep investing and in order to reward investors they must earn profit to share among shareholders. Thus, dividend is mainly given by well established companies generating consistent revenue. It can also be used as tool to attract more investors during seasons when share price are decreasing or are stagnant, causing organisations stock price to increase. Also, it can be used by the management to disclose the promising prospect of the business. According to signaling theory, firms in order to communicate that firm is confident of its prospects of earning and can pay more dividend in future. Firms also pays dividend keeping in view the clientele effect as each shareholders have different preference; some want to earn more dividend while others want more capital gains and some investors want a balanced mix of dividend income and capital gain.

Self-Assessment Questions

- What do you mean by clientele effect.
- Explain Signaling theory.

1.4 Dimensions of Dividend Policy

There are two relevant dimensions of dividend policy:

i) Payout Ratio

ii) Stability

Payout Ratio: The Payout ratio is the percentage of net income that a company pays out as dividend to its shareholders. Dividend payout ratio is found by dividing dividend per share by earning per share. Companies may follow a constant payout ratio i.e., paying dividend at a fixed rate every year. This kind of dividend fluctuate with direct proportion to earning and if company incur losses no dividend shall be paid. A low payout ratio might result in increase in share price which increases the earning of the investors while high payout ratio means more current dividend and less retained earnings which might result in reduction in market price per share. Various factor is taken into account while determining the payout ratio some of them are discussed below:

1. **Requirement of fund in future:** The companies which have various investment opportunities usually tend to keep their payout ratio low in order to conserve fund for future growth. Firms with limited investment opportunities have a more generous dividend payout policy.
2. **External source of financing:** A firm will follow a conservative dividend payout policy if it is difficult for them to raise external finance and depends mainly on internally generated funds. On the other hand, firm having easy access to external finance from external sources like bank, financial institution, venture capitalist, government grants etc.
3. **Liquidity:** Liquidity is the firm's ability to convert its assets into cash easily. Usually, dividends are paid in cash so liquidity of a firm plays crucial role in dividend payout decision of the firm. The firms which are rapidly expanding have less liquidity and tend to pay less dividend to its shareholders.
4. **Shareholder preference:** If shareholders of firm desire to have current dividend instead of capital gain the firms follow a liberal dividend policy. On the other hand, if shareholders are more inclined to earn capital gain the firm will follow a conservative dividend policy. Also, shareholders which falls under high tax brackets may prefer to receive capital gains instead of dividend when dividend are taxed at higher rates than capital gains.

Stability: The business firms may follow a stable dividend payout ratio or a steadily changing dividend policy. The rationale behind following stability in dividend decision is: Institutional investors before investing in companies takes into consideration steady dividend payment as an important factor. Also, many investors depend on regular income from their

investment in form of dividend which encourages companies to follow stability in their dividend policy. It is also seen as a factor to convey information about the prospects of the firm. So, firms also follow steadily changing dividend policy. An increase in dividend indicates increasing prospect of firm while decreasing dividend indicates lower earning expectation.

Self-Assessment Questions

- Who is a venture capitalist
- Conservative dividend policy

1.5 Forms of Dividend

Cash dividend: Companies usually pay dividend in form of cash. It is paid by transferring a cash amount to the shareholders. A Ltd. has made 600 crores in profit for the year 2022. They decided to pay their shareholders 20% of amount as dividend, which would be 120 crore. These 120 crores will be distributed to each shareholder based on how much stock they own. Through Cash dividend shareholders benefit as it provides immediate return but companies might be left with less money for reinvestment purpose.

Stock dividend: Companies pay dividend as additional shares instead of cash. Stock dividend are advantageous to the shareholders as until and unless these shares are not sold the shareholders are not taxed. It refers to bonus shares paid to shareholders instead of cash. Companies provide cash dividend when there is a cash crunch. But stock dividend decreases the earning per share as the price per share falls which makes the shares affordable to the public. Although the market may also perceive stock dividend other way round as shortage of cash, signaling financial problems. Z Ltd. has announced stock dividend of 5%. If Yuvraj hold 500 shares in the company, stock dividend Yuvraj will get is 25 shares.

Scrip Dividend: Companies when do not have enough money to pay dividend to its shareholders they are given option to receive dividend in cash or additional. To provide scrip dividend company issues promissory notes to its shareholders. The shares provided as scrip dividend will be taxable only at the time of sale as capital gain tax. This kind of dividend is beneficial to both shareholders as well as the company. The company can use cash for investment and shareholders earn new shares without incurring any additional cost. It is different from stock dividend as there is no option to receive dividend in cash in stock dividend and company do not need to create additional shares unlike scrip dividend.

Property Dividend

It refers to dividend paid in form of assets to shareholders instead of cash. The shareholders receive physical asset in form of dividend. Usually, this dividend is not as common as cash and stock dividend. Property dividend are used if the company does not have enough cash on hand and also does not want to its current share position. Property dividend may include the physical assets of the company like real estate, inventory, land, equipment's or shares of

subsidiary company. The issuer calculates the dividend at the fair market value of the asset. Companies prefer to give property dividend when fair market value of asset is different from its book value.

Liquidating dividend

A liquidating dividend is paid when a company goes out of business. It is given after all debts and obligations are being met by the company. Generally, this dividend is paid in form of cash. However, it can also be paid in kind. This kind of dividend depends on remaining asset of the company and does not depend on company's earnings. It is paid to the shareholders if the company has an intent of shutting down the business after meeting all obligations liquidating dividend will be paid which is the last action management takes before shutting down a business. Such dividend is paid at times when owner does not want to be involved in the business anymore or the owners feel that business is not generating adequate return. Thus, shut down the business in an orderly manner.

Special dividend

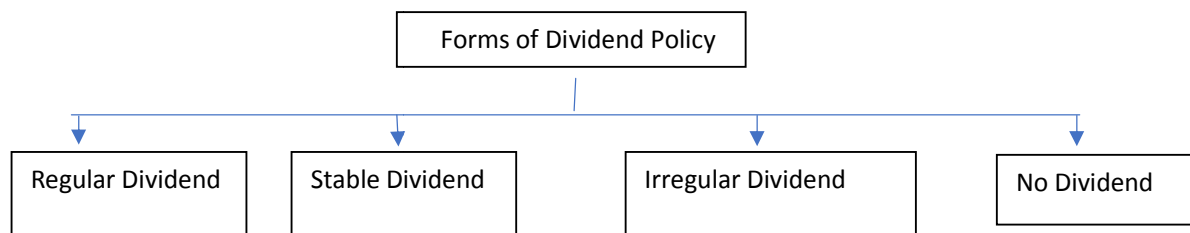
A special dividend is usually paid in cash and is non-recurring in nature. This kind of dividend is a one-time payment paid by company to distribute the profit among shareholders on earning huge profit, a business spin-off, to reward loyal shareholders or after achieving a company milestone. It can also be given by companies to alter company's financial structure. The announcement of special dividend can boost investors' confidence and lead to rise in share price although this are not consistent like regular dividends. While special dividend provide immediate cash to the shareholder, opportunity cost of using fund in research and development initiatives, expanding overseas, new product launches are forgone by limiting its ability to generate growth avenues.

Check Your Progress

- What do you mean by dividend?
- Why do companies pay dividend?
- Discuss the factors affecting payout ratio of a firm?
- Evaluate different dimensions of dividend policy?

1.6 Forms of dividend policy

The policy of a company dictates about the frequency at which dividend are paid to the shareholders. Objective of a dividend policy should be to maximise a shareholders return so that value of his/her investment is maximised.



Regular dividend policy: Companies following this type of dividend policy pays dividend to its shareholders every year. Companies with stable earning and steady cash flow adopts this kind of dividend policy. Companies pays dividend regularly although the quantum of dividend might be small, investors invest in these companies because of low risk and regular dividend. The investors are mainly risk- averse investors. The demerit of this policy is that even if market is booming, investors cannot expect an increase in dividend. This policy helps stabilizing the market value of shares and also increase goodwill of the company.

Stable dividend policy: Companies pays out a fixed percentage of profits as dividend whether quarterly, semi-annually or yearly. This is most popular form of dividend policy followed by companies as a firm's volatility is not reflected in the dividend payout and makes it easier for management to decide how much of earnings should be kept as retained earnings. For example, suppose a company sets payout rate at 12%. Then dividend will be paid at 12% every year regardless of the profit earned by the company. The shareholders are confident to receive a payment at least once in a year.

Irregular dividend policy: Under this kind of dividend policy the company have no obligation to pay dividend. The decision to pay dividend or not depends completely on Board of Directors decision. This dividend policy is used by companies that donot enjoy steady cash flow. Investors have to bear high risk as they may not receive dividend during the financial year. If the company earns abnormal profit the BOD of the company decides whether to issue dividend or retain the profits and invest them in the business for expansion and growth of the business.

No dividend policy: The companies do not distribute dividend at all to the shareholders. The company retain all profit and reinvest it into the business for growth and expansion of the business. The investors are attracted towards such policy as value of shares appreciate significantly and for the investors, increase in share price value is more valuable than a dividend payout.

1.7 Constraints on paying dividend

Legal restrictions:

The dividend policy of a firm is evolved within the legal framework. Dividend is paid as per section 123 of the companies Act 2013. Before making payment of dividend providing depreciationis mandatory. The rate of dividend declared should not exceed the average of the rates at which dividend was declared by it in the three years immediately preceding that year. If company proposes to pay dividend out of accumulated profit transferred to reserves, the company can pay out of only free reserves. Also, the preference shareholders are to be paid dividend prior to equity shareholders but in case of interim dividend preference shareholders need not be paid before equity shareholders. The legal rules are to be followed by a company in terms of paying dividend.

Liquidity: A firm may be profitable but may not have sufficient cash to pay dividend. The greater the liquidity of a firm, greater will be its ability to pay dividend. A firm which gives importance for growth and expansion of business generally have low liquidity as they need fund for growing fixed asset and permanent working capital while mature firms can pay large amount of dividend as it does not need fund for investment purpose nor funds are tied up in permanent working capital.

Inflation: Our accounting system is based on historical costs. When assets are acquired, depreciation is charged on the basis of original cost. As a result, when price rise funds set aside on account of depreciation will not be adequate to replace assets or to keep the capital intact. So, firms may avoid paying dividends. While some companies in order to protect the shareholders from decrease of real value of dividend in time of inflation may pay higher dividends.

Access to the capital market: Easy accessibility to the capital market provides a flexibility to management in paying dividends. A mature firm which has access to capital market will not face any problem in paying dividends while a firm which do not have a good liquidity position and is also unable to raise funds from capital market will not be able to pay dividend. Thus, greater the accessibility to capital market better it is for a firm to raise fund and its ability to pay dividend.

Restrictions from lenders: The lender of firm may put restrictions on payment of dividend in times of low liquidity or low profitability. For example: If an agreement with a lender state that dividend will be paid only when debt-equity ratio is 1.5:1 or may pay dividend only when some amount of current earnings has been transferred to sinking fund established to retire debt. Such restrictions put by lenders may restrict the company in paying dividend if their conditions are not fulfilled.

1.8 References

Chandra, P.(2010).*Financial management theory and practice*(7th ed.).Tata McGraw- Hill.
Khan, M.Y. & Jain, P.K.(2016).*Financial management text, problems and cases*(7th ed.)Tata McGraw-Hill.

1.9 Questions

1. What do you mean by dividend decision and state its importance to a firm.
2. Briefly explain various forms of dividend.
3. List constraints faced by company while taking dividend decision.
4. What do you mean by dividend policy? List various forms of dividend policy.
5. What are the factors that determine the dividend policy of a company.
6. Explain various constraints faced by a firm in paying dividend.
7. Briefly explain dimensions of dividend policy.
8. Discuss various factors which effect payout ratio of a firm.
9. What is the difference between stock dividend and scrip dividend.
10. What do you mean by dividend? Explain the need for paying dividend.

BLOCK IV : Unit-II

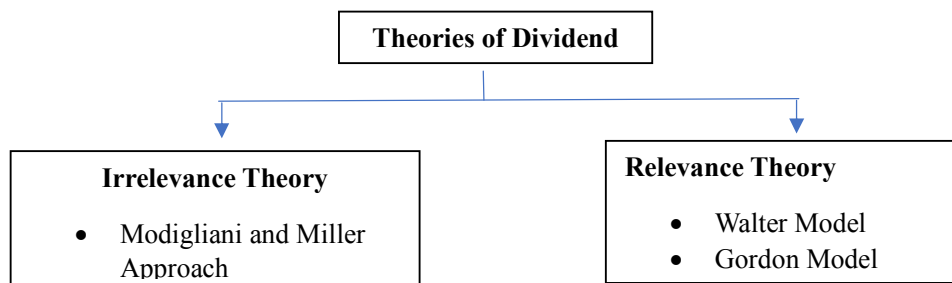
Buyback of shares, Employee Stock Option Scheme; Dividend Policies

Unit Structure :

- 2.1 Introduction
- 2.2 Objectives
- 2.3 Dividend Policy and Firm value
- 2.4 Share Buyback
- 2.5 Employee Stock Option Plan
- 2.6 References
- 2.7 Questions

2.3 Dividend Policy and Firm value

The dividend policy of a firm outlines how a company will distribute its dividend to its shareholders and what proportion of fund will be ploughed back in the firm for reinvestment purposes. The principal objective of corporate financial management is to maximise the market value of equity shares. So, the key question to answer is what is the relationship between dividend policy and market price of equity shares. There are two school of thought one assumes that dividend policy of a firm is relevant while other assumes that dividend policy is irrelevant and does not affect the value of firm.



Irrelevance of Dividend

The most important argument supporting irrelevance of dividend to valuation of firm is that the dividend policy is taken as part of financing decision. The dividend payment will depend on investment opportunities available to the firm which means if the firm have lot of investment opportunities available, they will retain the earning while if opportunities are not sufficient earnings of the firm will be distributed among shareholders. The gist of the argument is that the dividend policy of the firm is a residual decision.

Modigliani and Miller Approach

This approach is based on the view that value of a firm depends on earning and is not affected by distribution of profit between dividend and retained earnings. This approach supports the

irrelevance of dividend and states that dividend has no effect on the share price of the firm. The investment policy is the one through which firm can increase its earning and value of the firm consequently. He gave the argument on irrelevance of dividend based on following assumptions

1. There are perfect capital market and investors are rational.
2. Information is freely available to all.
3. Investors cannot influence the market price of shares.
4. There are no flotation and transaction cost.
5. There are no taxes.
6. Investment opportunities and future profits of the firm are known with certainty (dropped this assumption later)
7. Investment and dividend decisions are independent.

A firm operating in perfect competition may pay dividend in form of cash and if shareholders receive dividend in form of cash but on other hand assets (cash) of the firm reduce. It says there is just transfer of wealth from one shareholder to another. Thus, wealth of shareholders will not be affected. As information is freely available investors cannot influence the market prices.

This approach argues that from point of view of shareholder if a company retains its earning, the shareholders enjoy capital appreciation equal to the amount retained from earning. While if the company pays dividend to the shareholders, they would enjoy value equal to capital appreciation had the company chose to retain its earnings. It also assumes that there are no taxes which implies investor value a rupee of dividend as much as they value a rupee of capital gains. Risk of uncertainty does not exist as investors are able to forecast future prices with certainty. Although the uncertainty argument is not very convincing MM argues that even if we drop the certainty criteria dividend policy is still irrelevant because if two firms with different dividend policy but same capital structure and identical investment, risk they will bear is same. These firms will earn identical cash flows from their investment even with different dividend policies.

Some basic tenets of MM Dividend Irrelevancy Theory

Investment Policy: The investment decision of a firm effects the value of a firm and dividend payout ratio is insignificant. Thus, share valuation is independent of dividend policy of the company.

Earning Power: The value of firm depends on investment policy and earning derived from it rather than how earnings are split between dividend and retained earnings.

Clientele effect: This approach states that a firm will attract stockholders whose preferences with respect to payment pattern and stability of dividend is similar to firms' payment pattern and stability of dividends.

Signalling Effect: MM stated that investors are not concerned about the manner in which returns are obtained, dividend or capital gains.

The Arbitrage argument

MM gave the arbitrage argument for irrelevance of dividend. Arbitrage implies distribution of dividend to shareholders and raising funds externally. This way the effect of dividend payment to shareholders will be offset by raising additional share. When a firm pay dividend market price of shares decrease so what is gained by investors in form of dividend will be neutralized by reduction in market value of shares. Thus, shareholders wealth is not affected by dividend decision as they are indifferent between payment of dividend or retained earnings. It entirely depends on future earnings of the firm. Due to arbitrage process only even under conditions of uncertainty when two firms have different dividend payout ratio with similar investment policies, business risk and future earnings, the market price of the shares will be same.

Crux of MM Approach

The MM approach states that dividend is irrelevant and does not affect the value of a firm. Payment of dividend increase the market price of share but on the same time it reduces the amount of retained earnings available and to meet the requirement of fund the company makes fresh issue of shares which results in increase of number of shares in the market and reduce the market price of the share.

It suggests that sum of discounted value per share after financing and dividend paid is equal to the market value per share before the payment of dividends.

$$P_0 = \frac{D_1 + P_1}{1 + k_e}$$

where,

P_0 = Prevailing market price of a share,

D_1 = Dividend to be received at the end of period 1,

P_1 = Market price of a share at the end of period 1,

K_e = Cost of equity capital

Walter proposed the following formula for finding:

Number of shares to be issued

$$m = \frac{[I - (E - nD)]}{P_1}$$

Value of the firm

$$nP_0 = \frac{(n + m)P_1 - I + E}{1 + k_e}$$

Illustration

Y Co. Ltd. operates in an industry which carry risk at the rate of 11%. The company currently has share capital of 6,00,000 (6000 shares of ₹100 each). The company wants to declare a dividend of ₹10 per share. The company expects to have a net income of ₹8,00,000 and has proposal for making new investment of ₹12,00,000. You are required to show that whether payment of dividend does affect the value of firm or not, under MM-approach.

We will check whether value of firm is affected when

Case I Dividend is paid

Case II Dividend is not paid

Solution: Case I When dividend is paid

Price per share at end of 1 year

$$P_0 = \frac{D_1 + P_1}{1 + k_e}$$
$$100 = \frac{10 + P_1}{1 + 0.11}$$
$$P_1 = 100(1.11) - 10$$
$$P_1 = 101$$

Number of shares to be issued

$$m = \frac{[I - (E - nD_1)]}{P_1}$$
$$m = \frac{1200000 - (800000 - 6000 \times 10)}{101}$$
$$m = \frac{460000}{101} \text{ shares}$$

Value of the firm

$$nP_0 = \frac{(n+m)P_1 - I + E}{1 + k_e}$$
$$nP_0 = \frac{6000 + \left(\frac{460000}{101}\right) \times 101 - (1200000 + 800000)}{1.11}$$
$$= \frac{66000}{1.11}$$
$$= 59459$$

Case II When dividend is not paid

Price per share at end of 1 year

$$P_0 = \frac{D_1 + P_1}{1 + k_e}$$
$$100 = \frac{0 + P_1}{1 + 0.11}$$
$$P_1 = 110$$

Number of shares to be issued

$$m = \frac{[I - (E - nD_1)]}{P_1}$$
$$= \frac{1200000 - (800000 - 6000)}{110}$$
$$= \frac{406000}{110}$$

Value of the firm

$$nP_0 = \frac{(n+m)P_1 - I + E}{1 + k_e}$$
$$\frac{\left(6000 + \frac{406000}{110}\right) 110 - 1200000 + 800000}{1 + 0.11}$$
$$= \frac{66000}{1.11}$$
$$= 59459$$

Thus, it can be seen from above illustration that payment of dividend has no impact on value of the firm which makes investors indifferent on dividend and retention of earnings.

Criticisms of MM Proposition

1. MM approach assumes that there prevails a perfect market which is hypothetical situation only and does not exist in reality.
2. Due to uncertainty the share prices tend to fluctuate and some investors are reluctant to sell shares in a fluctuating market and would prefer high payout. Certainty on dividend is a loose proposition
3. In reality issue cost is incurred and the argument that a rupee of dividend can be replaced by a rupee of external finance is true only when no issue cost is incurred.
4. When dividend is paid and new shares are issued, flotation cost is a reality even though MM assumes no flotation cost is incurred.
5. The management of the firm has more information about firms' operations and uniform information is not available to the shareholders at free of cost.

6. The effective rate of tax on capital gain is less than that on current income. At times investors may prefer capital gain to current income rather than being indifferent.

Relevance of Dividend

In contrast to the irrelevant approach there are theories that consider dividend decision as important factor affecting the value of a firm.

Walter Model

Professor James Walter in this model supports the doctrine that dividend is relevant and choice of dividend policies always affect the value of a firm. According to Walter both dividend policy and investment policy of a firm is interlinked. The rate of return(r) and cost of capital(k) plays an important role in maximisation of shareholders wealth. This approach lays down three situation in order to decide the payout or retention of earning of a firm which are as follows:

When $r > k$

In a growth firm which has ample investment opportunities, where $r > k$ the firms should retain all earning because firm is able to earn more than what shareholders could by reinvesting the earning. The market value of share of such firm would be maximum if dividend payout ratio is zero.

When $r < k$

In a declining firm they do not have profitable investment opportunities, where $r < k$ the firms should distribute the entire earnings as dividend i.e., dividend ratio of 100 would be optimum dividend policy for such firm. As shareholders will be able to earn more by using the dividend amount and investing it in elsewhere.

When $r = k$

In case when rate of return on investment and required rate of return are equal. For such normal firms there is no optimum dividend policy as it is indifferent whether earnings are distributed as dividend or retained by the firm.

Implications

1. The optimal payout ratio for a growth firm ($r > k$) is Zero.
2. The optimal payout ratio for a normal firm ($r = k$) is irrelevant.
3. The optimal payout ratio of a declining firm ($r < k$) is 100 percent.

Assumptions of Walter's model:

1. All financing of the firm is done through retained earning i.e., no equity or debt is used.
2. Firms rate of return (r) and cost of capital (k) are assumed to be constant.
3. The firm has a perpetual life.
4. The earning per share(EPS) and dividend per share(DPS) remains constant.

To compute the market price per share Walter proposes the following formula:

$$P = \frac{D_1 + r \frac{(E-D)}{k_e}}{k_e}$$

Where, P = Market price of equity share

D = Dividend per share

r = Internal rate of return

E = Earning per share

k_e = Cost of equity capital

Limitations of Walter's model

1. A firm does not only fund its projects from retained earning but also uses external sources to raise fund. This model will be applicable to only all equity firms.
2. The internal rate of return keeps on changing with change in investment so the assumption of r being constant is an unrealistic assumption.
3. This model ignores the effect of risk on value of the firm by assuming a constant $k_{e, \text{cost}}$ of equity.

Illustration

XZ ltd. earns 10 per share. The return on investment is 15% and capitalization rate is 12%. Determine the price of the share at optimum payout ratio?

Solution: Since $r > k$, optimum payout ratio is zero

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

$$P = \frac{0 + \frac{0.15}{0.12} (10 - 0)}{0.12}$$

$$P = 150$$

Gordons Model

According to Gordon's model dividend is relevant and it affects the value of a firm. Investors generally prefer current income or dividend. There is a direct relationship between dividend policy of a firm and its market value.

Assumptions of Gordon's model

1. The firm has only equity in its capital structure and external financing is not used, investment programmes are financed exclusively through retained earnings.
2. The cost of capital (k_e) and rate of return (r) remains constant.

3. The firm has indefinite life
4. The retention ratio (b) remains constant, growth rate is a function of 'b' and 'r' i.e. $g = br$.
5. The cost of capital of the firm which remains constant is greater than the growth rate i.e. $k_e > br$.

Arguments

Gordon's model asserts that dividend policy in a firm is significant as investors are risk averse and prefer certain return and penalise uncertain returns. Since investors are rational they avoid risk and prefer getting current dividend over future dividend. If the firm retain earnings investor is uncertain about amount of future dividend and timing. They would prefer to pay higher price for shares paying current dividend. So, investors retained earnings are seen by investors as risky promise. This argument is also known as birds-in-the-hand argument as what is available today is better than what may be available in the future.

Gordon proposes the following formula for finding the price of equity share:

$$P = \frac{E(1 - b)}{k_e - br}$$

Where, P = price of a share

E = Earning per share

b = Retention ratio

1-b = Dividend payout ratio

K_e = cost of equity capital

br = Growth rate

Illustration

The following information is available of XYZ Ltd, where the rate of return on investment is 12 percent and earnings per share is ₹20.

a.	D/P ratio - 10	b - 90	k_e - 20%
b.	D/P ratio - 60	b - 40	k_e - 15%

$$\begin{aligned} \text{a. } P &= \frac{E(1-b)}{k_e-br} \\ P &= \frac{20(1-0.9)}{0.20-0.108} \\ P &= \frac{2}{0.092} = ₹21.7 \end{aligned}$$

$$\begin{aligned} \text{b. } P &= \frac{20(1-0.4)}{0.15-0.048} \\ P &= \frac{12}{0.102} \\ P &= 117.65 \end{aligned}$$

Thus, it can be concluded that according to Gordon's model dividend payout ratio has a bearing on the market price of the share.

2.4 Share Buyback

Share buyback is also known as share repurchase. It means buying back its own shares. It is a procedure in which a company purchase back the shares from its shareholders. It is a method of financial engineering. When a company has cash resources it can buyback its shares particularly when prevailing rate in the market is lower than company perceived true value. Share repurchase reduces share outstanding in the market. If there is no change in corporate earning and price earning ratio share buyback results in increase in earning per share and market price of a share. For share buyback huge amount of capital is required which can mobilized through- internal sources, raising of working capital needs, raising cash by issuing fixed deposits, raising fund by issuing debentures, using overdraft and cash credit facility from commercial bank.

There are two methods of buyback they are – a) Tender method- Under this method company specifies a particular price and period during which they would buyback the shares. b) Open market purchase method- Companies purchase shares from the existing shareholders from the open market through stock exchange or book building process. The share repurchase price can be calculated by using following formula

$$P = \frac{S \times M}{S - N}$$

Where, P = Equilibrium repurchase price

S = Number of share outstanding prior to distribution

N = Number of shares to be repurchased

M = Current market price per share prior to distribution.

Reason for buyback of share

1. Share buyback can be used to protect company from hostile takeover by increasing promoters holding.
2. It helps in improving the intrinsic value of the shares as it results in reduced level of floating stock.
3. It enables the promoters to increase their voting power and control over the company with investing further.
4. It can also be used to maintain a specific capital structure.
5. It can be used by corporate in the process of mergers and acquisitions without enlarging the capital base.
6. If company perceives prevailing market value of share to be lower than its true value.
7. It can be used to increase the earning per share and market price of a share.
8. It can be used to support the share price when share price weakens temporarily.

9. Share buyback produces a long term capital gain which bears less tax rate than tax paid on dividend payment.

Impact of share buyback on shareholding pattern

Share repurchase causes changes in the shareholding pattern by increasing the controlling interest and after effects of share repurchase is- It leads to decrease in number of shareholders due to decrease in shares in the market. It also results in increase in earnings per share and increase in debt equity ratio.

Objections to shares buyback

1. By paying too much for the buyback of shares promoters may use company's money to raise their stake in the company even though it hurt the non-promotional shareholders.
2. Managers may try to manipulate and use collusive trading if companies are allowed to buyback shares and reissue shares.
3. Buyback leads to increase in share price which is advantageous to the continuing non-selling shareholders which is disadvantageous to the selling shareholders.

Check your progress

1. State the methods through which companies' buyback their shares.
2. Explain various reason for buyback of shares.
3. Which dividend policy is also known as bird-in-the-hand argument?
4. Briefly explain the implications of walter model.

2.5 Employee Stock Option Plan

Employee Stock Option Plan (ESOP) is a benefit provided to employees of a company to encourage employee ownership in the company. Employees are provided option to purchase shares at discounted price i.e., at a price below the market price on a future date. Employees have to wait for a time period known as vesting period before they can purchase those shares. It makes employee more committed to the company with a sense of belongingness towards company and result in better performance of employee. In other words, Employee Stock Option Plan (ESOP) is a contract that gives the employees of an enterprise the right but not the obligations for a specified period of time to purchase or subscribe shares of the company at a fixed or pre-determined price which is generally lower than prevailing market price of share. It acts as a source of motivation for the employees as owning shares of the company makes them responsible to the company and they work hard for better performance of the company. It is also helps in retention of employees. It is also used by company as a reward for loyalty. Any company can issue ESOP and should be issued in accordance with companies Act 2013 while listed companies can issue ESOP in accordance with Securities and Exchange Board of India Employee Stock Option Scheme guidelines.

ESOP can be issued to – permanent employee working in India or outside India, to director excluding independent director. It cannot be issued to promoter of a company, director

holding 10 percent of outstanding equity shares whether directly or indirectly. This condition does not apply to startups for a period of ten years from its incorporation.

Example XYZ Ltd. an IT company has 100000 shares currently priced at ₹10. The company offers an employee Ram on 1st of October 2020, option of 1000 shares at ₹10 after two years. After two years the price of share is ₹40 and Ram exercise the option by paying ₹10000 to the company and company issues him 1000 shares.

Here 1st October 2020 is the grant date, 1000 shares @ ₹10 is the option price and 2 years is the vesting period.

Self Assessment Question

1. What is the difference between ESOP and Employee stock purchase plan (ESPP)?
2. Which method of buyback will not be available from 1st April 2025?
3. What do you mean by arbitrage

SEBI guidelines to follow by a listed company on ESOS

1. An employee should not be a promoter or independent director or a director who holds more than 10 percent of outstanding equity shares.
2. A compensation committee consisting of board of directors, majority independent directors must be constituted for providing advice on ESOS.
3. ESOS can be offered to employees only after approval from shareholders by passing a special resolution.
4. There shall be minimum one year between grant of option and vesting of options.
5. Company can decide the lock-in-period for the shares issued before exercise of option.
6. The accounting value calculated as per Black-Scholes model or as difference between market price (grant date) and exercise price must be written off as employee cost over the vesting period.

2.6 References

Chandra, P. (2010). *Financial management theory and practice* (7th ed.). Tata McGraw-Hill.

Khan, M. Y. & Jain, P. K. (2016). *Financial management text, problems and cases* (7th ed.) Tata McGraw-Hill.

2.7 Questions

1. What is the rationale for share buybacks? Also, state its drawback
2. List out the assumptions of irrelevance theory.
3. Explain the practical considerations of Walter model.
4. The following data is collected from sunshine Ltd. annual report

Net profit	₹ 30 lakh
Outstanding 12% preference shares	₹ 100 lakh
Number of equity shares	₹ 2 lakh
Return on Investment	20%
Cost of capital	16%

- a. Compute the dividend payout ratio so as to keep the share price at ₹42 by using Walter's model?
- b. Calculate price per share using Gordon's Model when dividend payout ratio is 50%

5. Bishal Ltd. has a capitalization rate of 10%. It has 25000 outstanding shares and current market price is ₹100. It expects a net profit of ₹2,50,000 for the year and the board is considering dividend of ₹5 per share. Bishal Ltd. requires to raise ₹5,00,000 for an approved investment expenditure. Show how does MM approach affect the value of Bishal Ltd. if Dividend is paid or not paid.

6. Briefly explain ESOP and its advantages.

7. Discuss the theories of dividend.

8. How is the equilibrium share buyback price determined.

9. Compute the equilibrium share repurchase price from following:

Number of equity share outstanding - ₹60lakh

Current market price of share- ₹40

Number of share to be buyback – 10lakh

10. State the guidelines to be followed by a listed company issuing ESOP.

BLOCK IV : UNIT-III
DIVIDEND DECISION MODELS

UNIT STRUCTURE

- 3.1 Introduction
- 3.2 Learning Objectives
- 3.3 Relevance and irrelevance of dividend decision
- 3.4 M.M Hypothesis of dividend irrelevance
- 3.5 Walter's Model
- 3.6 Gordon's Model
- 3.7 Let us sum up
- 3.8 References and suggested readings
- 3.9 Model questions
- 3.10 Answer to check your progress

3.1 INTRODUCTION

In this unit, an attempt has been made to describe the relevance and irrelevance theories of dividend decision. This unit aims at discussing the MM Hypothesis, Walter's Model and Gordon's Model. It also includes an analysis of the assumptions on which the three theories are based upon.

3.2 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- Describe the relevance and irrelevance theories of dividend decision
- Explain the M.M. Hypothesis of dividend decision
- Outline Walter's Model of dividend decision
- Discuss Gordon's Model of dividend decision
- Critically analyse the assumptions which underline MM Hypothesis, Walter's Model and Gordon's Model.

3.3 Relevance and Irrelevance of Dividend Decision

The dividend theories are related with the impact of dividend on the value of the firm. According to some authors, the dividends are irrelevant and the amount of dividends paid does not affect the value of the firm. While according to some other authors, the amount of dividends paid does have an effect and this theory considers that the dividend decision is relevant to the value of the firm. Thus, there are two conflicting schools of thought on dividend decision and they can be divided into:

1. Irrelevance Theory of Dividend

STOP TO CONSIDER

Relevance: the degree to which something is related or useful to what is happening or being talked about.

Irrelevance: the fact that something is not related to what is being discussed or

2. Relevance Theory of Dividend

3.3.1 Irrelevance Theory of Dividend

The advocates of this school of thought argue that the dividends have no impact on the share price or market value of the firm. They argue that the shareholders do not differentiate between the present dividend and the future capital gains. They are basically interested in higher returns earned by the firm by investing the profits in future profitable investments.

They believe that the profits are distributed as dividends only if there is lack of adequate investment opportunities for the business.

The various theories supporting this thought are as follows:

- a) Residuals Theory of Dividends
- b) Modigliani and Millers Approach

3.3.2 Relevance Theory of Dividend

The relevance theory of dividend argues that dividend matters. Therefore, dividend decision affects the market value of the firm. This theory suggests that investors are generally risk

averse and would rather have dividends today (“bird-in-the-hand”) than possible share appreciation and dividends tomorrow. The relevance theory of dividend proposes that dividend policy affect the share price.

Therefore, according to this theory, optimal dividend policy should be determined which will ensure maximization of the wealth of the shareholders.

The various approaches which support the Relevance theory are:

- a) Walter Approach
- b) Gordon Approach
- c) Dividend Capitalization
- d) Dividend Signaling

3.4 M.M Hypothesis of Dividend Irrelevance

According to Modigliani and Miller (M-M), dividend policy of a firm is irrelevant as it does not affect the wealth of the shareholders. They argue that the value of the firm depends on the firm's earnings which result from its investment policy. Thus, when investment decision of the firm is given, dividend decision-the split of earnings between dividends and retained earnings -is of no significance in determining the value of the firm.

3.4.1 Assumptions of M.M Hypothesis

M-M's hypothesis of irrelevance is based on the following assumptions:

1. The firm operates in perfect capital markets where investors behave rationally, information is freely available to all and transactions and floatation costs do not exist. Perfect capital markets also imply that no investor is large enough to affect the market price of a share.
2. Taxes do not exist; or there are no differences in the tax rates applicable to capital gains and dividends. This means that investors value a rupee of dividend as much as a rupee of capital gains.
3. The firm has a fixed investment policy.
4. Risk of uncertainty does not exist. That is, investors are able to forecast future prices and dividends with certainty, and discount rate is appropriate for all securities and all time periods. Thus, $r = k = k_t$ for all t .

Under the M-M assumptions, r will be equal to the discount rate and identical for all shares. As a result, the price of each share must adjust so that the rate of return, which is composed of the rate of dividends and capital gains, on every share will be equal to the discount rate and will be identical for all shares. Thus, the rate of return for a share held for one year may be calculated as follows:

$$r = \frac{D_1 + (P_1 - P_0)}{P_0} \dots\dots\dots (I)$$

Or $= \frac{\text{Dividends} + \text{Capital Gains (or loss)}}{\text{Purchase price}}$

Where P_0 is the market or purchase price per share at time 0, P_1 is the market price per share at time 1 and D_1 is dividend per share at time 1.

As hypothesized by M-M, r should be equal for all shares. If it is not so, the low-return yielding shares will be sold by investors who will purchase the high-return yielding shares. This process will tend to reduce the price of the low-return shares and to increase the prices of the high-return shares. This switching will continue until the differences in rate of return are eliminated. This discount rate will also be equal for all firms under the M-M assumptions since there are no risk differences.

From M-M's fundamental principle of valuation described by Equation (I) we can derive their valuation model as follows:

$$r = \frac{D_1 + (P_1 - P_0)}{P_0}$$

$$P_0 = \frac{D_1 + P_1}{(1+r)}$$

$$P_0 = \frac{D_1 + P_1}{(1+k)} \dots\dots\dots(II)$$

Since, $r = k$ in the assumed world of certainty and perfect markets. Multiplying both sides of the equation (II) by the number of shares outstanding 'n', we obtain the value of the firm if no new financing exists.

$$V = nP_0 = \frac{n(D_1 + P_1)}{(1+k)} \dots\dots\dots(III)$$

If the firm sells 'm' number of new shares at time 1 at a price P_1 , the value of the firm at time 0.

$$\begin{aligned}
nP_0 &= \frac{n(D_1+P_1)+mP_1-mP_1}{(1+k)} \\
&= \frac{nD_1+nP_1+mP_1-mP_1}{(1+k)} \\
&= \frac{nD_1+(n+m)P_1-mP_1}{(1+k)} \quad \dots\dots\dots(\text{IV})
\end{aligned}$$

M-M valuation equation allows of the issuance of new shares, unlike Walter's and Gordon's models. Consequently, a firm can pay dividends and raise funds to undertake the optimum investment policy. Thus, dividend and investment policies are not confounded in the M-M model. As such, M-M's model yields more general conclusions.

The investment programmes of a firm, in a given period of time, can be financed either by retained earnings or the issuance of new shares or both. Thus, the amount of new shares issued will be:

$$\begin{aligned}
mP_1 &= I_1 - (X_1 - nD_1) \\
&= I_1 - X_1 + nD_1 \quad \dots\dots\dots(\text{V})
\end{aligned}$$

Where, I_1 represents the total amount of investment during first period and X_1 is the total net profit of the firm during first period.

By substituting (V) into equation (IV), M-M show that the value of the firm is unaffected by its dividend policy. Thus,

$$\begin{aligned}
nP_0 &= \frac{nD_1+(n+m)P_1-mP_1}{(1+k)} \\
&= \frac{nD_1+(n+m)P_1-(I_1-X_1+nD_1)}{(1+k)} \\
&= \frac{(n+m)P_1-I_1+X_1}{(1+k)} \quad \dots\dots\dots(\text{VI})
\end{aligned}$$

The restatement of M-M's valuation model in terms of external financing in equation (VI) is consistent with the valuation equations stated in equations (III) and (V). but since it is possible to restate the value of the firm in equation (VI) without dividends, 'D', this proves that dividends have no effect on the value of the firm when external financing is used.

A firm which pays dividends will have to raise funds externally to finance its investment plans. MM model argues that dividend policy does not affect the wealth of the shareholders and implies that when the firm pays dividends, its advantage is offset by external financing.

This means that the terminal value of the share declines when dividends are paid. Thus, the wealth of the shareholders (dividends plus terminal price) remains unchanged. As a result, the present value per share after dividends and external financing is equal to the present value per share before the payment of dividends. Thus, the shareholders are indifferent between payment of dividends and retention of earnings.

M-M asserts that their hypothesis of dividend irrelevance is not affected if the firm raises external funds by issuing debt instead of shares. When external financing involves debt, M-M invoke their indifference hypothesis with respect to leverage.

STOP TO CONSIDER

According to M.M, the total value of a firm is absolutely unaffected by the capital structure (debt-equity mix) when corporate tax is ignored.

3.4.2 Criticisms of M.M Hypothesis

We have seen (while discussing M-M Hypothesis) that M-M Hypothesis is based on some assumptions. There are some authors who do not agree with them and consider them unrealistic in nature e.g., the assumption of perfect capital market.

As the imperfect market exist, the arbitrage process will be of no use and as such, the discrepancy will arise between the market value of the unlevered and levered firms. The followings are the shortcomings of M-M Hypothesis-

1. **Perfect Capital Markets:**MM model assumes that there are perfect capital markets. Such perfect markets do not exist in the practical world.
2. **Transaction Cost:** Although the model assumes that there are no transaction costs in the real world there is an expense leading to commission and brokerage to sell shares. Therefore, shareholders do have a preference for current dividends.
3. **Taxes:**The model assumes that there is no tax. This assumption is not realistic as taxes have to be paid when shares are sold and there is a capital gain. Thus, investor prefers current dividends.

4. **Floatation costs:**MM model assumes that there are no floatation costs and no time gaps are required in raising new equity capital. In the practical world, floatation costs must be incurred and legal formalities must be completed and then issues can be floated in the market.
5. **Uncertainty:**MM model states that a company is able to issue additional equity shares. This model is not valid when there is underpricing or sale of shares at a price which is lower than the current market price. This means that the firm will have to sell more shares if it does not want to give a dividend. In this condition, the firm should be retaining the profits and not pay dividends. Therefore, the model is not applicable in uncertain conditions.

3.5 Walter's Model of Dividend Policy

According to Walter's approach, dividend policy of the company plays an active role in influencing share price and value of the firm. Both dividend policy and investment policy are inseparable in management decisions. In determining dividend policy of a firm, the relationship of IRR and COC is very significant. If the IRR is greater than COC, the firm should retain its earnings. The firm should distribute more earnings if IRR is less than COC, so that shareholders can make higher earnings.

A growing firm with ample opportunities should retain more of its earnings. A declining firm with no investment opportunities should distribute all of its earnings.

3.5.1 Assumptions of Walter's Model

Walter's approach is based on the following assumptions-

1. Retained earnings constitute exclusive source of finance. The firm does not resort to equity or debt financing.
2. The firm's internal rate of return (IRR) and cost of capital (COC) are constant.
3. The firm retains its entire earnings for reinvestment immediately or distributes its earnings among shareholders.
4. There is no change in value of earnings per share (EPS) and the dividend per share (DPS)
5. The firm has perpetual life.

Walter used the following formula to determine appropriate payout ratio:

$$V_C = \frac{D + \frac{R_a}{R_c} (E - D)}{R_c}$$

Where,

V_C = theoretical market value of the company's ordinary shares

R_a = Internal Productivity of Retained Earnings.

R_c = Rate of capitalization prevailing in the market.

E = Earnings per share

D = Dividend per share

The par value of ordinary shares of XYZ limited is Rs. 100 per share. The company's earnings per share € is Rs. 15. The productivity of retained earnings in the market (R_a) is 20 percent while the rate of capitalization in the market (R_c) is 15 percent. The following are the alternatives before the management regarding the distribution of dividend:

- i. To have a pay-out ratio of 60 percent;
- ii. To have a pay-out ratio of 40 percent;
- iii. To have a pay-out ratio of 20 percent and
- iv. To have a pay-out ratio of 0 percent.

In the above circumstances which alternative you consider the best?

Solution:

$$i. \quad V_C = \frac{D + \frac{R_a}{R_c} (E - D)}{R_c} = \frac{9 + \frac{.20}{.15} (15 - 9)}{.15} = \text{Rs. } 113.33$$

$$ii. \quad V_C = \frac{D + \frac{R_a}{R_c} (E - D)}{R_c} = \frac{6 + \frac{.20}{.15} (15 - 6)}{.15} = \text{Rs. } 120.00$$

$$iii. \quad V_C = \frac{D + \frac{R_a}{R_c} (E - D)}{R_c} = \frac{3 + \frac{.20}{.15} (15 - 3)}{.15} = \text{Rs. } 126.67$$

$$iv. \quad V_C = \frac{D + \frac{R_a}{R_c} (E - D)}{R_c} = \frac{0 + \frac{.20}{.15} (15 - 0)}{.15} = \text{Rs. } 113.33$$

Conclusion: Alternative iii. Is the best because it maximizes the value of equity shares. It is Rs. 126.67 highest in all four alternatives, therefore, the company should follow a payout ratio of 20 percent.

CHECK YOUR PROGRESS 1

Fill in the blanks with appropriate words.

1. According to Walter's model the firm has life.
2. Both dividend policy and policy are inseparable management decisions.
3. The firm's internal rate of return and are constant.

3.6 Gordon's Model

Myron J. Gordon has developed a model for determination of a firm's dividend policy. Dividend policy is relevant for affecting valuation of the firm.

The Gordon's model is based in the following assumptions.

1. The firm only uses retained earnings for financing its investments. It is all equity firm.
2. In the firm, IRR and COC remain unchanged.
3. The firm has perpetual life.
4. There are no corporate taxes.
5. The retention ratio is constant after once firm decided it.

Gordon argues that the investors always prefer present dividend more than expected future dividend and capital gains. This is on account of risk and uncertainty about future dividends and capital gains. The market value of a share as per Gordon's approach is equal to the present value of its expected future dividend. It can be calculated with the help of the following formula developed by Gordon.

$$P = \frac{E(1 - b)}{k_e - b_r}$$

Where, P = price of a share in the market.

E = Earnings per share

b = retention ratio

1-b = percentage of earnings distributed as dividends

k_e = cost of capital

b_r = growth rate

Example. The details regarding a company called Growth Ltd. is given below:

$$r = k_e \quad r = 0.10 \quad k_e = 0.10 \quad E = \text{Rs. } 10$$

Find out the market price of an equity share by applying Gordon's formula when dividend payout ratio is (i) 40 % (ii) 60% and (iii) 90 %

Solution:

(i) Payout ratio (1-b) = 40%
Retention ratio (b) = 60%

$$\text{Growth rate } (b_r) = 0.6 \times 0.10 = 0.06$$

$$P = \frac{10(1-0.6)}{0.10-0.06} = \frac{4}{0.04} = \text{Rs. } 100$$

(ii) Payout ratio (1-b) = 60%
Retention ratio (b) = 40%

$$\text{Growth rate } (b_r) = 0.4 \times 0.10 = 0.04$$

$$P = \frac{10(1-0.4)}{0.10-0.04} = \frac{6}{0.06} = \text{Rs. } 100$$

(iii) Payout ratio (1-b) = 90%
Retention ratio (b) = 10%

$$\text{Growth rate } (b_r) = 0.10 \times 0.10 = 0.01$$

$$P = \frac{10(1-0.1)}{0.10-0.01} = \frac{9}{0.09} = \text{Rs. } 100$$

Comment: Thus, in normal firms share prices do not change if r and k_e are equal.

STOP TO CONSIDER

- The market price of growth firm rise with high retention ratio.
- The market price of declining firm increase with high dividend payout ratio.
- In normal firms, share prices do not change if r and k_e are equal.

Self Asking Questions

Do you think that Walter's, Gordon's and MM hypothesis of dividend decision are applicable to Indian companies? (20-60 words)

.....
.....
.....

3.7 Summing Up

In this unit we have discussed the following concepts of relevance and irrelevance dividend policies of Walter, Gordon and Modigliani-Miller.

A. According to Walter's relevance approach-

- Dividend policy of the company plays an active role in influencing share price and value of the firm.
- The firm's IRR and COC are constant.
- There is no change in values of earnings per share (EPS) and dividend per share.
- The firm has perpetual life.

B. According to Gordon's relevance approach-

- The firm only uses retained earnings for financing its investment.
- There are no corporate taxes.
- The firms r and k remain unchanged.
- The firm has perpetual life.

C. According to M.M hypothesis of dividend irrelevance-

- The firm operates in perfect capital markets where investors behave rationally and information are freely available.
- Taxes do not exist.
- The firm has a fixed investment policy.
- Risk of uncertainly does not exist.

3.8 Reference and Suggested Readings

- Financial Management, Theory and Practice by Prasanna Chandra.
- Financial Management: Text, Problems and Cases by M.Y. Khan and P.K. Jain.
- Financial Management by I.M. Pandey.
- Fundamentals of Financial Management by R.K. Pathak, M.C. Kalwar and M.S. Pathak.

3.9 Model Questions

Question 1: Regarding XYZ Ltd. The following information is given to you.

- i. Value of ordinary share of the company is Rs. 100 per share.
- ii. Earnings per share (E) = Rs. 15.00
- iii. Productivity of retained earnings in the company (R_a) is 15 percent
- iv. Rate of capitalisation in the market (R_c) is 15 percent

The management of the company have the following alternatives:

- a. To have a pay-out ratio of 60 percent.
- b. To have a pay-out ratio of 40 percent.
- c. To have a pay-out ratio of 20 percent.
- d. To have a pay-out ratio of zero percent.

In the above circumstances which alternative you consider the best?

Question 2: Write a criticism of MM Hypothesis on dividend policy.

Question 3: What are the assumptions made by Gordon in his dividend model?

3.10 Answer to check your progress/Possible answers to SAQ

Check your progress 1

1. Perpetual
2. Investment
3. Cost of capital

Self Asking Question

Do you think that Walter's, Gordon's and MM hypothesis of dividend decision are applicable to Indian companies?

No, because the assumptions made by all the theories regarding relevance and irrelevance of dividend do not hold true in Indian capital market. This is so because, the Indian firm has no perpetual life. They have to pay corporate taxes. IRR and cost of capital change from time to time due to change in market conditions. The investment policy of the firm is not fixed. Risk and uncertainty always exist because of which, perpetual life is not guaranteed.

BLOCK IV : UNIT-IV
LEGAL MANDATE OF DIVIDEND DECISION

Unit Structure:

4.1 Introduction

4.2 Learning Objectives

4.3 Legal Mandate of Dividend Decision under Companies Act, 2013

4.4 Legal mandate of dividend decision under Income Tax Act, 1961

4.5 Let us sum up

4.6 References and suggested readings

4.7 Model questions

4.8 Answer to check your progress

4.1 Introduction

Ordinary meaning of dividend is a share of profits, whether at a fixed rate or otherwise, allocated to holders of shares in a company. The various types of dividends declared by companies in India include interim dividend, final dividend and preference share dividend. In this chapter, you will learn about the legal provisions which are applicable to companies' declaring dividends, in India.

4.2 Learning Objectives

After going through this unit, you will be able to:

- Understand the legal provisions regarding dividend decisions in India.
- Describe the legal mandate on dividend decision under Companies Act, 2013
- Explain the legal mandate on dividend decision under Income Tax Act, 1961

4.3 Legal Mandate of Dividend Decision Under Companies Act, 2013

The following table shows an overview of the various sections and the matter it deals with under the companies act 2013 and Companies Act, 1956 concerning payment of dividends.

Sl. No.	Section under Companies Act, 2013	Section under Companies Act, 1956	Matters dealt with
1	2(35)	2(14A)	Definition of dividend
2	51	93	Payment of dividend in proportion to amount paid up.
3	91	154	Declaration of book closure/record date and publication of notice of record date/book closure
4	123	205	Payment of dividend sources, conditions, transfer of profits to reserve etc.
5	123(5)	205, 205A(3)	Dividend shall be paid to registered shareholders and beneficial owners under CSDL/NSDL Opening of a separate bank account for making payment of dividend and deposit the amount of dividend into the account within a period of 5 days of its declaration
6	126(6)	205	Restriction on payment of dividend on equity shares on failure to comply with deposits.
7	124	205A	Unpaid dividend to be transferred to special dividend account.
8	126	206A	Right of dividend etc. when to be kept in abeyance.
9	127	207	Payment of dividend must be within 30 days of the declaration and penalty for failure to pay dividend within prescribed time limit.

4.3.1 Source of Payment of Dividend

The various sources out of which dividend can be paid to the shareholders are cited in section 123(1)(a) of the Companies Act, 2013. Dividend can be paid out of followings mentioned below:

- i. Profit of the current year after providing of the depreciation; or
- ii. Profit of the previous financial year or years after providing for depreciation for previous years; or
- iii. Out of the money provided by Central or State Government for payment of dividend in pursuance of guarantee given by that, if any.

In terms of the provisions of section 123 of the Act, no company can pay dividend in any year without charging depreciation in the profit and loss account for the current year and that there is no balance of un provided depreciation of any earlier year or years. Depreciation shall be provided in accordance with the provisions of Schedule II to the Companies Act, 2013.

Question 1. Whether the term “Profit of the current year” used in 123(1)(a) refers to profits after tax or before tax? It refers to profits after tax.

4.3.2 Declaration of Dividend

As per Clause 87 of Model Articles of Company Limited by shares as Contained in Table-F of Schedule-I of the 2013 Act, notice of dividend declared shall be given to the persons entitled to share in it.

4.3.2.1 Process for declaration of Dividend

As per Clause 80 of Model Articles of Company Limited by shares as Contained in Table-F of Schedule-I of the 2013 Act

- i. Company in Board Meeting may decide the amount of dividend which they want to recommend in General Meeting.
- ii. Company will mention the resolution for Dividend in the Notice of General Meeting.
- iii. Company will hold the General Meeting:

- a. Declaration of Dividend is Ordinary Business.
- b. Ordinary Resolution for declaration of dividend will be passed in the General Meeting.
- iv. Once dividend is declared, it must be paid within 30 days.

STOP TO CONSIDER

- i. Dividend declared in General Meeting can't exceed the dividend recommended by the Board.
- ii. Dividend declared in General Meeting by member can be less than the dividend recommended by the Board.
- iii. Dividend paid in General Meeting is Final Dividend.

4.3.2.2 Interim Dividend:

As per Clause 81 of Model Articles of Company Limited by shares as Contained in Table-F of Schedule-I of the 2013 Act -

1. Interim dividend can only be declared by board of Directors.
2. Generally paid in the middle of the year if Board of directors find that profitability of the Company.
3. Board of Directors can declare dividend out of surplus in profit and loss account at the beginning of the year or profit during the year.

4.3.3 Mode of Payment of Dividend

The modes of payment of dividend are listed in Section 123(5) of the Companies Act, 2013.

There are following Modes of Payment of Dividend in India.

- a) Cash
- b) Cheque
- c) Dividend Warrant
- d) In any electronic Manner.

4.3.4 Issue of Shares with Differential Right:

If share with differential right have been issued, dividend will be declared and paid on the basis of terms of issue. {Regulation 83(iii) of Model AOA Table-F of the Act, 2013}.

4.3.5 Prohibition on Dividend

A company which has default under Section 73 and 74 related to deposit and repayment of deposit or interest thereon may not declare dividend. A company cannot declare dividend if the company fails to comply with acceptance of deposits and repayment of deposits accepted prior to the commencement of this Act. (Section 73 & 74 of Companies Act 2013. Free Reserve: No dividend shall be paid from its reserves other than free reserves. The term “Free Reserves” is defined under Section 2 (43) of the Company Act 2013. Free reserve means such reserve which, as per the latest audited balance sheet of a Company, are available for distribution of profit.

4.3.6 Punishment for Failure to Distribute Dividend (SECTION 127)

Where a dividend has been declared by a company but has not been paid or the warrant in respect thereof has not been posted within thirty days from the date of declaration to any shareholder entitled to the payment of the dividend, every director of the company shall, if he is knowingly a party to the default, be punishable with imprisonment which may extend to two years and with fine which shall not be less than one thousand rupees for every day during which such default continues and the company shall be liable to pay simple interest at the rate of eighteen percent per annum during the period for which such default continues.

No offence under this section shall be deemed to have been committed-

- a) Where the dividend could not be paid by reason of the operation of any law;
- b) Where a shareholder has given directions to the company regarding the payment of the dividend and those directions cannot be complied with and the same has been communicated to him;
- c) Where there is a dispute regarding the right to receive the dividend;
- d) Where the dividend has been lawfully adjusted by the company against any sum due to it from the shareholder; or

- e) Where, for any other reason, the failure to pay the dividend or to post the warrant within the period under this section was not due to any default on the part of the company.

CHECK YOUR PROGRESS 1

1. Whether it is compulsory requirement of making provision for depreciation before payment of dividend?
2. Whether the term “Profit of the current year” used in 123(1)(a) refers to profits after tax or before tax?
3. Can a company declare dividend in EGM instead of AGM?

4.4 Legal Mandate of Dividend Decision Under Income Tax Act, 1961

There are many legal provisions contained under the Income Tax Act, 1961 in relation to declaration of dividend. The various sections under the Act have been discussed as follows:

4.4.1 Dividend as per sec 2(22),

As per section 2(22) of Income Tax Act, 1961, dividend “includes”

- a) any distribution by a company of accumulated profits, whether capitalised or not, if such distribution entails the release by the company to its shareholders of all or any part of the assets of the company;
- b) any distribution to its shareholders by a company of debentures, debenture-stock, or deposit certificates in any form, whether with or without interest, and any distribution to its preference shareholders of shares by way of bonus, to the extent to which the company possesses accumulated profits, whether capitalised or not.
- c) any distribution made to the shareholders of a company on its liquidation, to the extent to which the distribution is attributable to the accumulated profits of the company immediately before its liquidation, whether capitalised or not.
- d) any distribution to its shareholders by a company on the reduction of its capital, to the extent to which the company possesses accumulated profits which arose after the

end of the previous year ending next before the 1st day of April, 1933, whether such accumulated profits have been capitalised or not. [any distribution to the shareholders. In current scenario, there is no relevance of this clause as it relates to period ending before 1st April 1933.]

- e) any payment by a company, not being a company in which the public are substantially interested [Unlisted Company], of any sum (whether as representing a part of the assets of the company or otherwise) made after the 31st day of May, 1987, by way of advance or loan to a shareholder, being a person who is the beneficial owner of shares (not being shares entitled to a fixed rate of dividend whether with or without a right to participate in profits) [preference shares are excluded] holding not less than ten percent of the voting power, or to any concern in which such shareholder is a member or a partner and in which he has a substantial interest (hereafter in this clause referred to as the said concern) or any payment by any such company on behalf, or for the individual benefit, of any such shareholder, to the extent to which the company in either case possesses accumulated profits.

But dividend does not include –

- (i) a distribution made in accordance with sub-clause (c) or sub-clause (d) in respect of any share issued for full cash consideration, where the holder of the share is not entitled in the event of liquidation to participate in the surplus assets ; (ia) a distribution made in accordance with sub-clause (c) or sub-clause (d) in so far as such distribution is attributable to the capitalized profits of the company representing bonus shares allotted to its equity shareholders after the 31st day of March, 1964, and before the 1st day of April, 1965;
- (ii) any advance or loan made to a shareholder or the said concern by a company in the ordinary course of its business, where the lending of money is a substantial part of the business of the company [Banks, NBFC's];
- (iii) any dividend paid by a company which is set off by the company against the whole or any part of any sum previously paid by it and treated as a dividend within the meaning of sub-clause (e), to the extent to which it is so set off. [It means dividend earlier treated as deemed dividend under sec 2(22)(e), to offset such dividend it is now paid again, so it will not be treated as dividend];
- (iv) any payment made by a company on purchase of its own shares from a shareholder in accordance with the provisions of section 77A of the Companies

Act, 1956 (1 of 1956) [Any payment to shareholders on buyback of shares of the company is not to be treated as dividend];

- (v) any distribution of shares pursuant to a demerger by the resulting company to the shareholders of the demerged company (whether or not there is a reduction of

STOP TO CONSIDER

As per the Income Tax Act, 1961, the term dividend includes:

1. Distribution of profits out of the profits earned by the company whether it is in the form of reserves or it is current year profit which is not capitalized.
2. Distribution of debentures, debenture stock etc. and shares by way of bonus to preference shareholders to the extent company has accumulated profits in the form of reserves;
3. Any distribution made by the company to shareholders out of the accumulated profits;

capital in the demerged company.

4.4.2 Dividend Income [Section 8]

As per sec 8(a), any dividend declared or distributed or paid within the meaning of sub-clauses (a), (b), (c), (d), (e) of sec 2(22) is deemed to be the income of the previous year in which such dividend is declared, distributed or paid as the case may be.

As per sec 8(b), any interim dividend declared by the company shall be deemed to be the income in the previous year in which it is unconditionally made available to the member who is entitled there to.

4.4.3 Dividend Exempt from Tax [Section 10]

a. Sec 10(23F) –

any income by way of dividends or long-term capital gains of a venture capital fund or a venture capital company from investments made by way of equity shares in a venture capital undertaking.

b. Sec 10(23FA) –

any income by way of dividends, other than dividends referred to in section 115-O, or long-term capital gains of a venture capital fund or a venture capital company from investments made by way of equity shares in a venture capital undertaking.

c. Sec 10(23FC) –

any income of a business trust by way of— (i) interest received or receivable from a special purpose vehicle; or (ii) dividend [referred to in sub-section (7) of section 115-O].

d. Sec 10(23FE)

(Introduced by Finance Act, 2020 w.e.f. 01-04-2021 – any income of a specified person in the nature of dividend, interest or long-term capital gains arising from an investment made by it in India, whether in the form of debt or share capital or unit, if the investment—

- i. is made **on or after the 1st day of April, 2020 but on or before the 31st day of March, 2024;**
- ii. is held for **at least three years;** and
- iii. is in –
 - a. a **business trust** referred to in sub-clause (i) of clause (13A) of section 2;
 - b. a **company or enterprise or an entity carrying on the business of developing, or operating and maintaining, or developing, operating and maintaining any infrastructure facility** as defined in the Explanation to clause (i) of sub-section (4) of section 80-IA or such other business as the Central Government may, by notification in the Official Gazette, specify in this behalf; or
 - c. a **Category-I or Category-II Alternative Investment Fund** regulated under the Securities and Exchange Board of India (Alternative Investment Fund) Regulations, 2012, made under the Securities and Exchange Board of India Act, 1992 (15 of 1992), having hundred per cent investment in one or more of the company or enterprise or entity referred to in item (b).

e. Sec 10(26AAA) –

in case of an individual, **being a Sikkimese**, any income which accrues or arises to him-

(a) from **any source in the State of Sikkim**; or

(b) by way of **dividend or interest on securities**.

Provided that nothing contained in this clause shall apply to a Sikkimese woman who, on or after the 1st day of April, 2008, marries an individual who is not a Sikkimese.

f. Sec 10(34) –

any income by way of dividends referred to in **section 115-O**:

Provided that nothing in this clause shall apply to any income by way of dividend chargeable to tax in accordance with the provisions of section 115BBDA;

CHECK YOUR PROGRESS 2

1. On which date were significant modifications made to the income tax laws in India?
2. Do you need to pay tax on dividend income?
3. Do you need to pay tax on income from mutual funds?

4.4.4 Tax on certain dividends received from domestic companies [Section 115BBDA]

Overriding the provisions of Income tax act, where the total income of the specified assessee (means a person other than domestic company, fund or institution or any university or other educational institution or any hospital or other medical institution referred in sec 10(23C) or a trust or institution registered under sec 12A or sec 12AA) being resident in India includes any income exceeding Rs. 10 lakhs by way of dividend (on or before 31st March 2020), the dividend exceeding Rs. 10 lakhs is chargeable at 10 percent.

4.4.5 Tax on distributed profits of domestic companies [Section 115-O]

Overriding the provisions of Income tax act, where any dividend declared, distributed or paid upto 31st March 2020 (Amendment by Finance Act 2020), the income tax shall be charged at the rate of 15 percent. But in case of dividend referred to in sec 2(22)(e), rate of 30 percent is chargeable.

4.4.6 TDS on Dividend [Section 194]

As per amendment made by Finance Act, 2020, where dividend is paid to a shareholder who is resident of India, as referred to in sec 2(22)(a), (b), (c), (d), (e), TDS(Tax deducted at source) at the rate of 10 is deducted provided in case of an individual where dividend does not exceed Rs. 5,000 in a financial year to an individual and dividend is paid by any mode other than cash, then No TDS will be deducted.

4.5 Let us sum up

It is clear from the above points of discussion that dividend is taxable in the hands of investors as per slab rate applicable as normal income irrespective of whether TDS has been deducted on such dividend or not from FY 2020-21 onwards. Taxability of Dividend paid to Non-Resident is determined under sec 195 as well as provisions contained under Tax Treaties entered with various countries upon availability of pre-requisite documents (Tax Residency Certificate, Form 10F and No PE Declaration) for availing the benefits of Tax Treaty.

Table showing different tax rates for assessee

Category of Assessee	Dividend nature	Rate of Tax
Resident	Dividend received from domestic company	Normal rate of tax applicable to the assessee
NRI	Dividend on GDR of Indian co./PSU (purchased in foreign currency)	10%
NRI	Dividend on shares of Indian co.(purchased in foreign currency)	20%
NRI	Any other Dividend income	20%
FPI	Dividend on securities other than 115AB	20%
Investment Division of offshore banking unit	Dividend on securities other than 115AB	10%

4.6 Reference and Suggested Readings

- Taxmann's Income Tax Act: As amended by Finance Act 2022
- Fundamentals of Financial Management, Dr. R.P. Rastugi
- Companies Act, 2013, The Institute of Company Secretaries of India
- Companies Act 2013, Taxmann Publications Private Limited.

4.8 Answer to check your progress/Possible answers to SAQ

Check Your Progress 1

1. In terms of the provisions of section 123 of the Act, no company can pay dividend in any year without charging depreciation in the profit and loss account for the current year and that there is no balance of un provided depreciation of any earlier year or years. Depreciation shall be provided in accordance with the provisions of Schedule II to the Companies Act, 2013.
2. It refers to profits after tax.
3. As per regulation 80 of Model Articles Table F of the 2013, Act, "Company in General Meeting may declare dividend". As per the Regulation 80 of AOA it's not mandatory to declare dividend in AGM, if dividend not declared in AGM then company can declare dividend in subsequent EGM. If dividend is declared in AGM, it can't be increased further in subsequent EGM.

Check your progress 2

1. On 1st April 2020 amendments were made to the Income Tax Act regarding the income from dividends and income from mutual funds made by Indian investors.
2. Finance Act 2020 shifted the taxability on dividend income from the hands of the dividend declaring the company to the individual investors. Therefore, any income made by investors from dividends is taxable under the Income Tax Act, 1961 in India.
3. Sec 10(35) – any income received upto 31st March 2020 from Mutual Funds is exempt from tax. (Amendment by Finance Act 2020) Such income from 1st April 2020 is taxable and TDS will be deducted at the rate of 10 percent (rate of 7.50 percent for the period 14th May 2020 to 31st March 2021) under sec 194K if the total amount of income in a financial year exceeds Rs. 5,000. No TDS will be deducted if income is in the nature of capital gains.

4.7 Model Questions

Question 1. What are modes of dividend payment as per Section 123(5) of the Companies Act, 2013.

Question 2. Describe the Legal Mandate of Dividend Decision Under Companies Act, 2013.

Question 3. Highlight the legal provisions contained in the Income Tax Act, 1961 relating to dividend decisions.

Question 4. What is “included” and what is “not included” as dividend as per section 2(22) of Income Tax Act, 1961.

4.8 Answer to check your progress/Possible answers to SAQ

Check Your Progress 1

4. In terms of the provisions of section 123 of the Act, no company can pay dividend in any year without charging depreciation in the profit and loss account for the current year and that there is no balance of un provided depreciation of any earlier year or years. Depreciation shall be provided in accordance with the provisions of Schedule II to the Companies Act, 2013.
5. It refers to profits after tax.
6. As per regulation 80 of Model Articles Table F of the 2013, Act, “Company in General Meeting may declare dividend”. As per the Regulation 80 of AOA it’s not mandatory to declare dividend in AGM, if dividend not declared in AGM then company can declare dividend in subsequent EGM. If dividend is declared in AGM, it can’t be increased further in subsequent EGM.

Check your progress 2

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BLOCK V : UNIT-I
CORPORATE RESTRUCTURING

Unit Structure:

- 1.1 Introduction
- 1.2 Objectives
- 1.3 Meaning of Corporate Structure
- 1.4 Objectives and Scope of Corporate Restructure
- 1.5 Characteristics of Corporate Restructure
- 1.6 Benefits of Corporate Restructuring
- 1.7 Need of Corporate Restructuring
- 1.8 Forms of Corporate Restructuring
- 1.9 Corporate Restructuring strategies
- 1.10 Corporate Restructuring: The Process
- 1.11 Case Studies
- 1.12 Other instances of beneficial Corporate Restructuring

1.1 INTRODUCTION

The process of corporate restructuring is considered very important to eliminate all the financial crises and enhance the company's performance. The management of the concerned corporate entity facing the financial crunches hires a financial and legal expert for advisory and assistance in the negotiation and the transaction deals. Usually, the concerned entity may look at debt financing, operations reduction, any portion of the company to interested investors. In addition to this, the need for corporate restructuring arises due to a change in the ownership structure of a company. Such changes in the ownership structure of the company might be due to the takeover, merger, adverse economic conditions, adverse changes in business such as buyouts, bankruptcy, lack of integration between the divisions, over-employed personnel, etc.

Corporate Restructuring is a branch of corporate and insolvency law that deals with changing the structure of a company. It is usually considered by a business that is facing financial issues. The primary purpose of restructuring is to arrange the structure of the company to produce optimum performance. A corporate entity facing a financial crisis would consider

corporate restructuring before going for the liquidation or the winding-up procedure. Companies hire professional experts such as lawyers and financial firms to advise them to renegotiate transactions and agreements, which will allow them seamless restructuring.

1.2 OBJECTIVES

After going through this unit, you will be able to:

- Discuss the concept and classification of Corporate Restructuring
- Explain the benefits and need of Corporate Restructuring
- Discuss the different forms of Corporate Restructuring
- Understand the characteristics of Corporate Restructuring

1.3 MEANING OF CORPORATE RESTRUCTURE

Corporate Restructuring is an action taken by the corporate entity to modify its capital structure or its operations significantly. Generally, corporate restructuring happens when a corporate entity is experiencing significant problems and is in financial jeopardy. When a company wants to grow or survive in a competitive advantage.

A larger company can achieve economies of scale. A bigger size also enjoys a higher corporate status. Such status allows it to take advantage of raising funds at lower cost that results into higher profits. It focuses on cost reduction and improving efficiency and profitability. It helps in rearranging the business of a company for increasing its efficiency and profitability. Every restructuring exercise aims at eliminating disadvantages and to combine advantages. It plans to achieve synergy benefits through a well-planned restructuring strategy.

1.4 OBJECTIVES AND SCOPE OF CORPORATE RESTRUCTURING

Corporate Restructuring is concerned with arranging the business activities of the Corporate as a whole so as to achieve certain pre-determined objectives at corporate level. Objectives may include the following:

- To enhance shareholders value
- Orderly redirection of the firm's activities

- Deploying surplus cash from one business to finance profitable growth in another
- Exploiting inter-dependence among present or prospective businesses
- Risk reduction
- Development of core-competencies
- To obtain tax advantages by merging a loss-making company with a profit-making company
- To have access to better technology
- To become globally competitive
- To increase the market share

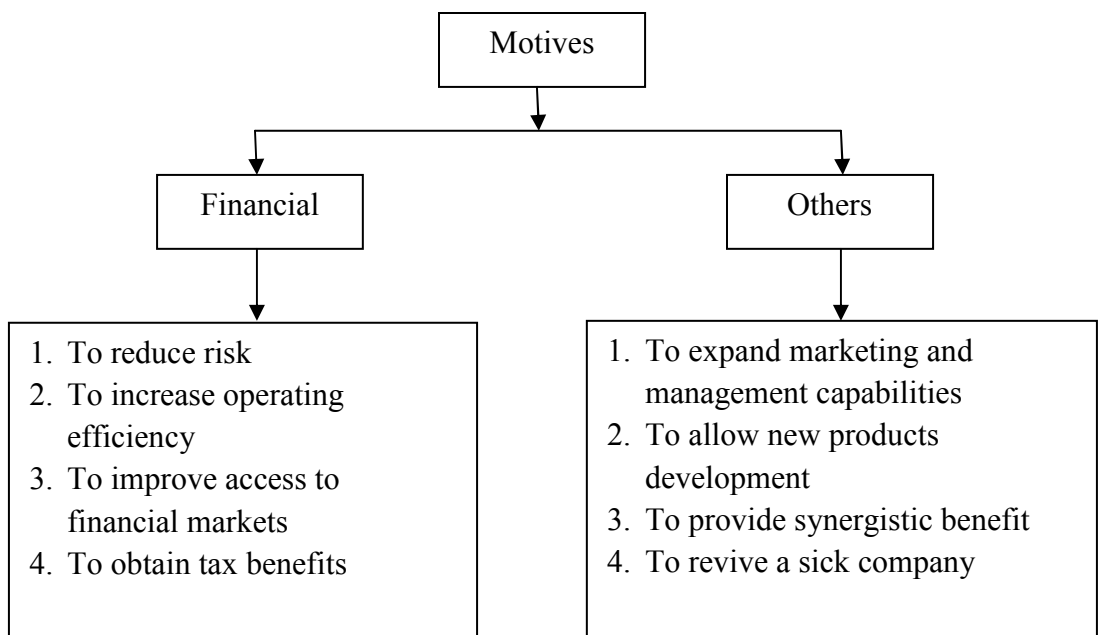
Restructuring aims at improving the competitive position of an individual business and maximizing its contribution to corporate objectives. It also aims at exploiting the strategic assets accumulated by a business i.e., monopolies, goodwill, exclusivity through licensing, etc. to enhance the competitiveness advantages. Thus, restructuring helps in bringing an edge over competitors.

In highly competitive world, cost cutting and value addition are very important to get highlighted.

Corporate Restructuring : an Example

ABC Limited has surplus funds but it is not able to consider any viable projects. Whereas XYZ Limited has identified viable projects but has no money to fund the cost of the project. The merger of ABC Limited and XYZ Limited is a mutually beneficial option and would result in positive synergies for both the Companies.

Motives behind Corporate Restructuring



1.5 CHARACTERISTICS OF CORPORATE RESTRUCTURING

- a. To improve the Balance Sheet of the company (by disposing of the unprofitable division from its core business)
- b. Staff reduction (by closing down or selling off the unprofitable portion)
- c. Changes in corporate management
- d. Disposing of the underutilized assets, such as brands/patent rights.
- e. Outsourcing its operations such as technical support and payroll management to more efficient third party.
- f. Shifting of operations such as moving of manufacturing operations to lower-cost locations
- g. Reorganizing functions such as marketing, sales, and distributions.
- h. Renegotiating labour contracts to reduce overhead.
- i. Rescheduling or refinancing of debt to minimize the interest payments.
- j. Conducting a public relations campaign at large to reposition the company with its consumers.

1.6 LEGAL FRAMEWORK OF CORPORATE RESTRUCTURING

Corporate Restructuring in India is governed by the following Acts, Rules, etc.:

- Chapter XV of The Companies Act, 2013 (the Act)
- Companies (Compromises, Arrangements, and Amalgamations) Rules, 2016
- Income Tax Act, 1961
- Accounting Standards
- Foreign Exchange Management Act, 1999
- Competition Act, 2002
- Intellectual Property Rights
- Indian Stamp Act, 1899
- State Stamp Acts
- Insolvency and Bankruptcy Code, 2016

Ministry of Corporate Affairs (MCA) vide notification no. S.O. 3677(E) dated December 7, 2016 notified sections 230 [except sub section (11) and (12)], and sections 231 to 240 [except

section 234 which provides merger with foreign company] of the Act, related to compromises, arrangements, and amalgamations effective from 15.12.2016.

MCA vide notification dated 14th December, 2016 notified The Companies (Compromises, Arrangements and Amalgamations) Rules, 2016 effective from 15th December, 2016. Consequently, w.e.f. 15.12.2016 all the matters relating to Compromises, Arrangements, and Amalgamations are being dealt with as per provisions of Companies Act, 2013 and the Companies (Compromises, Arrangements, and Amalgamations) Rules, 2016.

MCA vide notification dated 13th April, 2017 notified Section 234 of the Act which deals with merger or amalgamation of a company with foreign company effective from 13th April, 2017. Corporate Restructuring related matters including mergers, demergers, capital reductions, etc. are to be filed before and dealt by National Company Law Tribunal (NCLT) bench exercising respective territorial jurisdiction.

1.7 BENEFIT OF CORPORATE RESTRUCTURING

Mergers, amalgamations and acquisitions are forms of inorganic growth strategy. Such corporate restructuring strategies have one common goal viz. to create synergy. Such synergy effect makes the value of the combined companies greater than the sum of the two parts. Basically, synergy may be in the form of increased revenues and/or cost savings. Corporate Restructuring aims at improving the competitive position of an individual business and maximizing its contribution to corporate objectives.

Through mergers and acquisitions, companies hope to benefit from the following:

(1) Increase in Market Share – Merger facilitates increase in market share of the merged company. Such rise in market share is achieved by providing an additional goods and services as needed by clients. Horizontal merger is the key to increasing market share. **(E.g. Idea and Vodafone)**

(2) Reduced Competition – Horizontal merger results in reduction in competition. Competition is one of the most common and strong reasons for mergers and acquisitions. **(HP and Compaq)**

(3) Large size – Companies use mergers and acquisitions to grow in size and become a dominant force, as compared to its competitors. Generally, organic growth strategy takes years to achieve large size. However, mergers and acquisitions (i.e. inorganic growth) can achieve this within few months. **(E.g. Sun Pharmaceutical and Ranbaxy Pharmaceutical)**

(4) Economies of scale – Mergers result in enhanced economies of scale, due to which there is reduction in cost per unit. An increase in total output of a product reduces the fixed cost per unit.

(5) Tax benefits – Companies also use mergers and amalgamations for tax purposes. Especially, where there is merger between profit making and loss-making company. Major income tax benefit arises from set-off and carry forward provision u/s 72A of the Income-tax Act, 1961.

(6) New Technology – Companies need to focus on technological developments and their business applications. Acquisition of smaller companies helps enterprises to control unique technologies and develop a competitive edge. (E.g. Dell and EMC)

(7) Strong brand – Creation of a brand is a long process; hence companies prefer to acquire an established brand and capitalize on it to earn huge profits. **(E.g. Tata Motors and Jaguar)**

(8) Domination – Companies engage in mergers and acquisitions to become a dominant player or market leader in their respective sector. However, such dominance shall be subject to regulations of the Competition Act, 2002. **(E.g. Oracle and I-Flex Technologies)**

(9) Diversification – Amalgamation with companies involved into unrelated business areas leads to diversification. It facilitates the smoothening of business cycles effect on the company due to multiplicity of businesses, thereby reducing risk. **(E.g. Reliance Industries & Network TV18)**

(10) Revival of Sick Company – Today, the Insolvency and Bankruptcy Code, 2016 has created additional avenue of acquisition through the Corporate Insolvency Resolution Process.

Notable mergers/demergers/acquisitions that took place are Myntra acquiring Jabong, RIL acquiring Network TV18, Sun Pharma absorbing Ranbaxy; Wirpo demerger, Reliance Industries demerger.

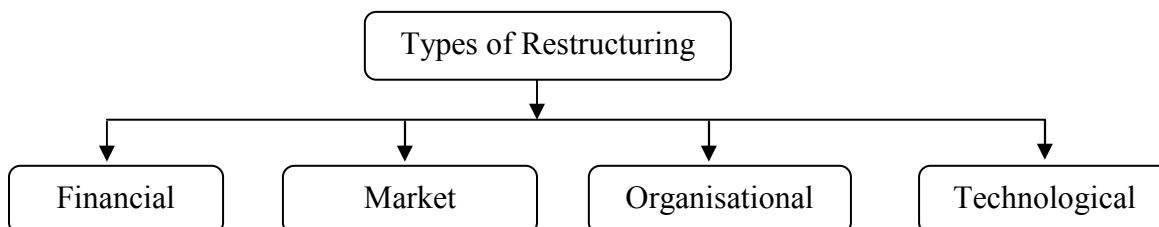
1.8 NEED FOR CORPORATE RESTRUCTURING

The various needs for undertaking a Corporate Restructuring exercise are as follows: -

- (a) focus on core competence, operational synergy, cost reduction and efficient allocation of managerial capabilities;
- (b) balance utilization of available infrastructure and resources;
- (c) economies of scale by expansion to exploit domestic and international markets;
- (d) revival and rehabilitation of a sick unit by adjusting losses of the sick unit with profits of a healthy company;
- (e) acquiring constant supply of raw materials and access to scientific research and technological developments;
- (f) capital restructuring by appropriate mix of loan and equity funds to reduce the cost of servicing and improve return on capital employed;
- (g) improve corporate performance to achieve competitive advantage by adopting the radical changes brought out by information technology.

1.9 FORMS OF CORPORATE RESTRUCTURING

Comparison of various commentaries on a conceptual study of corporate restructuring could be confusing because what one author may refer to as 'type' of corporate restructuring, the other may refer to as a 'strategy' of corporate restructuring, and none of them may be incorrect, therefore it is paramount to keep this in mind while studying works of different authors on this subject.



I. Financial Restructuring

“When a management with a reputation for brilliance tackles a business with a reputation for bad economics, it is the reputation of the business that remains intact.” -Warren Buffet.

Restructuring of the financial aspects of a business may be undertaken when the going is not good and there is a fall in the revenues, possibly because of adverse economic conditions and other externalities or sometimes even internalities. Management may choose to change its equity patterns, debt servicing schedule, cross-holding pattern, to sustain the market, survive, reduce costs, and return to profitability. Some other initiatives under financial restructuring include, but are not limited to:

- Reduction of tax liability,
- Divestment of unproductive assets,
- Outsourcing,
- Relocation of operations (to reduce costs),
- Renegotiation of contracts,
- Debt Refinancing.

Financial restructuring deals with restructuring of capital base and raising finance for new projects. Financial restructuring helps a firm to revive from the situation of financial distress without going into liquidation. Financial restructuring is done for various business reasons:

- Poor financial performance
- External competition
- Financial Market
- Organisational
- Technological
- Types of Restructuring
- Erosion or loss of market share
- Emerging market opportunities

It involves Equity Restructuring like buy-back, Alteration/Reduction of capital and Debt Restructuring like restructuring of the secured long-term borrowing, long-term unsecured borrowings, Short term borrowing.

II. Organisational restructuring

“When we own portions of outstanding businesses with outstanding managements, our favourite holding period is forever.” -Warren Buffet.

Businesses may function efficiently, turn more profitable, and run better due to well-planned and executed organisational restructuring. It means changing the organisational structure, for example reducing the levels of hierarchy, redesigning job positions, removing excess or under-performing employees, changing reporting structure. Some other initiatives under organisational restructuring include, but are not limited to:

- Regrouping of business,
- Decentralization,
- Portfolio Restructuring,
- Corporate Strategy.

III. Market and Technological Restructuring

Market Restructuring involves decisions with respect to the product market segments where the company plans to operate on its core competencies and technological restructuring occurs when a new technology is developed that changes the way an industry operates. This type of restructuring usually affects employees, and tends to lead to new training initiatives, along with some layoffs as the company improves efficiency. This type of restructuring also involves alliances with third parties that have technical knowledge or resources. Indian technology major Tata Consultancy Services Limited has embarked upon the process of restructuring and focusing on three core areas Cloud, agile and automation.

The restructuring plan of the company focuses on the manufacturing capacity and on product, technical and technological, financial, employment, organizational, purchasing and management restructuring activities. Disney's global technology group, parks-and-resorts division is undergoing a reorganization which results in some employees losing their jobs. It is eliminating some positions and replacing them with others that help the company reach more long-term technology goals. Joint Venture, Strategic Alliances, Franchising are some of the examples of market and technological restructuring which are explained in detail subsequently.

1.10 CORPORATE RESTRUCTURING STRATEGIES

I. Mergers and Acquisition:

Merger is a strategy wherein two or more businesses are merged either by way of amalgamation or absorption. Mergers and Acquisitions (M&A) are transactions in which the ownership of companies, other business organizations or operating units are transferred or combined. As an aspect of strategic management, M&A allow enterprises to grow, shrink, and change the nature of the business or competitive position. It refers to the consolidation of two companies.

The reasoning behind M&A is that two separate companies together create more value compared to being on an individual stand. With the objective of wealth maximization, companies keep evaluating different opportunities through the route of merger or acquisition.

Reasons for Mergers & Acquisitions Regardless of their category or structure, all mergers and acquisitions have one common goal: they are all meant to create synergy that makes the value of the combined companies greater than the sum of the two parts. The success of a merger or acquisition depends on whether this synergy is achieved. Synergy takes the form of revenue enhancement and cost savings. By merging, the companies hope to benefit from the following:

- **Becoming bigger:** Many companies use M&A to grow in size and leapfrog their rivals. While it can take years or decades to double the size of a company through organic growth, this can be achieved much more rapidly through mergers or acquisitions.
- **Preempted competition:** This is a very powerful motivation for mergers and acquisitions, and is the primary reason why M&A activity occurs in distinct cycles.
- **Domination:** Companies also engage in M&A to dominate their sector. However, since a combination of two behemoths would result in a potential monopoly, such a transaction would have to face regulatory authorities.
- **Tax benefits:** Companies also use M&A for tax purposes, although this may be an implicit rather than an explicit motive.
- **Economies of scale:** Mergers also translate into improved economies of scale which refers to reduced costs per unit that arise from increased total output of a product.
- **Acquiring new technology:** To stay competitive, companies need to stay on top of technological developments and their business applications. By buying a smaller company with unique technologies, a large company can maintain or develop a competitive edge.
- **Improved market reach and industry visibility:** Companies buy other companies to reach new markets and grow revenues and earnings. A merger may expand two companies' marketing and distribution, giving them new sales opportunities. A merger can also improve a company's standing in the investment community: bigger firms often have an easier time raising capital than smaller ones.

1. Mergers

The term merger and amalgamation has not been defined under the Act. M&A is often known to be a single terminology. However, there is a thin difference between the two. 'Merger' is the fusion of two or more companies, whereby the identity of one or more is lost

resulting in a single company whereas ‘Amalgamation’ signifies the blending of two or more undertakings into one undertaking, blending enterprises loses their identity forming themselves into a separate legal identity.

There may be amalgamation by the transfer of two or more undertakings to a new or existing company. ‘Transferor company’ means the company which is merging also known as amalgamating company in case of amalgamation and ‘transferee company’ is the company which is formed after merger or amalgamation also known as amalgamated company in case of amalgamation.

A merger is a legal consolidation of two entities into one entity which can be merged together either by way of amalgamation or absorption or by formation of a new company. The Board of Directors of two companies approve the combination and seek shareholders' approval. After the merger, the acquired company ceases to exist and becomes part of the acquiring company. Some recent examples are acquisition of eBay India by Flipkart, Vodafone-Idea merger and Axis Bank’s acquisition of freecharge.

TYPES OF MERGERS

a) HORIZONTAL MERGER

Horizontal Merger is a merger between companies selling similar products in the same market and in direct competition and share the same product lines and markets. It decreases competition in the market. The main objectives of horizontal merger are to benefit from economies of scale, reduce competition, achieving monopoly status and control of the market.

Examples: Facebook's acquisition of Instagram in 2012 for a reported \$1 billion. Both Facebook and Instagram operated in the same industry and were in similar production stages in regard to their photo-sharing services. Facebook, looking to strengthen its position in the social media and social sharing space, saw the acquisition of Instagram as an opportunity to grow its market share, increase its product line, reduce competition and access potential new markets.

b) VERTICAL MERGER

Vertical Merger is a merger between companies in the same industry, but at different stages of production process. In another words, it occurs between companies where one buys or sells something from or to the other.

To illustrate, suppose XYZ Ltd. produces shoes and ABC Ltd. produces leather. ABC has been XYZ's leather supplier for many years, and they realize that by entering into a merger

together, they could cut costs and increase profits. They merge vertically because the leather produced by ABC is used in XYZ's shoes.

c) CONGLOMERATE MERGER

Conglomerate merger is a merger between two companies that have no common business areas. It refers to the combination of two firms operating in industries unrelated to each other. The business of the target company is entirely different from the acquiring company. The main objective of a conglomerate merger is to achieve big size e.g., a watch manufacturer acquiring a cement manufacturer, a steel manufacturer acquiring a software company, etc.

d) CONGENERIC MERGER

Congeneric merger is a merger between two or more businesses which are related to each other in terms of customer groups, functions or technology e.g., combination of a computer system manufacturer with a UPS manufacturer.

STEPS INVOLVED IN MERGER

The procedure commencing with an application for seeking directions of the Court for convening, holding and conducting meetings of creditors or class of creditors, members or class of members, as the case may be, to the stage of the court's order sanctioning the scheme of compromise or arrangement is contained in Sections 391 to 395 of the Companies Act, 1956 and rules 67 to 87 of the Companies (Court) Rules, 1959. The Rules also prescribe Forms for various purposes relating to compromise or arrangement:

The following are the process involved:

(i) Memorandum to authorise amalgamation

The memorandum of association of most of the companies contains provisions in their objects clause, authorizing amalgamation, merger, absorption, take-over and other similar strategies of corporate restructuring. If the memorandum of a company does not have such a provision in its objects clause, the company should alter the objects clause, for which the company is required to hold a general meeting of its shareholders, pass a special resolution under Section 17 of the Companies Act, 1956 and file e-Form No. 23 along with a certified copy of the special resolution along with copy of explanatory statement under Section 173 and Memorandum of Association & Articles of Association and a copy of agreement with the concerned Registrar of Companies and the prescribed filing fee. The e-form should be digitally signed by Managing Director or Director or Manager or Secretary of the company duly authorized by the Board of Directors. The e-form should also be certified by chartered accountant or cost accountant or company secretary (in whole time practice) by digitally signing the e-form.

Alteration should be registered by the Registrar of companies and only on such registration the alteration will become effective.

Observing Memorandum of Association of Transferee Company

It has to be ensured that the objects of the Memorandum of Association of the transferee company cover the objects of the Transferor Company or companies. If not then it will be necessary to follow the procedure for amendment of objects by passing a special resolution at an Extraordinary General Meeting convened for this purpose. It has been held by various decisions of the courts that there is no necessity to have special power in the object clause of the Memorandum of Association of a company for its amalgamation with another company. It has been laid down that to amalgamate with another company is power of the company and not an object of the company.

Since the amalgamation will involve issue of shares by the transferee company to the shareholders of the transferor companies, a general meeting convened for the purpose of the amendment of the Object Clause of Memorandum of Association of the transferee company to incorporate the object of the transferor company, should also cover resolutions relating to the increase of authorised capital, consequential changes in the Articles of Association and resolution under Section 81(1A) of the Companies Act, 1956 authorising the Directors to issue shares of the shareholders of the transferor companies without offering them to the existing shareholders of the company. It is also a normal practice that alongwith the special resolution for amendment of the Object Clause, special resolution is also passed under Section 149(2A) of the Companies Act, 1956 authorising the transferee company to commence the business of the transferor company or companies as soon as the amalgamation becomes effective.

Convening a Board Meeting

A Board Meeting is to be convened and held to consider and approve in principle, amalgamation and appoint an expert for valuation of shares to determine the share exchange ratio. Consequent upon finalization of scheme of amalgamation, another Board Meeting is to be held to approve the scheme.

Preparation of Valuation Report

Simultaneously, Chartered Accountants are requested to prepare a Valuation Report and the swap ratio for consideration by the Boards of both the transferor and transferee companies and if necessary it may be prudent to obtain confirmation from merchant bankers on the valuation to be made by the Chartered Accountants.

Preparation of scheme of amalgamation or merger

All the companies, which are desirous of effecting amalgamation or merger must interact through their companies auditors, legal advisors and practicing company secretary who should report the result of their interaction to their respective Board of directors. The Boards of the involved companies should discuss and determine details of the proposed scheme of amalgamation or merger and prepare a draft of the scheme of amalgamation or merger. If need be, they can obtain opinion of experts in the matter. The drafts of the scheme finally prepared by the Boards of both the companies should be exchanged and discussed in their respective Board meetings. After such meetings a final draft scheme will emerge. The scheme must define the “effective date” from which it shall take effect subject to the approval of the High Courts.

Approval of Scheme

— It would be necessary to convene a Board Meeting of both the transferor and transferee companies for approving the Scheme of Amalgamation, Explanatory Statement under Section 393 and the Valuation Report including the swap ratio.

— Notice has to be given to the regional Stock Exchanges and other Stock Exchanges where shares of the Company are listed under the listing requirements at least two days before the Board Meeting is proposed to be held for purpose of approving the Amalgamation.

— Within 15 minutes after the Board Meeting, the Regional Stock Exchange and all other Stock Exchanges are required to be given intimation of the decision of the Board as well the swap ratio before such information is given to the shareholders and the media.

— Pursuant to clause 24 of the listing agreement, all listed companies shall have to file scheme/petition proposed to be filed before any Court/Tribunal under Sections 391, 394 and 101 of Companies Act, 1956, with the stock exchange, for approval, at least a month before it is presented to the Court or Tribunal.

Jurisdiction of High Court

As explained earlier if the registered offices of both the companies are situated in the same State, a joint application or separate applications should be moved to the High Court having jurisdiction over the State in which registered offices of the companies are situated. However, if the registered offices of the companies involved are situated in different States, they should make separate applications to their respective High Courts.

Accordingly, an application should be made to the concerned High Court under Section 391(1) of the Companies Act, 1956 in accordance with the provisions of rule 67 of the

Companies (Court) Rules, 1959, for an order directing convening of meeting(s) of creditors and/or members or any class of them, by a Judge's summons supported by an affidavit.

Normally, an application under Section 391 of the Act is made by the company, but a creditor or a member may also make the application. Although a creditor or a member or a class of creditors or a class of members may move an application under Section 391(1) of the Act, yet, such an application may not be accepted by the court because the scheme of compromise or arrangement submitted to the court along with the application may not have the approval of the Board of directors of the company or of the company in general meeting. However, the court has the discretion to give such directions as it may deem proper.

Where the company is not the applicant

Rule 68 lays down that where the company is not the applicant, a copy of the summons and of the affidavit shall be served on the company, or, where the company is being wound up on the liquidator not less than 14 days before the date fixed for the hearing of the summons. Where an arrangement is proposed for the merger or for the amalgamation of two or more companies, the petition must pray for appropriate orders and directions under Section 394 of the Act for facilitating the reconstruction or amalgamation of the company or companies.

Obtaining order of the court for holding class meeting(s)

On receiving a petition, the court may order meeting(s) of the members/creditors to be called, held and conducted in such manner as the court directs. Once the ordered meetings are duly convened, held and conducted and the scheme is approved by the prescribed majority in value of the members/creditors, the court is bound to sanction the scheme.

The court looks into the fairness of the scheme before ordering a meeting because it would be no use putting before the meeting, a scheme containing illegal proposals which are not capable of being implemented. At that stage, the court may refuse to pass order for the convening of the meeting.

Notice by advertisement

Generally, the Court directs that the notice of meeting of the creditors and members or any class of them be given through newspapers advertisements also. Where the court has directed that the notice of the meetings should also be given by newspaper advertisements, such notices are required to be given in the prescribed form and published once in an English newspaper and once in the regional language of the state in which the registered office of the company is situated.

Information as to merger or amalgamation

Section 393(1) of the Companies Act, 1956 lays down that where a meeting of creditors or members or any class of them is called under Section 391: (a) with every notice calling the meeting which is sent to a creditor or a member, there shall be sent also a statement setting forth the terms of the compromise or arrangement and explaining its effects; and in particular, stating any material interests of the directors, managing director or manager of the company, whether in their capacity as such or as members or creditors of the company or otherwise and the effect on those interests, of the compromise or arrangement, if, and insofar as, it is different from the effect on the like interests of other persons; and (b) in every notice calling the meeting which is given by advertisement, there shall be included either such a statement as aforesaid or a notification of the place at which and the manner in which creditors or members entitled to attend the meeting may obtain copies of such a statement as aforesaid. Sub-section (2) lays down that where the arrangement affects the rights of debenture holders of the company, the said statement should give the like information and explanation as respects the trustees of any deed for securing the issue of the debentures as it is required to give as respects the companies' directors.

2. ACQUISITION

Acquisition occurs when one entity takes ownership of another entity's stock, equity interests or assets. It is the purchase by one company of controlling interest in the share capital of another existing company. Even after the takeover, although there is a change in the management of both the firms, companies retain their separate legal identity. The companies remain independent and separate; there is only a change in control of the companies. When an acquisition is 'forced' or 'unwilling', it is called a takeover. Recent examples: • Snapdeal and Freecharge (\$400 million) • Flipkart and Myntra (\$300 to 330 million) • Ola and TaxiForSure (\$200 million)

II. Demerger:

In a Demerger, certain business operations of an entity are segregated into one or more entities. A demerger strategy is undertaken to unlock the value of a particular business and enable it to operate smoothly with more focus. It is a business strategy in which a single business is broken into components, either to operate on their own, to be sold or to be dissolved. A demerger allows a large company, such as a conglomerate, to split off its various brands to invite or prevent an acquisition, to raise capital by selling off components that are no longer part of the business's core product line, or to create separate legal entities to handle different operations.

Demerger is an arrangement whereby some part / undertaking of one company is transferred to another company which operates completely separate from the original company.

Shareholders of the original company are usually given an equivalent stake of ownership in the new company.

The contracts relating to the demerged undertaking would get automatically transferred to the resulting company, unless the underlying contract has stipulated specific restrictions. A demerged company is said to be one whose undertakings are transferred to the other company, and the company to which the undertakings are transferred is called the resulting company. It is a process of reorganizing a corporate structure whereby a capital stock of a division or subsidiary of corporation or of a newly affiliated company is transferred to the stakeholders of existing company.

Demerger under Section 2(19AA) of the Income tax Act, 1961 means the transfer, pursuant to a scheme of arrangement under section 230 to 232 of the Act, by a demerged company of its one or more undertakings to the resulting company in such a manner that:-

- (ii) All the property of the undertaking, being transferred by the demerged company, immediately before the demerger, becomes the property of the resulting company by virtue of demerger;
- (iii) All the liabilities relating to the undertaking, being transferred by the demerged company, immediately before the demerger, become the liabilities of the resulting company by virtue of the demerger;
- (iv) The property and the liabilities of the undertaking or undertakings, being transferred by the demerged company are transferred at values appearing in its books of account immediately before the demerger;
- (v) The resulting company issues, in consideration of the demerger, its shares to the shareholders of the demerged company on a proportionate basis except where the resulting company itself is a shareholder of the demerged company;
- (vi) The shareholders holding not less than three-fourth in value of shares in the demerged company (other than shares already held therein immediately before the demerger, or by a nominee for, the resulting company or, its subsidiary) become shareholders of the resulting company or companies by virtue of the demerger; otherwise than as a result of the acquisition of the property or assets of the demerged or any undertaking thereof by the resulting company;
- (vii) the transfer of the undertaking is on a going concern basis (
- (viii) Demerger in accordance with the conditions notified under Section 72A(5) of Income Tax Act, 1961.

Examples:

- Reliance Industries demerged to Reliance Industries and Reliance Communications Ventures Ltd, Reliance Energy Ventures Ltd, Reliance Capital Ventures Ltd, Reliance Natural Resources Ltd.
- b. In April 2018, Whitbread plc. announced to de-merge Costa Coffee from their stable of businesses.
- c. Pfizer sold their infant nutrition business to Nestle.

Types of Demerger**1. Divestiture**

Divestiture means selling or disposal of assets of the company or any of its business undertakings/divisions, usually for cash (or for a combination of cash and debt). It is explained in detail in further.

2. Spin-offs

The shares of the new entity are distributed to the shareholders of the parent company on a pro-rata basis. The parent company also retains ownership in the spun-off entity. Spin-offs have two approaches that can be followed. In the first approach, the company distributes all the shares of the new entity to its existing shareholders on a pro rata basis. This leads to the creation of two different companies holding the same proportions of equity as compared to the single company existing previously. The second approach is the floatation of a new entity with its equity being held by the parent company. The parent company later sells the assets of the spun off company to another company.

3. Splits/divisions

Splits involve dividing the company into two or more parts with an aim to maximize profitability by removing stagnant units from the mainstream business. Splits can be of two types, Split-ups and Split-offs.

Split-ups: It is a process of reorganizing a corporate structure whereby all the capital stock and assets are exchanged for those of two or more newly established companies resulting in the liquidation of the parent corporation.

Split-offs: It is a process of reorganizing a corporate structure whereby the capital stock of a division or subsidiary of corporation or of a newly affiliated company is transferred to the stakeholders of the parent corporation in exchange for part of the stock of the latter. Some of the shareholders in the parent company are given shares in a division of the parent company which is split off in exchange for their shares in the parent company.

4. Equity Carve-Outs

Equity carve-outs are referred to a percentage of shares of the subsidiary company being issued to the public. This method leads to a separation of the assets of the parent

company and the subsidiary entity. Equity carve outs result in publicly trading the shares of the subsidiary entity.

Examples:

1. India's largest engineering and construction company Larsen and Toubro Ltd (L&T) adopted "assetlight strategy" by separating business units into independent subsidiaries by selling a stake in businesses. The company, which is considered a corporate proxy for the broader economy, divested its assets as a way to generate capital for investing in fresh projects.
2. In January 2017, the Government of India divested 10 per cent stake in Coal India Limited through the offer-for-sale (OFS) route at Rs.358 per share and brought its holding down to 79.65 per cent.

IV. Reverse Merger: According to the explanation provided by the Institute of Company Secretaries of India, a reverse merger is a strategy where a private company acquires the majority shares of a public company, under its name and in the process becomes a public listed company itself without causing an initial public offering.

A reverse merger is a merger in which a private company becomes a public company by acquiring it. It saves a private company from the complicated process and expensive compliance of becoming a public company. Instead, it acquires a public company as an investment and converts itself into a public company.

However, there is another angle to the concept of a reverse merger. When a weaker or smaller company acquires a bigger company, it is a reverse merger. In addition, when a parent company merges into its subsidiary or a loss-making company acquires a profit-making company, it is also termed as a reverse merger.

The reason for reverse merger are:

- To carry forward tax losses of the smaller firm, this allows the combined entity to pay lower taxes. Tax savings under Income Tax Act, 1961.
- Economies of scale of production
- Marketing network
- To protect the trademark rights, licence agreements, assets of small/loss making company

Examples:

1. Merging of Oil exploration company Cairn India with parent Vedanta India
2. In 2002 Merging of ICICI with its arm ICICI Bank. The parent company's balance sheet was more than three times the size of its subsidiary at the time. The rationale for the reverse merger was to create a universal bank that would lend to both industry and retail borrowers.
3. Merging of Godrej Soaps, profitable and with a turnover of `437 crore with loss-making Gujarat Godrej Innovative Chemicals with a turnover of `60 crore, the resulting firm was named Godrej Soaps.

V. Disinvestment: Disinvestment is a strategy where an entity, a conglomerate, or a government sells or liquidates an asset or a business unit.

- VI. Takeovers:** Takeover is also known as acquisition. In a takeover/acquisition the acquirer attempts to gain control of the target company to achieve market supremacy. It may be a friendly or a hostile takeover.
- VII. Joint Venture:** A joint venture is a corporate strategy wherein an entity is formed by two or more companies to undertake a financial activity together. The companies agree to contribute equity to form a new entity and share the revenues, expenses, and control of the company. Joint ventures are set up for fixed periods and they may be either project-based or functional-based.
- VIII. Strategic Alliance:** Strategic alliance is an agreement between two or more parties to collaborate, to achieve certain objectives while continuing to remain independent organizations.
- IX. Slump Sale:** It is the transfer of one or more businesses or undertakings as a ‘going concern’ and for a lump-sum sale value without specific values being assigned to the individual assets and liabilities.

1.11 CORPORATE RESTRUCTURING: THE PROCESS

“Risk comes from not knowing what you’re doing.” -Warren Buffet.

Below is a general overview of the process mostly adopted in routine corporate restructuring cases and this is not applicable for restructuring that is mandatorily caused under the force of the law.

- **Identifying potential targets:** This stage of the process involves identification and preliminary review of external targets, in case of acquisition strategy. However, this process may also be internally looking wherein the management tries to identify internal business units, group companies, or subsidiaries for integration or spin-off via demerger, reverse merger, or other possible restructuring strategies.
- **Due Diligence:** Once a target has been engaged, the important stage of deep investigation of the target is undertaken. All relevant facts and information are gathered, research and analysis are carried out and a due diligence report is prepared for management decision support. Such investigation helps determine the real value of the subject and reveals whether the target is really what it looks like. Due diligence is most helpful for the management of the acquirer if it is a 360-degree process covering financial, legal, human resource, and business aspects of the target.
- **Business Valuation:** Business valuation or assessment includes the examination and evaluation of both the present and future market value of the target company. This stage of the process is different from due diligence because due diligence involves investigation and reporting while this stage involves evaluation, projection, and estimations.

- **Planning:** The stage of planning is not necessarily after business valuation nor is it chronologically glued to the present position. Planning is an ongoing process, but the finalisation of this process needs to happen now because the next stage in the process will involve the implementation of the plan. Planning the structuring of the deal, the steps of compliance and the deadlines for each such step, the process of integration, the plan to deal with the employees, retrenchment packages if applicable and accompanying regulatory compliances, fresh employment contracts, novation of contracts, assignments of contracts, planning for registration and et all must be done now and kept ready.
- **Executing the deal:** Time to put all that planning into practice, put in the hard work and improvise in the face of uncertainty, all while also implementing innovative marketing and outreach campaigns to allay apprehensions of customers, suppliers, and external stakeholders of the target.
- **Integration:** This stage comprises preparation and execution of the final contracts, and post-restructuring processes come into play from this stage for completing the integration or spin-offs and set the stage for successful day to day functioning in the new avatar.

1.12 CASE STUDIES

Reliance Industries Limited (2005)

Reason for restructuring

Incompatibility between promoter-successors.

Reliance Industries Limited (erstwhile ‘RIL’) was restructured (split) in June 2005 due to incompatibility between the two successors, Mr Mukesh and Mr Anil. The RIL restructuring was all about the complicated distribution of wealth to the tune of ₹ 1000 billion.

The RIL board approved a demerger in August 2005, whereby both brothers, Mr Mukesh and Mr Anil– headed different businesses and five companies emerged from the said demerger by January 2006.

Among the companies of RIL Group, Reliance Capital, and Reliance Energy, were already listed at the exchanges. The remaining four companies got listed by the end of March 2006.

The new RIL structure gave Mr Mukesh absolute control of:

- Core businesses of RIL along with IPCL (oil exploration, refining, petrochemicals, and textile businesses),
- Reliance Life Sciences (Biotech firm),
- Trevira (a company in Europe that manufactures polyester fibres).

Mr Anil got absolute control of power, communication, and financial businesses via four companies and the conglomerate was called Anil Dhirubhai Ambani Enterprise as part of the Reliance group. These four companies were:

- Reliance Capital Ventures Ltd. (later merged with Reliance Capital Ltd.),
- Reliance Energy Ventures Ltd. (later merged with Reliance Energy Ltd.),
- Reliance Communication Ventures Ltd. (included both Reliance Infocomm and Reliance Telecom),
- Reliance Natural Resources Ltd. (included businesses in gas-based energy undertakings).

Impact of the restructuring

Share prices of the five companies listed at the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) were cited differently after the Demerger.

Before the restructuring, RIL's share traded around ₹978 per share, but after the restructuring, the sum of demerged share values of the said five companies at that juncture came to around ₹1235/- unlocking immense value for the shareholders.

The rest as they say is history.

Satyam Computer Services (2009)

Reason for restructuring

Business failure due to fraud;

- Satyam was among the most admired information technology companies until the year 2008-09 when it became a victim of frauds allegedly perpetrated by its founder(s). Satyam was an award-winning IT company and one of the faces of the Indian IT industry.
- It had a sound business model and portfolio of large international clients, therefore when calamity struck, the government had to immediately resort to firefighting to save the face of the Indian IT industry on the world stage. A high-level committee of the biggest names in various industries was set up to come up with a restructuring plan for the then-ailing Satyam.
- After the finalisation of the restructuring plan, a formal public auction process was announced, and Tech Mahindra obtained a 46% stake in Satyam and eventually the entity completely merged with Tech Mahindra and came to be known as Mahindra-

Satyam. The companies got merged legally on 25 June 2013 and the entity Satyam became history since then.

Yes Bank (2020)

Reason for restructuring

Business failure due to crises induced by alleged fraud;

- When crises struck, the financial position of Yes Bank Ltd deteriorated rapidly, more particularly concerning its liquidity, capital, and some critical parameters. The alleged fraud of bank officials and a complete absence of any credible plan by the board and stakeholders for infusion of capital had compelled the Reserve Bank of India (RBI) to intervene and act in the public interest.
- The losses for Yes Bank stood at ₹185.64 billion for the third fiscal quarter ending December 2019 and Gross Non-Performing Assets had risen to 18.87 per cent in the said quarter as against 2.10 per cent for the previous year and it was clear that the bank would not survive without a capital infusion and clean-up of its bad debts.
- The reconstruction scheme of Yes Bank as announced by the RBI, proposed changes to the authorised capital, and the number of equity shares. Yes Bank itself was placed under a withdrawals moratorium with account holders being permitted to withdraw no more than ₹ 50,000/- from their account during the entire moratorium period.
- As per the approved reconstruction plan for Yes Bank, the State Bank India (SBI) would invest up to 49 per cent equity in Yes Bank.
- Axis Bank, Bandhan Bank, Federal Bank, Housing Development Finance Corp (HDFC), ICICI Bank, IDFC First, and Kotak Mahindra Bank, joined the investor consortium to invest in Yes Bank.
- As per the approved reconstruction plan, SBI, which invested 49 per cent equity at the time of restructuring, was not permitted to reduce its stake in Yes bank to below 26 per cent for three years, while other investors and shareholders are required to lock in 75 per cent of their investment in Yes Bank for a mandatory period of three years.
- A new, temporary board, constituted by the RBI, was required to remain in force for one year or till such time that an alternate board is constituted by Yes Bank.
- The employees of Yes Bank allegedly continued their services on the same employment terms and salary as was applicable for the previous year.

- All offices and branches of Yes Bank continued to function in the then existing manner and locations. No prohibition was placed on opening new offices and branches or closing the then existing ones.
- The new management of restructured Yes bank continues to recover bad loans and work with asset reconstruction companies and investors to clean the book. Gross non-performing assets for the quarter ending September 2021 fell to 14.97% compared to 15.6% in the previous quarter ending June 2021.
- The restructured Yes Bank is trying to increase the share of retail and MSME lending in its loan portfolio and reduce focus from corporate lending where it burnt its fingers due to defaults.

OTHER INSTANCES OF BENEFICIAL CORPORATE RESTRUCTURING

1. L&T Ltd. demerged its cement division into a separate company Ultratech Cement Co. Ltd. Later, the resulting company was transferred to Grasim Industries (Aditya Birla Group). Post deal, L&T benefited from realized value of its cement division and focus on their core businesses such as engineering and construction. Grasim Ind. was benefited through economies of scale, increased capacity, overall competitiveness, multifunctional synergies and combined resource pool.
2. Tata Steel Ltd. acquired overseas Corus Group Plc. that drastically improved the production synergies for Tata Steel Ltd. Through the acquisition, Tata Steel Ltd. could combine its low-cost production with the high quality of Corus. It resulted utilization of wide retail and distribution network, technology transfer and enhanced R&D capabilities.
3. Dr. Reddy's Laboratory Ltd. is known for their inorganic growth strategies. Since its formation in 1984, it has acquired many companies such as Benzex Lab (1984), Meridian Healthcare (2002), Falcon (2005), Betapharm (2006), DowPharma Small Molecules Business (2008), BASF (2008), Alliance with GlaxoSmithKline (2009).
4. Piramal Healthcare transferred its undertaking (Formulation business) to Abbot Healthcare on a slump sale basis. The deal was finalized for a lumpsum consideration. The deal also contained a non-compete clause, which prohibited Primal group from entering in similar formulation business. As per Section 50B of the Income Tax Act, capital gains arising from the deal were taxed, without any indexation benefit (applicable for long term assets)
5. Bharti Airtel Ltd. acquired Zain Telecom (Africa business) through a leveraged buyout strategy. The acquisition of Zain Africa International BV was majorly financed through borrowed funds. Bharati Airtel formed a Special Purpose Vehicle (SPV) and the deal was structured through the SPV. Hence, the Balance Sheet of Bharati Airtel was untouched. However, as a guarantor for special purpose vehicles, Bharti Airtel assumes full responsibility.

Summary

The business environment is rapidly changing with respect to technology, competition, products, people, geographical area, markets, and customers. It is not sufficient if companies keep pace with these changes but are expected to beat competition and innovate in order to continuously maximize shareholder value. Inorganic growth strategies like mergers, acquisitions, takeovers and spinoffs are regarded as important engines that help companies to enter new markets, make bigger customer base, cut competition, consolidate and grow in size quickly, employ new technology with respect to products, people and processes. Corporate restructuring helps companies deal with poor performance, adopt new deliberate opportunities, and achieve credibility in the capital market. It can also have an enormous impact on a company's market value, often in terms of billions of dollars. The scope of Corporate Restructuring encompasses enhancing economy (cost reduction) and improving efficiency (profitability). When a company wants to grow or endure in a competitive environment, it needs to restructure itself and focal point on its competitive advantage. The benefits derived by the stakeholders out of restructuring are lower from previous status companies.

The business is being sprint, and then build recommendations based on what they found that will help make the business run more efficiently. A strong corporate restructuring firm will have experts in a wide diversity of areas that can examine all aspects of a business to help find solutions. A good corporate restructuring firm will not just identify problems of where money is being lost, but also offer solutions that a company can implement in order to resolve those problems. They will also help a company through the process of restructuring by developing forecasts of what to be expecting and making sure the company is able to protect the capital available to make those changes. Corporate restructuring can help restore, preserve and enhance the value of an organization

Key Points

- Growth of organization may be organic/inorganic growth. Growth in the factors of production is organic growth, whereas corporate restructuring initiatives lead to inorganic growth which is relatively faster.\
- Restructuring may be financial restructuring, technological, market and organizational restructuring.
- The most commonly applied tools of corporate restructuring are amalgamation, merger, demerger, acquisition, joint venture, disinvestments etc.
- The important aspects to be considered during Corporate Restructuring process are financial, valuation, stamp duty, taxation and accounting aspects.
- The regulatory framework for corporate restructuring includes, The Companies Act, 1956, notified Sections of Companies Act, 2013, SEBI(SAST) Regulations; 2011, Listing agreement, Indian Stamp Act, 1899, Companies(Court) Rules; etc.
- The restructuring process over the years has expanded the role of professionals in the restructuring process at various stages.

- Amalgamation is a legal process by which two or more companies are joined together to form a new entity.
- Merger and amalgamation have various advantages e.g. synergy, economies of scale, reduction in production and other expenses, tax advantages, competitive advantage etc.
- Mergers involve approvals from Board of Directors, Shareholders, Court, Stock Exchanges etc.
- Mergers involve filing of various forms with different regulators.
- Corporate Restructuring focuses on cost reduction and improving efficiency and profitability
- Every corporate restructuring exercise aims at eliminating disadvantages and to combine advantages. It plans to achieve synergy benefits through a well-planned restructuring strategy.

Check Your Progress:

1. Briefly describe the term 'Merger' and its different types.
2. What are the steps involved in merger?
3. What are the reasons for merger?
4. What are the different forms of corporate restructuring?
5. Define Amalgamation.
6. Restructuring is just not a strategic plan. Discuss.

QUESTIONS AND EXERCISES

Fill in the blanks with appropriate answer

- a. A _____ is when two or more companies combine capital and knowledge to go into business together.
 - i. Corporate Repositioning
 - ii. Joint Venture
 - iii. Acquisition
 - iv. Merger

- b. When one company buys all or parts of another company, this is called a/an _____.
 - i. Demerger
 - ii. Recapitalization
 - iii. Merger
 - iv. Acquisition

- c. The breaking up of large companies or monopolies is called _____.
 - a. Trust busting
 - b. Spin-off

- c. Demerger
 - d. Merger
- d. Which of the following reasons do companies restructure for?
- i. Just because they want to
 - ii. Change in ownership
 - iii. To stay competitive
 - iv. None of the answers are correct.

Answers:

a – ii, b – iv, c – i, d – iii

Short Answer Questions

1. What is Corporate Restructuring? Mentions its needs and benefits.
2. Explain different type of Corporate Restructuring.
3. What are the different characteristics of Corporate Restructuring?
4. What are different corporate restructuring strategies?
5. What are the different types of demerger?

Long-Answer Questions

1. Mergers, demergers, takeovers or combinations or acquisitions take place as a vehicle for achieving faster corporate growth. Discuss.
2. “Corporate restructuring strategies depend on the nature of business, type of diversification required with the object of profit maximization through pooling of resources in effective manner, utilization of idle resources, effective management of competition etc.” Briefly comment on the statement specifying any 5 corporate restructuring strategies.
3. Corporate restructuring is one of the means employed by the company to achieve strategic and financial synergies. It is a process undertaken by corporate for arranging the business for increased efficiency and profitability. In context of the above statement, briefly discuss the scope and modes of corporate restructuring.
4. Elaborate the process of Corporate Structuring in detail.
5. Discuss the term merger and its different types elaborately.

Suggested Readings:

- i. Mergers Acquisitions & Corporate Restructuring - Strategies & Practices by Rabi Narayan Kar and Minakshi, Taxmann’s Publisher
- ii. Corporate Restructuring Enhancing the Shareholder Value by Ranjan Das , Udayan Basu , McGraw Hill

- iii. Corporate Restructuring, Valuation & Insolvency (English, Paperback, Abha Aggarwal, S. K. Aggarwal)
- iv. Corporate Restructuring, Insolvency, Liquidation & Winding-up (CS Professional Module II New Syllabus) by CA Shilpum Khanna

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Block V : Unit-II
Merger, Acquisition and Combination –With examples and Case study.

Unit Structure:

- 2.1 Introduction
- 2.2 Objectives
- 2.3 Business Combination
 - 2.3.1 Categories of Business Combination
 - 2.3.2 Advantages of Business Combination
 - 2.3.3 Disadvantages of Business combination
- 2.4 Merger or Amalgamation
 - 2.4.1 Types of Merger
- 2.5 Acquisition
- 2.6 Merger Vs Acquisition
- 2.7 Objectives or Benefits of Merger and Acquisition
- 2.8 Process of Merger and Acquisition
- 2.9 Reasons for Merger & Acquisition Failure
- 2.10 Example and Case Studies of Merger and Acquisition
- 2.11 Summing up
- 2.12 References and suggested Readings
- 2.13 Model Questions
- 2.14 Answer to check your progress

1.1 Introduction:

The practise of mergers and acquisitions has grown in importance in the recent business world throughout the world. For the reformation of various trade organisations, merger and acquisition procedures are often considered. Due to increased rivalry among domestic companies in both the national and international markets, the majority of corporation in India have resorted to combining through Merger and Acquisition transactions. In today's marketplaces, most corporations' main goal is to produce worldwide consumer interference and benefit from it. Global Consumer Interference can be achieved by partnering with other existing or emerging enterprises both domestically and internationally. M&A as a peripheral strategic expansion plan has risen in popularity as a result of the increased implementation of deregulation, privatisation, globalisation, and liberalisation (LPG) in most countries throughout the world. M&A has shown to be an all-encompassing medium for expanding creation portfolios, entering new markets, gaining expertise, expanding access to research and development, and gaining access to the assets that allow a firm to compete on a worldwide scale.

2.2 Objectives:

After going through this unit, you will be able to appreciate:

- Concept of Merger and Acquisition and business combination.
- Explain different types of Merger and Acquisition.

- Differentiate between merger and Acquisition.
- Describe the benefits or motives of Merger and Acquisition.
- Discuss the process of Merger and Acquisition.
- Explain the factors that lead to failure of a merger & acquisition.

2.3 Business Combination: A business combination is a consolidation of two or more firms for the purpose of achieving similar goals and taking advantage of monopolistic benefits. It is type of transaction in which companies aim to grow in size by consolidation or collaboration rather than growing through internal operations.

2.3.1 Categories of Business Combinations:

On the basis of nature of combining firms' business, combination can be classified as-

- Horizontal Combination:** A horizontal combination is a form of business combination where units carrying on the same trade or engaged in the same productive activity join together with the aim of achieving a similar goal. Acquisition of Instagram by Facebook is an example of horizontal combination. When numerous units operating in the same line of business join together; the intensity of competition is automatically reduced. By pooling resources for research, shared advertising, and other methods, the merging units can take advantage of the various economics arising from large manufacturing.
- Vertical Combinations:** Vertical combination refers to the combination of companies in successive stages of the same industry. It entails the integration of a company's various processes. Some main objectives of vertical combinations are to eliminate the wasteful and unnecessary expenses involved in carrying on the connected processes separately, to eliminate middlemen functioning between various units and to maintain control over the quality of raw materials and finished products.
- Lateral Combination:** Lateral integration refers to the combination of those firms which manufacture different kinds of products though they are 'allied in some way.' It can be of two kinds;
 - Convergent lateral integration:** The convergent lateral combination implies a combination of different industrial units whose finished product is the raw material for one major firm. In other words, finished product of many units is the raw material of one unit.
 - Divergent lateral integration:** In divergent lateral integration, the different combining units get their raw material from a major firm. The product of one firm becomes the raw material of other firms which have combined with it.

- d. **Diagonal Combination:** Diagonal Integration is also known as 'Service' integration. Within an organisation, diagonal integration occurs when a unit supplying supplementary goods and services to industry is merged with a unit involved in the mainline of production. For instance, if an industrial firm merges with a transportation company, a power plant, or a repair and maintenance workshop and makes these facilities available within the corporation, this is known as diagonal integration.
- e. **Circular Combination:** A mixed or circular combination occurs when companies from different industries and manufacturing entirely different goods join together under the umbrella of a single organisation. This has an impact on ensuring the smooth execution of company activities by making auxiliary services inside the organisation available on a timely basis. The main objective of circular combination is to secure the benefits of large-scale operations arising out of co-operation.

STOP TO CONSIDER

Merger and acquisition are among the most common forms of corporate restructuring. Due to increased rivalry among domestic companies in both the national and international markets, the majority of corporations have resorted to combining through Merger and Acquisition transactions.

Check your Progress:

1. What is business Combination?
2. What are the different types of Business combination?

1.3.2 Advantages of business combinations:

Following are the advantages of business combinations-

- Unnecessary competition is eliminated and member firms earn monopoly profit.
- When firms combine together, they can achieve economies of scale. The firms derive advantages through bulk purchase of raw materials, and economies in production, marketing, finance etc.
- Firm combine together would have substantial resources. The resources can be used to acquire the latest technology, employ experienced and qualified talent and adopt the best practices in the business. It will increase profit
- The combination is very effective in controlling over production. It helps to adjust the supply according to the demand.

- In the market, competition position is strong in bargaining. So it sells the product at a higher price.
- A combination can acquire the services of experienced specialists. It increases the efficiency of the combination.

2.3.3 Disadvantages of Business Combination:

Following are the disadvantages of combination-

- Combined firms may become too large which leads to problems in co-ordination and control. Supervision might become difficult resulting in poor quality of products, wastage, corruption etc.
- Combining enterprises may result in monopolistic situations. Monopolies may limit output, create artificial scarcities, charge high prices, and produce low quality goods. All these effect consumer interests.
- It concentrates the wealth in a few hands and divides society into few classes, such as rich, middle, and poor.
- Combined enterprises may strive to eliminate competition and prevent new firms from entering the market. They would aim to control the market. Consumers would be deprived of their right to choose from products of different manufacturers.
- It is not possible to maintain direct contact between employees, creditors, and shareholders, due to this business may suffer a loss.
- There is always a danger of over-capitalization in the combination. It is harmful to the combination.
- Generally, the combinations ignore the national interest, and they involved in such activities that are against the national interest.

2.4 Merger or Amalgamation:

Merger or Amalgamation refers to the process when two or more companies' carries on similar business go into liquidation and a new company is formed to take over their business. It means merger said to occur when two or more companies combine into one company. Two companies agree to go forward as a single company rather than separately owned and operated. One or more companies may merge with an existing company or they may merge to form a new company. In a merger, there is a complete amalgamation of assets and liabilities as well as shareholders' interest and businesses of the merging companies. The companies agreeing to mergers are typically equal in terms of size and scale of operations. Merger or amalgamation may take two forms:

- i. **Merger through absorption:** Absorption is the merging of two or more businesses into an existing company. Example of this type of merger is the absorption of Tata Fertilizers Ltd by Tata Chemicals Ltd.
- ii. **Merger through consolidation:** Consolidation is the merging of two or more businesses into one new entity. All corporations are legally dissolved and a new company is formed in this type of merger. In a consolidation, the acquired firm's assets, liabilities, and shares are transferred to the new company in return for cash or exchange of shares. An example of consolidation is the merger and amalgamation of Hindustan Computers Ltd, Hindustan Instruments Ltd, Indian Software Company Ltd and Indian Reprographics Ltd in 1986 to an entirely new company called HCL Ltd.

2.4.1 Types of mergers:

- a. **Horizontal Merger:** Horizontal merger take place when two or more corporate firms dealing in similar lines of activity combine together. Mergers are usually motivated by the elimination or reduction of rival, the elimination or reduction of price cutting, the economics of scale in manufacturing, research and development, marketing, and management. Examples would be combining of two book publishers companies to gain dominant market share.

When companies undergo a horizontal merger, the underlying principle is to create value. A successful merger should create value in which combining the companies would be worth more than if each company were under independent ownership.

Reasons or motives behind Horizontal merger:

- Increase market share and reduce competition in the industry,
- Increase diversification
- Further utilize economics of scale, thus it reduce cost.
- Reshape the company's competitive scope by reducing intense rivalry.
- Share complementary skills and resources.

- b. **Vertical Merger:** This is a combination between two or more companies that are involved in various stages of manufacturing or distribution. It happen when a company buys companies 'upstream' and/or 'downstream' of itself. In other words, vertical merging can occur in both forward and backward directions. In the case of a backward merger, it extends to the businesses that provide raw materials, and in the case of a forward merger, it extends to the enterprises that ultimately sell to the customer. A vertical merger basically combines the value in the production chain into one. There Advantages of vertical merger are-

- Gain control and continuity over input supply in case of backward vertical integration
- Gain access to different markets or control over the distribution of the company's product in case of forward vertical integration.
- Increase the revenue stream
- Eliminates the risks associated with relying associated with relying on external suppliers or distributor.

- Combine resources and core competences of the two companies.

c. Conglomerate Merger:

A conglomerate merger is a merger between firms that are involved in totally unrelated business activities. This occurs between companies engaged into two unrelated industries. There are two types of conglomerate mergers: pure and mixed. Pure conglomerate mergers involve firms with nothing in common, while mixed conglomerate mergers involve firms that are looking for product extensions or market extensions.

Advantages of Conglomerate merger:

- Conglomerate merger enables the company to diversify its business. It helps to overcome risks associated with the vulnerable market.
- It brings synergies by increasing the sales and revenue of the combined entity.
- It helps to utilization of excess cash. When a business has excess cash but does not have opportunity to expand in its sector , then the business invests such excess cash into another company of different sector to utilize the idle funds.
- It improves customer base. The company can cross sell its products to the customer of other company. This helps to build a broader customer base.
- It helps the business to achieve economies of scale.

2.5 Acquisition:

The takeover of one company by another is referred to as an acquisition. Acquisition may be defined as the act of acquiring gaining effective control of a company's assets or management by another company without combining businesses or corporations. In an acquisition, the board of directors of an acquired firm agrees to allow another company to control the firm for a certain price. The hostile takeover or takeover occurs without the consent of the acquired firm's board of director. Walmart's acquisition of Flipkart is the biggest ever in India with the US-bases retail giant.

2.6 Merger Vs Acquisition:

Merger and acquisition refer to the consolidation of two or more business entities for the purpose of achieving better synergies. However, there are several key differences between merger and acquisition such as-

- ❖ In case of merger two or more company join to form a new business entity. But in case of acquisition one company completely takes over the operations of other company.
- ❖ A merger is agreed upon by mutual consent of all the parties involved in such merger. However, the decision of acquisition might not be mutual in case of acquisition.
- ❖ The parties involved in a merger are of similar stature, size and scale of operation. But in case of acquisition the acquiring company is larger and financially stronger than the target company.

- ❖ There is a dilution of power between the parties involved companies in case of merger but in acquisition the acquiring company exerts absolute power over the acquired one.

STOP TO CONSIDER

Mergers & Acquisitions (“M&A”) is a strategy through which two or more business entities enter into a series of financial transaction through which amalgamation or takeover of the relevant entities takes place for various purposes. The terms mergers and acquisitions are often used interchangeably (M&A) refer to transactions involving two companies that combine in some form. Although mergers and acquisitions (M&A) are used interchangeably, however, they have different meanings. When two or more companies’ carries on similar business go into liquidation and a new company is formed to take over their business it is known as merger. In acquisition, takeover one or more companies by another company.

Check Your Progress:

1. What is Merger and Acquisition?
2. Differentiate between Merger and Acquisition.

2.7 Objectives or benefits of Merger and Acquisition:

Merger and Acquisition are regarded as an essential part of strategic management decisions leading to the maximization of a company’s growth by enhancing its production and marketing operations. The most common objectives or benefits for merger and acquisition include the following:

- a. Achieve faster Growth:** Maintaining or accelerating a company's growth is one of the most prominent reasons for mergers and acquisitions. Inorganic growth through mergers and acquisitions (M&A) is usually a faster way for a company to achieve higher revenues as compared to growing organically. A company can gain by acquiring or merging with a company with the latest capabilities without having to take the risk of developing the same internally. Internally or externally, a corporation might expand and/or diversify its markets. If the company is unable to expand internally owing to a lack of physical and managerial resources, it can expand outside by merging and acquiring other businesses. Mergers and acquisitions allow a company's growth to be accelerated in a cost-effective and convenient manner. The company may acquire production facilities and other resources from outside sources through mergers and acquisitions in order to access new products/markets by acquiring an existing company or companies with the necessary infrastructure and capabilities.

- b. Attain positive synergy:** The concept of synergy states that the combined return of two businesses will be greater than the sum of their individual returns. Mergers and acquisitions (M&A) are commonly used to produce synergies that make the merged firm worth more than the two enterprises separately. Synergies can arise as a result of cost reductions or higher earnings. Cost synergies are achieved through economies of scale, whereas revenue synergies are achieved through cross-selling, expanding market share, or boosting prices. A merger and acquisition process improves the company's performance for the benefit of its stockholders. Before a final agreement is signed, the potential synergy from a merger and acquisition between two or more companies is evaluated. A merger or acquisition is frequently motivated by the desire to achieve greater synergy.
- c. Exploitation of the market:** There are always loopholes that corporations use for their own benefit in any market. Acquiring or merging two similar companies' help to establish a dominant position in the market. This enables them to gain a monopoly over their rivals. A merger and acquisition arrangement also boosts the market strength of the parties involved by lowering their reliance on other businesses for raw materials. There is adequate space for a corporation to exercise control over the following areas: raw material supply, production process, and marketing and distribution.
- d. Facilitates transfer of technology:** The transfer of technology is one of the objectives of merger & acquisition, when the two companies participating in a merger and acquisition are both technology-driven. The companies must be using unique technologies and sharing them could empower them a larger market share. New technology development can take a lot of time and money, and it may not be lucrative. The development process can be done easier and more cost-effective through mergers and acquisitions.
- e. Achieve diversification:** Diversification refers to a company's ability to grow by combining companies in unrelated industries. Mergers and acquisitions enable businesses to diversify their operations. It helps to stabilize or smoothen overall corporate income, which would otherwise fluctuate due to seasonal or economic cycles.

Motives or objectives of merger and acquisition is summarized in the following table-

Strategic motives:	Financial Motives	Organisational Motives:
<ul style="list-style-type: none"> • Expansion and growth • Dealing with entry of MNC's • Economies of scale 	<ul style="list-style-type: none"> • Deployment of surplus funds • Fund raising capacity • Market capitalization • Tax planning • Creation of shareholders value 	<ul style="list-style-type: none"> • Superior management • Ego satisfaction • Retention of managerial talent

<ul style="list-style-type: none"> • Synergy • Market penetration • Market leadership • Backward/ Forward Integration • New product entry • New market entry • Surplus resources • Minimize size • Risk reduction • Balancing product cycle • Growth and diversification strategy 	<ul style="list-style-type: none"> • Tax benefits • Revival of sick units • Asset stripping(Selling assets for profit as it is not productive for the company) • Undervaluation of target company Increasing EPS 	<p>Removal of inefficient management</p>
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2.8 Process of Merger and Acquisition:

Process for successful Merger & Acquisition:

1. **Pre Acquisition Review:** The first stage is to assess your current condition and decide whether or not a merger and acquisition strategy should be implemented. A merger and acquisition (M&A) programme may be essential if a firm anticipates future difficulties in sustaining core capabilities, market share, return on capital, or other critical performance factors. It's also a good idea to see if the firm is undervalued. If a company's valuation is not protected, it may become the target of a merger. Therefore, the pre-acquisition process will often involve a company valuation. The major goal of the Pre-Acquisition review is to see if internal growth objectives can be achieved. If this is not the case, an Merger & Acquisition team should be created to define a set of criteria for the company's acquisition growth. A detailed basic strategy for M&A growth should be prepared, including duties within the organisation, how information will be obtained, and so on.
2. **Search & Screen Targets:** The search for suitable takeover candidates is the second step of the Merger & Acquisition Process. Target companies must fulfill a set of criteria so that the target company is a good strategic fit with the acquiring company.

Compatibility and fit should be assessed based on a variety of factors, including relative size, kind of business, financial structure, organisational capabilities, core competencies, and market channels, among others.

- 3. Investigate & Value the Target:** The third step of a merger and acquisition is to conduct a more in-depth examination of the target firm to ensure the target business and the acquiring company are a suitable match. This will necessitate a more detailed examination of the target company's operations, plans, financials, and other areas. The term "due diligence" refers to this thorough examination. Once a target firm has been chosen, due diligence begins. The major goal is to find potential synergy values that may be realised through a target company merger and acquisition. A key part of due diligence is the valuation of the target company. In this phase value for the target company as well as other cost associated with merger and acquisition with Merger and Acquisition calculated.
- 4. Acquire through Negotiation:** In this phase, start the process of negotiating a Merger & Acquisition with Target Company. The most common approach of acquiring another company is for both companies to come to an agreement on the Merger & Acquisition; this is known as a negotiated merger. A "bear hug" is a term used to describe a negotiated agreement. The recommended strategy to an M&A is a negotiated merger or bear embrace, because having both parties agree to the arrangement will go a long way toward making the M&A successful.
- 5. Post Merger Integration:** If all goes according to plan, the two corporations will announce a merger deal. A formal merger and acquisition agreement seals the deal. This brings to the Merger & Acquisition Process's fifth and final phase: the integration of the two firms. Every business is unique, with distinctions in culture, information systems, and strategy, among other things. As a result, the Post Merger Integration Phase of the Merger & Acquisition Process is the most complex. To put these firms together and make everything work it necessitates substantial planning and design throughout the whole company.

2.9 Reasons for Merger and Acquisitions failure:

The acquisition of Jaypee cement by ultra Tech cement and the merger of Idea and Vodafone, in the year 2018, ONGC-imperial energy merger are some examples of successful mergers and acquisitions. However there are quite many examples of unsuccessful mergers and acquisitions. Such as Snapdeal and Flipkart, HDFC and Max Life, etc.

Following are the most common reasons for merger and acquisition failure:

- 1. Unrealistic Expectation:** Having high expectations throughout the merger process can lead to a stressful situation. Setting up rational or insensible Goals, to put it another way. As a result, unrealistic expectations emerge. Employees are frequently demotivated, management makes poor decisions, and a company suffers significant losses. Rather than modifying their tactics, businesses aim to persuade employees that

things will get better in the future. This is also an unrealistic expectation when a corporation refuses to change its strategy and continues to pursue the faulty approach in the hopes of future gains.

2. **Limited Owner involvement:** In most cases, the company's owner should be an active member who participates in all decision-making processes right from the start. The owner's role is to strategize, structure, and advise the members on how the company operates. When the owner is not actively involved, he loses some influence over the company and its operations. He is unaware of the operations that are taking place within the organisation. So, Merger failure can be caused by a lack of owner involvement or a limited role played by the owner.
3. **Inaccurate Financial Information:** Many businesses have published misleading financial statements in order to convince potential buyers. The seller records future projects and earnings, in the present time resulting in inaccurate financials. If the data is erroneous, the organisation will continue to work with it. Strategies would be made based on that information provided. When the merger's base is weak, the merger would fail.
4. **Lack of Proper communication:** If the purpose behind the deal is unclear or is not communicated to the employees, a lack of synergy in teams is marked and expectations from the deal are not met. Whenever a corporation gets into a merger or acquisition, the motivation and intention should be openly and transparently disclosed.
5. **Lack of clarity in the integration process:** when there are inadequate efforts and inaccurate planning integration becomes the reasons for failure of merger. Post-merger, the disintegration of factors like key employees, processes, important policies, etc. lead to failure in the execution process
6. **Mismatch in the culture:** Another major cause of merger failure is the difference in the cultural aspects of two companies. If the organisations have different cultural aspects, there is a chance that employee productivity would suffer, leading to lower profits.
7. **External Factors:** External factors such as the economic crisis and other environmental conditions have an impact on the performance of merger. All these external factors are may be the reasons of merger failure.
8. **Negotiation errors:** There have been instances of overpaying to break a deal in numerous mergers and acquisitions. Acquisition a firm on the basis of money without

knowing about the company's working format, procedure, and structure, and without going through a due diligence process, will result in a merger failure.

In addition to the above reasons geographical constraints in case of cross border merger, human resource issues and regulatory issues are some of the reasons for merger failure.

STOP TO CONSIDER

There are three types of mergers: horizontal, vertical and conglomerate. Horizontal merger takes place when two or more firms dealing in similar lines of business/activity combine together. Vertical merger involves combination of two or more firms engaged in the various stages of production or distribution in the same business activity. Conglomerate merger is a combination of firms engaged in different/unrelated business activities. The main advantages of merger and acquisition are- economics of scale, synergy, fast growth, tax benefit and diversification. Synergy takes place as the combine values of the firms likely to be greater than the sum of individual business entities.

Check your progress:

1. What are the different types of merger?
2. Explain the benefits or motives of merger and acquisition?
3. What are the main phases of merger and acquisition process?

2.10 Example and Case Studies of Mergers & Acquisitions:

Vodafone-Idea Merger:

In 2018 Vodafone Group (which includes Vodafone Mobile Services Limited (VMSL) Vodafone India) merged with Aditya-Birla Group's Idea Cellular. The merger's goal was to build India's largest telecom network with the country's largest customer base. The Vodafone group holds around 45 percent of the amalgamated firm after the merger, while Idea Limited owns approximately 26 percent. The telecom market India is an oligopolistic market. These two companies were facing tough competition from Reliance's Jio and Bharati-Airtel.

Flipkart's acquisition of Myntra:

Flipkart and Myntra, two of the largest e-commerce companies in India at the time, merged in 2014. With e-commerce growing in popularity and international businesses like Amazon competing for market share, Flipkart decided to take advantage of Myntra's 30% market share in fashion e-commerce. This is an example of a horizontal merger because both firms were in

the same industry. Even after the acquisition, Myntra continues to operate as a separate firm, although under Flipkart's 100% ownership.

L&T's Acquisition of Mindtree:

One of the most talked about acquisition in the Indian M&A market, was the acquisition of information technology services company Mindtree by construction and engineering major Larsen and Toubro (L&T). The acquiring company, Larsen & Toubro Limited is an Indian public listed company which is a part of the L&T group, a major technology, engineering, construction, manufacturing and financial services conglomerate with international operations. On the other hand, the target company, Mindtree Limited is a public Listed Company a software service company founded in 1999 by a group of ten IT professionals which went public in the year 2007 and was acquired by L&T in the year 2019. It was a hostile takeover as L&T, who was interested in acquiring a controlling stake in Mindtree to enlarge its technology arm, offered to purchase Mindtree's shares from its promoters who unanimously rejected the same. Thereafter, L&T purchased a 20.32% stake in Mindtree from its non-promoter shareholder Mr. V.G.Siddhartha. Thereafter, it purchased 15% stake from, post which it acquired a stake of another 31% after making an open offer, to finally acquire approximately 60% shareholding in the company. The merger was followed by resignations by at least three co-founder promoters.

Sun-Pharmaceuticals & Ranbaxy Merger:

Sun Pharmaceuticals announced the acquisition of Ranbaxy in April 2014, which was one of the biggest acquisitions in the history of the pharmaceutical business. Sun Pharmaceuticals bought Ranbaxy from Daiichi-Sankyo, a Japanese pharmaceutical firm that had acquired it in 2008. However, as a result of the FDA's complaints to Daiichi Sankyo's medicine quality standards, the company not only caught flak from the regulatory authorities, but also suffered damage to reputation and a loss of customers. As a result, it was attempting to disassociate itself from Ranbaxy when Sun-Pharma viewed this as a good opportunity to gain access to Ranbaxy's significant position in pharmaceutical research and development. Sun Pharma is now India's largest pharmaceutical company and the fifth largest globally as a result of the acquisition. Ranbaxy's shareholders got a 14 percent stake in the company following the acquisition in exchange for the deal. Sun Pharma has definitely profited from the deal. It witnessed a rise in revenue as it was able to tap into Ranbaxy's customer base, which preferred its generic and affordable range of drug.

Thomas Cook & Sterling Holidays Merger:

In 2014, Thomas Cook India Limited and Sterling Holiday Resorts (India) Limited combined in a deal that included part cash and part equity. This merger helped Thomas Cook to gain access to Sterling's inventory of over 1500 rooms in various resorts throughout India's most popular tourist locations. Sterling Holidays, on the other hand, benefited from its association with Thomas Cook, one of the largest tourist companies in the world. The transaction entailed

Thomas Cook purchasing a 23 percent ownership in Sterling Resorts in numerous tranches, after which Thomas Cook launched an open offer to buy more stock in the firm. . This is an example of a congeneric merger as both were involved in the tourism industry, their customer-bases and process chains were unrelated.

Vedanta & Cairn India Merger:

Vedanta Resources announced the acquisition of Cairn India in April 2017, both of which are active in the natural resources industry. Cairn India's minority shareholders were opposed to the planned merger, which caused discussions to drag on for over two years. After Vedanta gave them one equity share and four redeemable preference shares in the amalgamated firm for each share of Cairn India, they agreed. In addition, the merger allowed Cairn India to get access to Vedanta Limited's extensive asset base. Vedanta, on the other hand, a wholly owned subsidiary of London-based Vedanta Resources, tried to repay its debts using Cairn India's substantial cash reserves. This is an example of an upstream merger because it involved the merging of a subsidiary into its parent company.

Adidas-Reebok Case Study:

In 2005, Adidas-Salomon AG announced its intention to buy Reebok North America for an estimated \$ 3.78 billion. Adidas offered more than a 34% premium over Reebok's last closing price. It was a tempting offer for Reebok, which was up against stiff competition from Nike, Adidas, and Puma. Nike dominated the footwear market in North America, with a 36 percent market share. Both Adidas and Reebok have clear plans for increasing market share and decreasing costs through synergy. Adidas aimed to grab the scene with its high-quality items, while Reebok planned to do so with its stylish quotient. In 2006, sales revenue climbed by 52 percent, marking the Adidas group's fastest sustainable growth in the last eight years.

Tata Steel-CORUS:

Tata Steel is the largest steel firm in India, while Corus is the second largest steel company in Europe. Tata Steel acquired European steel giant Corus for \$12.02 billion in 2007, making the Indian corporation the world's fifth-largest steel manufacturer. Tata Sponge Iron, a low-cost steel maker in a rapidly expanding part of the world, and Corus, a high-value product manufacturer in a region of the world where value products are in great demand. The acquisition was made to provide Tata Steel with access to European markets as well as possible synergies in manufacturing, procurement, research and development, logistics, and back office operations.

HUL's and GSK CH Merger:

Hindustan Unilever Limited (HUL) is India's largest fast-moving consumer goods (FMCG) company. HUL and GlaxoSmithKline Consumer Healthcare Ltd (GSK Consumer) announced their merger in December 2018. HUL shareholders will get 4.39 HUL shares for every GSK CH India share in this all-equity merger. In this transaction, the overall business

is valued at INR 317 billion. The merger encompasses all of GSK CH India's operations. The merger is in keeping with Hindustan Unilever's aim of focusing on the health and wellness megatrend to build a long-term and profitable Foods and Refreshment (F&R) business in India. GSK CH India is the market leader in the HFD category, with well-known brands like Horlicks and Boost and a product portfolio backed by solid nutritional claims.

Arcelor and Mittal Merger:

Mittal Steel merged with Arcelor Steel, a steel firm established in Luxembourg. The new entity, named 'ArcelorMittal,' is currently the world's largest steel producer. In January 2006, Mittal Steel chairman Lakshmi Mittal made a hostile deal for Arcelor. After a protracted fight, the two companies merged to establish the world's largest steel manufacturer, with a 10% share of the worldwide market. The deal was valued at \$38.3 billion.

Zomato's Acquisition of UberEats:

Zomato has acquired the Indian operations of Uber Eats, the food delivery service, for around \$350 million. The all-stock transaction gives the ride-hailing giant a 10% stake in Zomato. The move was made to cut losses in the ride-hailing startup's food delivery service in India, which had previously been a source of revenue.

2.11 SUMMING UP:

- M&A as a peripheral strategic expansion plan has risen in popularity as a result of the increased implementation of deregulation, privatisation, globalisation, and liberalisation (LPG) in most countries throughout the world.
- The terms mergers and acquisitions are often used interchangeably (M&A) refer to transactions involving two companies that combine in some form. Although mergers and acquisitions (M&A) are used interchangeably, however, they have different meanings.
- Horizontal merger is the combination of two or more firms dealing in similar lines of business/activity.
- Vertical merger involves combination of two or more firms engaged in the various stages of production or distribution in the same business activity.
- Conglomerate merger is a combination of firms engaged in different/unrelated business activities. Conglomerate merger enables the company to diversify its business.
- A combination in which the acquiring company acquires all or part of the target company's assets (Shares) is referred to as an acquisition or takeover. In acquisition, there exists willingness of the management of the target company to be acquired but under takeover this may not be so.
- Phases of Merger & Acquisition Process- Pre Acquisition Review, Search & Screen Targets, Investigate & Value the Target, Acquire through Negotiation and Post Merger Integration

2.12 Model Questions:

Short Questions:

1. What is business combination?
2. Define merger.
3. What is acquisition?
4. What is horizontal merger?
5. Is there any difference between merger and acquisition? Write short notes.
6. Give example of merger and acquisition in India.

Long Questions:

1. Explain the different types of business combination. What are the advantages and disadvantages of business combination?
2. What is merger? What are the different types of merger? Explain with example.
3. Discuss the different phases of merger and acquisition process.
4. What are the advantages and disadvantages of Mergers and Acquisitions?
5. What are the factors that lead to the failure of a merger or acquisition? Explain.

2.13 Reference & Suggested Readings:

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10. <https://blog.ipleaders.in/valuation-mergers-acquisitions/>

2.14 Answer to Check Your Progress:

- Merger or Amalgamation refers to the process when two or more companies' carries on similar business go into liquidation and a new company is formed to take over their business.
- The combination of two or more firms into one of the firms is known as Merger. There are three types of merger- horizontal merger, vertical merger and conglomerate merger. Horizontal merger is the combination of two or more firms dealing in similar lines of business/activity. Vertical merger involves combination of two or more firms engaged in the various stages of production or distribution in the same business activity. Conglomerate merger is a combination of firms engaged in different/unrelated business activities.
- A business combination is a consolidation of two or more firms for the purpose of achieving similar goals and taking advantage of monopolistic benefits.
- Some of the most common reasons for merger and acquisition failure are- unrealistic expectation, limited owner involvement, inaccurate financial information, lack of proper communication, mismatch in the culture, Negotiation errors, etc.
- The primary motivation for a merger is to benefit from synergies. As desirable synergies to be acquired by merging, operating economies, increased market share, and financial economies have been listed in order of significance. The least important factors for mergers were tax benefits and diversity.

Block V: Unit-III

Motives of Mergers, Valuation Methods, Forms of Financing a Merger

Unit Structure:

- 5.1. Introduction
- 5.2. Objectives
- 5.3. Forms of Merger and Acquisitions
- 5.4. Financing Merger and Acquisitions
- 5.5. Reasons for Merger and Acquisitions
- 5.6. Valuation of Merger and Acquisition
- 5.7. Merger as a Capital Budgeting Decision
- 5.8. Summing up
- 5.9. References suggested readings
- 5.10. Model questions
- 5.11. Answer to check your progress

5.1. Introduction:

Mergers and acquisitions (M&A) is a broad phrase that refers to a variety of financial transactions that combine firms or assets, such as mergers, acquisitions, consolidations, tender offers, asset purchases, and management acquisitions. Mergers and acquisitions are terms that are sometimes used interchangeably, yet they have slightly different meanings. An acquisition occurs when one corporation buys another and establishes itself as the new owner. A merger, on the other hand, is when two companies of similar size join forces to move ahead as a single new organisation rather than remaining individually owned and run.

5.2. Objectives:

This unit basically focused on

1. To identify different forms of financing Merger and Acquisitions?
2. To know the different reasons for Merger and Acquisitions?
3. How to valuation of Merger and Acquisitions?

5.3. Forms of Merger and Acquisitions

5.3.1. Horizontal merger:

When two companies operating in the same market (and providing similar products or services) unite to gain market share, this is known as a horizontal merger. This type is appealing to organisations looking to merge in order to get economies of scale and reduce market competition. However, there are certain drawbacks. A horizontal merger is subject to heightened regulatory scrutiny and rigour, and it might result in a value loss if the post-merger integration is not fully accomplished. Regulatory due diligence should be carried out with extreme caution. For Example, combining of two book publishers or two luggage manufacturing companies to gain dominant market scale.

5.3.2. Vertical Merger:

Vertical mergers bring together two businesses in the same industry that operate at various stages of the manufacturing process. For example, a retailer might combine with a wholesaler, or a wholesaler might merge with a manufacturer. This type of merger is good for streamlining processes, increasing efficiencies, and lowering costs throughout the supply chain, but it can also limit flexibility and introduce additional complications for the company to handle. For example, joining of a Television manufacturing company and Television marketing company or the joining of a spinning company and a weaving company. Vertical merger may take the form of forward or backward merger. A backward merger occurs when a corporation joins forces with a material supplier, while a forward merger occurs when a company joins forces with a customer.

5.3.4. Congeneric merger (also ‘Concentric merger’):

In a congeneric merger, the acquirer and Target Company both sell to the same customers and have different products or services. Although their products frequently complement each other, they may be indirect competitors. This form of merger might help the new company entity to extend its product ranges and improve market share because the companies already have similar distribution routes, production, or technology. On the negative side, the fact that these two businesses are currently in the same industry may hinder their ability to further diversification. Merger between Citicorp (a commercial bank) and travelers (a financial service company) from the late ‘90s is often the prime example of a concentric merger.

5.3.5. Market-extension and product-extension mergers:

A market extension merger occurs when two companies in the same industry get together to enhance their market reach. This type of transaction frequently takes place across various geographic regions. A product extension merger occurs when a specific product from the acquired firm is added to the acquirer's product line.

5.3.6. Conglomerate merger

A conglomerate merger, unlike other forms of mergers, happens when two companies' commercial activity and industries are wholly unrelated. Pure conglomerate mergers allow the two companies to function independently within their own markets, but mixed conglomerate mergers allow them to increase their product or market reach. While this type of merger can help the new organisation expand market share and diversify its business, integrating disparate companies can be particularly difficult, increasing the risk of cultural clashes and lost efficiency as a result of disturbed business processes. Merging different businesses such as cement manufacture, fertiliser manufacturing, electronic manufacturing, insurance investment, and advertising firms is a good example.

Stop to Consider

Mergers and acquisitions are terms that are sometimes used interchangeably, yet they have slightly different meanings. An acquisition occurs when one corporation buys another and establishes itself as the new owner. A merger, on the other hand, is when two companies of similar size join forces to move ahead as a single new organisation rather than remaining individually owned and run.

5.4. Financing Merger and Acquisitions:

Mergers and acquisitions are natural aspects of the business cycle. A merger or acquisition can help a company grow, gain knowledge, enter a new market, or increase output. These opportunities, however, come at a cost to both parties. Even before the whole acquisition cost is determined, standard merger negotiations often involve administrators, lawyers, and investment bankers. A corporation will have to find alternative methods of financing M&A if it does not have a virtual dataroom or a large quantity of cash on hand. The greatest financing alternatives accessible today, as well as information on which ones to avoid, are listed below.

5.4.1. **Exchanging Stock:**

This is the most usual method of merging or acquiring a company. If a firm wants to buy or merge with another, it's safe to believe it has a lot of stock and a strong financial sheet. The buying business exchanges its stock for shares of the seller's company in an average exchange. Because the partners share the risks equally, this financing strategy is relatively safe. If the stock is overvalued, this payment mechanism benefits the buyer. The buyer will receive more stock from the seller in this situation than if they had paid cash. However, there's always the possibility of a stock drop, especially if traders find out about the merger or acquisition before it's completed.

5.4.2. **Debt Acquisition:**

Accepting a seller's debt instead of paying in cash or equity is a valid option. Debt is a driving force behind the sale of many businesses, as poor market conditions and excessive interest rates make it impossible to keep up with payments. In such a situation, the debtor's first objective is to decrease the danger of further losses by merging or acquiring a company that can pay the loan. From the perspective of a creditor, this is a low-cost technique to acquire assets. The sale value is reduced or removed from the seller's perspective. When a company buys a huge amount of debt from another company, it has more managerial powers during the liquidation process. For a creditor who wants to restructure the company or take possession of assets such as business contacts or property, this might be a considerable incentive.

5.4.3. **Paying in Cash:**

An initial public offering, or IPO, is a great way for a company to raise money at any time, but it's especially advantageous during a merger or acquisition. The possibility of an M&A can excite investors about a company's future, as it indicates a strong long-term plan and a willingness to grow. An IPO always generates market excitement, and by combining it with a merger and acquisition, a company can pique investors' attention and boost the early price of shares. Furthermore, raising the value of an IPO through a merger or acquisition can raise existing share prices. However, due to market volatility, this is a dangerous approach to fund a business. A young company is more vulnerable to market volatility because the market might decline as

rapidly as it climbs. As a result of these factors, the IPO's attractiveness is dwindling with each passing fiscal year.

5.4.4. Issuance of Bonds:

Corporate bonds are a straightforward and rapid approach to raise funds from existing shareholders or the general public. A business may issue time-limited bonds with a fixed interest rate. When an investor buys a bond, they are lending money to a corporation in the hopes of receiving a return, but bonds have one major drawback: the money cannot be spent until the bond's maturity date. Bonds are popular among long-term, risk-averse investors because of their security. Companies are now using cheap lending rates in the United States to fund mergers and acquisitions. However, the trend is tightly linked to borrowing costs, and bond issuance is only a good deal if the buyer can get credit cheaply and has a clear purpose in mind.

5.4.5. Loans:

Borrowing money during a merger or acquisition can be pricey. Lenders and owners who agree to an extended payment plan should anticipate a fair interest rate on their loans. Even if financing rates are low, costs can quickly build up during a multimillion-dollar merger and acquisition. When financing a merger with debt, interest rates are a major factor, and a low rate might boost the frequency of loan-financed deals. When cash isn't an option, there are a number of other ways to fund a merger or acquisition, many of which result in a straightforward, successful, and quick transaction. The buyer and seller, as well as their relative share situations, asset prices, and debt liabilities, all influence the most appropriate approach for a firm to use. Each method of financing a merger or acquisition has its own set of expenses, obligations, and risks, and it is the buyer's and seller's job to undertake due diligence throughout the transaction. However, for most organisations, the results are worth it because they result in a more diverse, stronger organisation with enough cash on hand to cover the expense of M&A.

Check Your Progress

1. What do you mean by Merger and Acquisition?
2. What are the different forms of financing Merger and Acquisitions?

5.5. Reasons for Merger and Acquisitions:

Mergers and acquisitions provide a corporation with a fresh set of possibilities. Consider the following motives for mergers and acquisitions:

5.5.1. Economies of Scale:

When two organisations merge, they become stronger and have more resources, just as one plus one equals two. The newly formed business will have better access to qualified staff, which will help it expand its operations. Access to large-scale economies can be gained through mergers and acquisitions. Effective product consumption, optimal network distribution, research and development facilities, and other factors will all contribute to the establishment of such economies. Economies of scale only help horizontal mergers (companies dealing in the same line of products).

5.5.2. Synergy:

It refers to the combined enterprises' entire higher worth as opposed to the sum of their individual units. Synergy merging occurs when two firms unite to achieve better efficiency or scale. Synergies can also result in a variety of benefits, including improved revenues, combined talent, robust technology, cost savings, and much more.

5.5.3. Diversification of products and services:

Mergers and acquisitions aid in diversity, which is one of the most important reasons for doing so. When a clothes company merges with a technological company, for example, the former is able to explore new commercial opportunities. Furthermore, it makes it easier for a corporation to join with an existing entity, lowering the risk of failure.

5.5.4. Eliminations of Competition:

In an industry, a merger or acquisition of two or more companies decreases competition. It not only lowers the level of competition, but it also saves the corporation money on advertising. As a result, the amalgamated company is able to lower its production costs. It will also benefit customers because goods will be available at lower prices.

5.5.5. Better Financial Planning:

As the wise saying goes, the more the merrier, which indicates that things get better as more people arrive. Similarly, if one or more organisations decide to merge or acquire, their resources can be planned as efficiently as possible. The combined funds

and finances of a merged firm will be larger, and their use may be better than in separate divisions. It facilitates the transition between companies that have a short gestation period and those that have a long gestation period.

5.5.6. Market Share:

Market share acquisitions are never far from the minds of CEOs; corporations are continuously looking at where they stand in their industries relative to their peers, therefore market share acquisitions are always on their minds. Of course, one difficulty here is that having too much market share is frowned upon by antitrust authorities. Almost every large retail bank you've heard of grew by acquiring smaller regional banks, giving them the power to be 'too big to fail,' as the saying goes.

5.5.7. Acquire New Technology/Expertise:

Companies that do not adapt to changing industries will not thrive. That is why businesses are constantly on the hunt for opportunities to purchase other businesses that might provide them with new technology and experience. As the energy shift proceeds over the next decade, we may expect many oil and gas companies to start investing in renewable energy companies, for example. Over the previous decade, Google has purchased over 30 artificial intelligence (AI) firms, gaining a diverse set of capabilities in a field that is expected to have a big impact in the coming years.

5.5.8. Geographical Diversification:

Geographic diversification has long been a major value-driver in M&A, and it's easy to see why: why establish a firm from the ground up in a foreign country when you can buy an already-existing cash-generating entity and utilise it as a foundation for your own company's expansion in that area? The Spanish bank Santander, which has bought banking chains in nine countries outside of Spain to become one of the world's largest retail banking organisations, is arguably the most successful example of this.

5.5.9. Taxation:

Unsurprisingly, firms are hesitant to confess that they've used mergers and acquisitions to avoid paying taxes (note: avoid, not evade). It may not sit well with customers to learn that a company is blatantly minimizing taxes, but rest assured: this is one of the most typical reasons for mergers and acquisitions. However, as the express purpose, it is also one of the least mentioned. The premise is that a cash-flow positive company buys a company with carry-forward tax losses in order to lower its own tax bill.

Check Your Progress

3. What are the motives of Merger and Acquisition?

5.6. Valuation of Merger and Acquisition:

Determining the worth of the acquired firm is one of the most difficult aspects of appraising a possible merger. The worth of a company is determined not only by its earnings, but also by the purchasing company's operating and financial features. As a result, putting a single value on the purchased company is impossible. Instead, a range of values is determined that the prospective acquirer may justify economically. The two companies negotiate the ultimate price within the range. A number of quantitative and qualitative elements are crucial in determining an acceptable pricing for a company. However, putting a monetary value on qualitative elements like management talent, competent sales personnel, and a top-notch production department, for example, is tough. As a result, various quantitative criteria are used to determine the firm's value. The quantitative factors concern (i) the asset value and (ii) the firm's earnings. These factors include book value, appraisal value, market value, and earnings per share, all of which are based on the assets' valuations and earnings.

5.6.1. Book value: The balance sheet value of the owner's equity determines a company's book value. It is calculated by dividing net worth by the number of outstanding equity shares. Because it is dependent on the historical costs of the firm's assets, book value as a basis for estimating a firm's value has a severe drawback. Historical costs have no bearing on the firm's valuation or ability to create profits. Nonetheless, it is important in determining a firm's value for several reasons: it can be used as a starting point to compare and complement other analyses; in industries where the ability to generate earnings requires large investments in fixed assets, the book value may be a critical capital; and it is especially appropriate and necessary in mergers involving businesses that are primarily liquid assets, such as financial institutions.

5.6.2. Appraisal Value: Another way to determine a company's worth is to use appraisal value. An impartial valuation firm is used to obtain such a value. The replacement cost of assets is usually used to calculate this value. There are various advantages to the appraisal value. First and foremost, it is a critical aspect in unique scenarios such as financial

corporations, natural resource enterprises, or businesses that have been losing money. A financial company's asset, for example, is mostly comprised of securities. The value of individual shares has a direct impact on the firm's ability to earn money. A corporation that is losing money may only be worth its liquidation value, which is similar to the appraisal value. Second, by improving the recognised value of specific assets, independent appraisers may be able to reduce accounting goodwill. Third, an independent agency's assessment serves as a check on the reasonableness of the results reached using procedures based on the going-concern concept. In conclusion, the assessment value strategy is beneficial when used in conjunction with other evaluation methods. It is a crucial tool for valuing a company in certain circumstances.

5.6.3. Market Value: Another method for evaluating the value of a company is to use market value, which is represented in stock market quotations. The fact that market quotations, on the whole, show the consensus of investors as to the firm's earning potentials and related risk, justifies market value as an approximation of the genuine worth of a corporation. The market value methodology is one of the most used methods for evaluating value, particularly for large publicly traded companies. Investment and speculative factors both influence a company's market value. This value is sensitive to market attitudes and personal decisions, and can change rapidly as a result of changes not just in analytical elements, but also owing to simply speculative effects. Nonetheless, market value is a near approximation of a company's intrinsic value. In practise, present owners are frequently provided a percentage premium above the market price as an encouragement to sell their shares.

5.6.4. Earnings Per Share: The worth of a potential purchase is based on the impact of the merger on earnings per share, according to this method (EPS). To put it another way, the research could focus on whether the purchase will have a favourable or negative influence on EPS after the merger. The price-earnings (P/E) ratio and EPS will effect the firm's share prices in the future. In this example, the impact of a merger on EPS is depicted.

Stop to Consider

Determining the worth of the acquired firm is one of the most difficult aspects of appraising a possible merger. The worth of a company is determined not only by its earnings, but also by the purchasing company's operating and financial features.

Illustrated 5.1. Company A is contemplating the purchase of Company B. Company A has 2,00,000 shares outstanding with Rs. 25 market value per share while Company B has 1,00,000 shares selling at Rs. 18.75. The EPS are Rs. 3.125 for Company A and Rs. 2.5 for Company B. Assuming that the two management have agreed that the shareholders of Company B are to receive Company A's share in exchange for their shares (i) in proportion to the relative earnings per share of the two firms or (ii) 0.9 share of Company A for one share of Company B (share exchange ratio 0.9:1), illustrate the impact of merger on the EPS (earnings per share of the combined firm). Also, compute the EPS after merger on the assumption that the anticipated growth rate in earnings is 8 percent for Company A and 14 percent for Company B.

Solution 1: Statement of Merger Effect on EPS (Exchange ratio in Proportion to relative Earnings Per Share. 0.8 that is $2.5 \div 3.125$)

Company	Original Number of Shares	EPS	Total earnings after taxes
1	2	3	$2 \times 3 = 4$
A	2,00,000	Rs. 3.125	6,25,000
B	1,00,000	Rs. 2.50	2,50,000
Total Post Merger Earnings			8,75,000
Number of shares after the merger: $2,00,000 + 80,000 (1,00,000 \times 0.8)$			2,80,000

Earnings Per share for Company A:		
1. Equivalent before the merger	3.125	
2. After the Merger (875000÷2,80,000)	3.125	
Earnings Per Share for Company B:		
1. Before the merger	2.50	
2. Equivalent EPS after merger:(3.125×0.8)	2.50	

Solution 2: Merger Effect on EPS(Exchange ratio 0.9:1)

Total Post- Merger Earnings (EPS)	8,75,000
Number of shares after merger (200000+90000) i.e .9×1,00000)	2,90,000
Earnings Per Share (8,75,000÷2,90,000)	3.017
Company A's Shareholders	
EPS before the merger	3.125
EPS after the merger	3.017
Dilution in EPS	(0.108)
Company B's shareholders	
EPS before the merger	2.50
Equivalent EPS after the merger (EPS after the merger × share exchange ratio)	2.715
(3.017×0.9)	
Accretion in EPA	0.215

Projection of Earnings Per share

Year	Post-Merger Earnings		
Col1	Company A Col 2	Company B Col 3	Total Earnings(a=b) Col 4
1	6,25,000	2,50,000	8,75,000
2	6,75,000	2,85,000	9,60,000
3	7,29,000	3,24,900	10,53,900
4	7,87,320	3,70,386	11,57,706
5	8,50,306	4,22,240	12,72,546
6	9,18,330	4,81,354	13,99,684

(Cont.....)

(.....Cont)

Combined EPS Col 4÷2,90,000	Company A Col 2÷2,00,000	Company B Col 3 ÷ 90000	Accretion(Dilution) in EPS	
			Company A	Company B
3.02	3.13	2.78	(0.11)	0.24
3.31	3.38	3.17	(0.01)	0.20
3.63	3.65	3.61	(0.02)	0.02
3.99	3.94	4.11	0.05	(0.12)
4.39	4.25	4.69	0.14	(0.30)
4.83	4.59	5.34	0.24	(0.51)

5.7. Merger as a Capital Budgeting Decision:

The merger should be viewed as a capital budgeting choice under the normative financial framework. The target company should be valued based on its ability to create further cash inflows in the future. The cash flow should be future free cash flows that are expected to accrue as a result of the target company's purchase. After-tax operating earnings plus non-cash expenses like depreciation and amortisation, less additional investments planned to be made in the acquired firm's long-term assets and working capital, equals free cash flows in the context of a merger. These funds are invested in the acquired company's long-term assets and working capital. After that, these cash flows must be discounted at a rate that represents the riskiness of the situation.

The present values of the predicted gains from the merger must be compared to the cost of acquiring the target firm, just like in a capital budgeting decision. Payments made to the target firm's shareholders and debenture holders, payments made to discharge external liabilities, estimated value of the obligations assumed, liquidation expenses to be met by the acquiring firm, and so on are included in acquisition costs, less cash proceeds expected to be realised by the acquiring firm from the sale of certain target firm assets. If the net present value, or NPV, is positive, the choice is in favour of the merger; if the NPV is negative, the judgement is against the merger. As a thorough measure of evaluation, it is unsurprising that the capital budgeting framework is used to examine the majority of merger decisions in the United States.

The following are the steps used to evaluate merger decisions as per the capital budgeting approach.

5.7.1. Determination of Incremental Projected Free Cash Flows to the Firm(FCFF):

These FCFF should be attributable to the acquisition of the business of the target firm.

FCFF should be calculated as

After-tax operating earnings

Plus: Non- cash expenses, such as depreciation and amortization

Less: Investment in long-term assets

Less: Investment in net working capital

5.7.2. Determination of Terminal Value: The firm is normally acquired as a going concern. It is worth recapitulating from the projected FCFF in such situations are made in two segments, namely, during the explicit forecast period and the forecast period. Terminal value(TV) is the present value of FCFF, after the forecast period. Its value can be determined as per following equations-

a) When FCFF are likely to be constant till infinity:

$$TV = FCFF_{T+1}/K_0$$

Where $FCFF_{T+1}/K_0$ refers to the expected FCFF in the first year after the explicit forecast period.

b) When FCFF are likely to grow(g) at a constant rate:

$$TV = FCFF_T(1+g)/(K_0-g)$$

c) When FCFF are likely to decline at a constant rate:

$$TV = FCFF_T(1-g)/(K_0+g)$$

5.7.3. **Determination of Appropriate Discount Rate/ Cost of Capital:** In the event of the risk complexion of the target firm matching with the acquired firm(say in the case of horizontal merger and firms having virtually identical debt-equity ratio), the acquiring firm can use its own weighted average cost of capital(k_0) as discounted rate. In case the risk complexion of the acquired firm is different, the appropriate discount rate is to be computed reflecting the riskiness of the projected FCFF of the target firm.

5.7.4. **Determination of Present Value of FCFF:** The present value of FCFF during the explicit forecast period is determined by using appropriate discount rate.

5.7.5. **Determination of Cost of Acquisition:** The cost of acquisition is determined by following steps-

Ascertainment cost of Acquisition=

Payment to Equity Shareholders(Number of equity shares issued in acquiring company X Market price of equity share)

Plus: Payment to preference shareholders

Plus: Payment to debenture-holders

Plus: Payment to other external liabilities (say creditors)

Plus: Obligations assumed to be paid in future

Plus: Dissolution Expenses (to be paid by acquiring firm)

Plus: Unrecorded/ Contingent Liabilities

Less: Cash proceeds from sale of assets of target firm (not to be used in business after acquisition)

Illustration 5.2. The Hypothetical limited wants to acquire Target Ltd. The balance sheet of Target Ltd. as on 31 March has the following assets and limited:

Liabilities:	Amount (lakh)
Equity Share Capital (4 lakh shares of Rs. 100 each)	Rs. 400
Retained Earnings	Rs. 100

10.50% Debentures	Rs. 200
Creditors and Other liabilities	<u>Rs. 160</u>
	Rs. 860

Assets

Cash	Rs. 10
Debtors	Rs. 65
Inventories	Rs. 135
Plant and Equipment	<u>Rs. 650</u>
	Rs. 860

Additional Information:

- The shareholders of Target Ltd. will get 1.5 shares in Hypothetical Ltd. for every 2 shares; the shares of the Hypothetical Ltd. would be issued at its current market price of Rs. 180 per share. The debenture-holders will get 11% debentures of the same amount. The external liabilities are expected to be settled at Rs. 150 lakh. Dissolution expenses of Rs. 15 lakh are to be met by acquiring company.
- The following are projected incremental free cash flow(FCFF) expected from acquisition for 6 years (Rs. Lakh)

1 st year	Rs. 150
2 nd Year	Rs. 200
3 rd Year	Rs. 260
4 th Year	Rs. 300
5 th Year	Rs. 220
6 th Year	Rs. 120
- The free cash flow of Target Limited is expected to grow at 3 percent per annum, after 6 years.
- Given the risk complexion of Target limited, cost of capital relevant for Target limited cash flows has been decided at 13 percent.
- There is unrecorded liability of Rs. 20 lakh.
Advise the Company regarding financial feasibility of the acquisition.

Solution:

1.Financial Evaluation of Merger Decision

Share Capital (3 lakhs shares X Rs. 180)	Rs. 540(lakh)
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11% Debentures	Rs 200 (lakh)
External Liabilities	Rs. 150(Lakhs)
Unrecorded Liabilities	Rs. 20 Lakhs
Dissolution Expenses	<u>Rs. 15 Lakhs</u>
	Rs. 925 Lakhs

2.PV of free Cash Inflows

Years	FCFF	PV factor(0.13)	Total PV
1	150	0.885	132.75
2	200	0.783	156.60
3	260	0.693	180.18
4	300	0.613	183.90
5	220	0.543	119.46
6	120	0.480	<u>57.60</u>
			830.49

3. PV of FCFF after the forecast period (Referred to as Terminal Value)

$$TV_6 = FCFF_6(1+g)/(k_0-g)$$

$$= 120 (1+0.03)/ (0.13-0.03)$$

$$= 123.6/ 0.1$$

$$= \text{Rs. 1236 Lakh}$$

$$\text{PV of TV} = 1236 \times 0.480 = \text{Rs. 593.28 Lakh}$$

4.determination of Net Present Value

PV of Free Cash Flows (years 1-6)	Rs. 830.49 Lakh
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PV of Free Cash flows subsequent to year 6	<u>Rs. 593.28</u>
Total of FCFF	Rs. 1,423.00
Less Cost Of acquisition	Rs. 925.00
Net Present Value	Rs. 498.77

As the NPV is positive, acquisition of target limited is financially viable.

Illustration 5.3. Would your decision for acquiring Target Limited in above illustration change, if FCFF after the forecast period are assumed to be (a) constant and (b) decline by 10 percent per annum after 6 years.

Solution: Determination of NPV when FCFF are Constant after 6 years.

PV of FCFF (years 1-6)	830.49
PV of FCFF (subsequent to year 6)	443.08*
Total PV of benefits	1273.57
Less: Cost of Acquisition	925.00
Net Present value	348.57

*Determination PV related to TV:

$$TV = FCFFg/K_0 = Rs. 120/0.13 = Rs.923.08 \text{ (lakh)}$$

$$PV = Rs. 923.08 \text{ lakh} \times 0.480 = 443.08 \text{ lakh}$$

Determination of NPV when FCFF are expected to decline at 10 % after 6 years

PV of FCFF (years 1-6)	830.49
PV of FCFF (subsequent to year 6)	225.39*
Total PV of benefits	1055.88
Less: Cost of Acquisition	925.00
Net Present value	130.88

*Determination PV related to TV:

$$TV = FCFF(1-g)/(K_0 + g) = \text{Rs. } 108/(0.13+0.10) = \text{Rs. } 469.57(\text{lakh})$$

$$PV = \text{Rs. } 469.57 \text{ lakh} \times 0.480 = 225.39 \text{ lakh}$$

Since the NPV is positive in both the situation, the merger proposal continues to be financially viable.

Illustration 5.4. For the fact of above illustration, compute the value of Target Limited based on the Adjusted Present Value approach, given the cost of unlevered equity as 16 %, perpetual debentures and a corporate tax rate of 35 %. Ignore the bankruptcy costs. Also estimate the NPV.

Solution:

1) PV of FCFF, Discounted at Unlevered Cost of Equity (k_0)

Year	FCFF	PV factor(0.16)	Total
			PV(lakh)
1	150	0.862	Rs. 129.30
2	200	0.743	Rs. 148.60
3	260	0.641	Rs. 166.66
4	300	0.552	Rs. 165.60
5	220	0.476	Rs. 104.72
6	120	0.410	<u>Rs. 49.20</u>
			Rs.764.08

2) PV of FCFF after the forecast period/ terminal Value

$$TV_6 = FCFF_6(1+g)/(k_u - g)$$

$$= \text{Rs. } 120 \text{ lakh} (1.03)/(0.16-0.03) = \text{Rs. } 950.77 \text{ lakh}$$

$$PV \text{ of } TV = \text{Rs. } 950.77 \text{ lakh} \times 0.410 = \text{Rs. } 389.82 \text{ Lakh}$$

3) PV of Tax Savings Due to Interest

$$\text{Amount of Debt (11\% debentures)} \quad \text{Rs. } 200(\text{lakh})$$

Amount of Interest (Rs 200 lakh X 0.11)	Rs. 22(lakh)
Total Savings (Rs. 22 Lakh per year X 0.35 tax rate)	Rs. 7.7 Lakh
Present Value of tax shield (Rs 7.7lakh/ 0.11)	Rs. 70.00Lakh
4) Adjusted Present Value and NPV of Target Limited	
PV of FCFF (years 1-6)	Rs. 764.08
PV of terminal value	Rs. 389.82
PV of tax shield	Rs. 70.00
Total Adjusted Present Value	Rs. 1,223.90
Less: Cost of Acquisition	Rs. 925.00
Net Present Value	Rs. 298.90

The acquisition of Target Limited is financially profitable according to NPV approach.

5.8. Summing UP:

1. Although the terms mergers and acquisitions are often used interchangeably, they have slightly different meanings. When one company buys another and becomes the new owner, this is known as an acquisition. A merger, on the other hand, occurs when two similar-sized businesses join forces to move forward as a single new entity rather than remaining independently owned and operated.
2. Mergers and acquisitions (M&A) refers to a wide range of financial transactions that combine firms or assets, including mergers, acquisitions, consolidations, tender offers, asset purchases, and management acquisitions.
3. There are several options for funding mergers and acquisitions, including exchanging stock, debt acquisition, paying in cash, issuing bonds, and taking out loans.
4. Mergers and acquisitions are motivated by economies of scale, synergy, product and service diversification, elimination of competition, better financial planning, market share, and acquisition of new technology/expertise, geographic diversification, taxation, and other factors.
5. One of the most difficult components of valuing a potential merger is determining the value of the acquired company. The value of a firm is defined not only by its earnings, but also by the operating and financial characteristics of the purchasing company. As a result, it's difficult to identify a single value to the acquired company.
6. Under the normative financial framework, the merger should be considered as a capital budgeting decision. The ability to generate future cash inflows should be used

to appraise the target company. Future free cash flows estimated to accrue as a result of the target company's purchase should be used as the cash flow.

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5.10. Model Questions:

1. What do you meant by Merger and Acquisition?
2. What are the different forms of financing Merger and Acquisitions?
3. What are the motives of Merger and Acquisition?
4. What are the factors are to be considered for valuing the assets?

5. What are the different steps for evaluating the merger as capital budgeting decision?

5.11. Answer to Check Your Progress

1. Mergers and acquisitions (M&A) refers to a wide range of financial transactions that combine firms or assets, including mergers, acquisitions, consolidations, tender offers, asset purchases, and management acquisitions.
2. Exchanging stock, debt acquisition, paying in cash, issuing bonds, and loans are all options for funding mergers and acquisitions.
3. Economies of scale, synergy, product and service diversification, elimination of competition, better financial planning, market share, acquisition of new technology/expertise, geographic diversification, taxation, and so on are some of the reasons for mergers and acquisitions.

BLOCK V : UNIT-IV
INTERNATIONAL MERGERS AND ACQUISITIONS

Unit Structure:

- 1.1 Introduction
- 1.2 Objectives
- 1.3 Meaning of Mergers
- 1.4 Types of Mergers
- 1.5 Meaning of Acquisitions
- 1.6 Types of Acquisitions
- 1.7 Reasons for International Mergers and Acquisitions
- 1.8 Reasons for Failure of International Merger and Acquisitions
- 1.9 Pros and Cons of a Merger
- 1.10 Key Corporate and Securities Laws Considerations for Merger
- 1.11 The Process of Mergers and Acquisitions
- 1.12 Case Studies

1.1. INTRODUCTION

Growth is always essential for the existence of a business concern. A concern is bound to die if it does not try to expand its activities. The decision to expand the scope of a business is a result of thoughtful consideration of various factors, including the financial, logistical, even his/her emotional readiness. The rule of thumb is that one should only expand when there are untapped opportunities that can benefit the business. Expansion is often one of the most daunting challenges a successful business will face[1]. Businesses are always ready to grasp the opportunity for the sake of competitive advantage, increased profitability, economies of scale[2]. Mergers and Acquisitions (M&A's) have been confirmed to be a key method in achieving organization's growth, diversity, and profitability[3] and have emerged as a natural process of business restructuring throughout the world. The process of M&As spans geographical boundaries: cross-border M&As, mostly by transnational corporations (TNCs), have assumed a significant proportion[4]. Mergers and acquisitions can result in new organizations whose financial and strategic options are much improved. They are driven by globalization, a long-term market, various barriers to growth, which

make M&As a valuable tool by which companies can quickly attempt to increase revenue[5].

Mighty businesses usually tend to increase size by purchasing small or troubled businesses; these acquisitions can be hostile or gentle sometimes. Corporations have developed a new strategy to capture external opportunities by adopting the external restructuring in the form of mergers, acquisitions, consolidations and divestitures. It all started in 1895, when American businesses started their obsession with Mergers, this concept of business mergers received acceptance and from the year 1895 to 1905, this period of ten years was named as the decade of the “Great Merger Movement”. In the late 1990’s, the greatest number of merger and acquisitions in the US took place as the healthy condition of the U.S stock markets proved to be a viable time for the mergers and takeovers[2].

The acquisition of YouTube by Google is a success story which is very rare in merger and acquisitions. The merger of Nissan with French auto manufacturer Renault has been successful significantly because of the fact that both parties were very conscious and careful before the merger, Nissan was on the receiving end because Renault proved to be its saviour, the inception of a successful merger here was achieved through strong and effective leadership commitment which allowed the merger to smoothly implement strategies afterwards. Considering the Renault Nissan alliance, the significant role of leadership can be easily understood here as Nissan being a troubled company was also taken out of unrest position just because the top management of both companies played sensibly[2].

1.2. OBJECTIVES

After going through this unit, you will be able to:

- Understand how growth of a firm is possible through mergers and acquisitions
- Enlist the types of mergers
- Elaborate on the meaning and types of acquisitions
- Understand the reasons for international mergers and acquisitions
- Understand the reasons for failure of international mergers and acquisitions

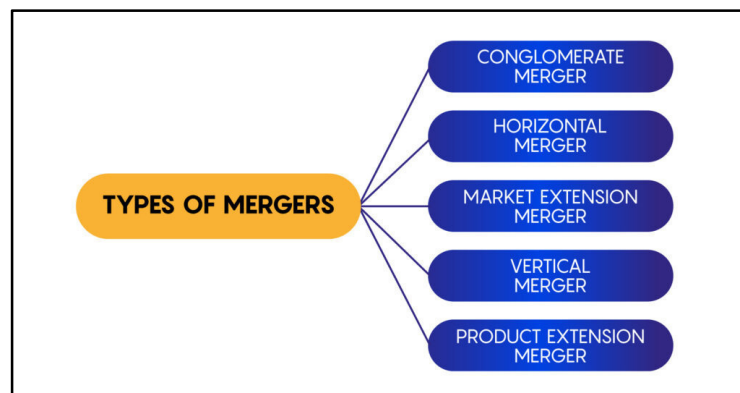
1.3. MEANING OF MERGERS

A merger is a combination of two companies into one larger company where only the acquiring company retains its identity[5]. Generally, the larger of the two companies

is the acquirer. This action involves stock swap or cash payment to the target. In merger, the acquiring company takes over the assets and liabilities of the merged company. All the combining companies are dissolved and only the new entity continues to operate. In general, when the combination involves firms that are of similar size, the term, consolidation, is applied. When the two firms differ significantly by size, the term merger is used. Merger commonly takes two forms. In the first form amalgamation, two entities combine together and form a new entity, extinguishing both the existing entities. In the second form absorption, one entity gets absorbed into another. The latter does not lose its entity. Thus, in any type of merger at least one entity loses its entity. Hence, $A + B = A$, where company B is merged into company A (Absorption) $A + B = C$, where C is an entirely new company (Amalgamation or Consolidation). Usually, mergers occur in a consensual setting, where executives from the target company help those from the purchaser in a due diligence process to ensure that the deal is beneficial to both the parties. In a merger, the boards of directors of the two firms agree to combine and seek stockholder approval for the combination. In most cases, at least 50% of the shareholders of the target and the bidding firms have to agree to the merger. The target firm ceases to exist and becomes part of the acquiring firm[1]. When two companies combine their assets, it is known as ‘merger of equals’.

For example, Digital Computers was absorbed by Compaq after it was acquired in 1997. The merger of TOMCO Ltd. with HLL is a classic example of absorption. In a consolidation, a new firm is created after the merger, and both the acquiring firm and the target firm stockholders receive stock in this firm; Citi Group, for instance, was created after the consolidation of Citicorp and Travelers Insurance Group[1].

1.4. TYPES OF MERGERS



(a) **Conglomerate Merger-** A merger between firms that are involved in totally unrelated business activities. There are two types of conglomerate mergers: pure and mixed. Pure conglomerate mergers involve firms with nothing in common, while mixed conglomerate mergers involve firms that are looking for product extensions or market extensions[1]. The principal reason for a conglomerate merger is utilization of financial resources, enlargement of debt capacity, and increase in the value of outstanding shares by increased leverage and earnings per share, and by lowering the average cost of capital. A merger with an unrelated business also helps the company to venture into diverse businesses without having to incur large start-up costs normally associated with a new business[6].

Example: A leading manufacturer of athletic shoes merges with a soft drink firm. The resulting company is faced with the same competition in each of its two markets after the merger as the individual firms were before the merger.

One example of a conglomerate merger was the merger between the Walt Disney Company and the American Broadcasting Company. In 1995, Disney purchased ABC, gaining entry into ABC's national television realm, as well as ESPN's extensive sports coverage. Since Disney already owned several cable networks at the time of the deal this would be a mixed conglomerate merger because it did open up extensive new distribution and content options for Disney¹.

(a) **Horizontal Merger-** A merger occurring between companies in the same industry. Horizontal merger is a business consolidation that occurs between firms which operate in the same space, often as competitors offering the same goods or service. Horizontal mergers are common in industries with fewer firms, as competition tends to be higher and the synergies and potential gains in market share are much greater for merging firms in such an industry[1]. A horizontal merger takes a company a step closer towards monopoly by eliminating a competitor and establishing a stronger presence in the market. The other benefits of this form of merger are the advantages of economies of scale and economies of scope[6].

Example: Disney + is Disney's own online video streaming platform, while Hotstar was India's streaming platform owned by Star network. Instead of entering into the streaming industry of India directly, Disney has merged with Hotstar, which is now known as Disney+ Hotstar. This merger has seen a little bit of rebranding and Disney

has aimed to launch this platform from March end in 2020, for the consumers in India who could access Disney's shows and films on this merged platform. With this merger, and the launch of its own streaming services, Disney has removed a lot of its content from rival platforms such as Netflix to capture higher market share².

The goal of a horizontal merger is to create a new, larger organization with more market share. If the merging companies' business operations are very similar, there may be opportunities to join certain operations, such as manufacturing and reduce costs.

(b) **Market Extension Mergers-** A market extension merger takes place between two companies that deal in the same products but in separate markets. The main purpose of the market extension merger is to make sure that the merging companies can get access to a bigger market and that ensures a bigger client base[1].

Example: A very good example of market extension merger is the acquisition of Eagle Bancshares Inc. by the RBC Centura.

Eagle Bancshares is headquartered at Atlanta, Georgia and has 283 workers. It has almost 90,000 accounts and looks after assets worth US \$1.1 billion. Eagle Bancshares also holds the Tucker Federal Bank, which is one of the ten biggest banks in the metropolitan Atlanta region as far as deposit market share is concerned. One of the major benefits of this acquisition is that this acquisition enables the RBC to go ahead with its growth operations in the North American market.

With the help of this acquisition RBC has got a chance to deal in the financial market of Atlanta, which is among the leading upcoming financial markets in the USA. This move would allow RBC to diversify its base of operations[1].

(c) **Product Extension Mergers-**A product extension merger takes place between two business organizations that deal in products that are related to each other and operate in the same market. The product extension merger allows the merging companies to group together their products and get access to a bigger set of consumers. This ensures that they earn higher profits[1].

Example: The acquisition of Mobilink Telecom Inc. by Broadcom is a proper example of product extension merger. Broadcom deals in the manufacturing of Bluetooth personal area network hardware systems and chips for IEEE 802.11b wireless LAN.

Mobilink Telecom Inc. deals in the manufacturing of product designs meant for handsets that are equipped with the Global System for Mobile Communications

technology. It is also in the process of being certified to produce wireless networking chips that have high speed and General Packet Radio Service technology. It is expected that the products of Mobilink Telecom Inc. would be complementing the wireless products of Broadcom[1].

(d) **Vertical Merger-** A merger between two companies producing different goods or services for one specific finished product. A vertical merger occurs when two or more firms, operating at different levels within an industry's supply chain, merge operations. In other words, vertical mergers refer to the combination of two entities at different stages of the industrial or production process¹³. Most often the logic behind the merger is to increase synergies created by merging firms that would be more efficient operating as one. Companies stand to gain on account of lower transaction costs and synchronization of demand and supply. Moreover, vertical integration helps a company move towards greater independence and self-sufficiency[1].

Example: A vertical merger joins two companies that may not compete with each other, but exist in the same supply chain. An automobile company joining with a parts supplier would be an example of a vertical merger. Such a deal would allow the automobile division to obtain better pricing on parts and have better control over the manufacturing process. The parts division, in turn, would be guaranteed a steady stream of business[1].

1.5. MEANING OF ACQUISITIONS

Acquisition is a more general term, enveloping in itself a range of acquisition transactions. It could be acquisition of control, leading to takeover of a company. It could be acquisition of tangible assets, intangible assets, rights and other kinds of obligations. They could also be independent transactions and may not lead to any kind of takeovers or mergers[1].

A corporate action in which a company buys most, if not all, of the target company's ownership stakes in order to assume control of the target firm. Acquisitions are often made as part of a company's growth strategy whereby it is more beneficial to take over an existing firm's operations and niche compared to expanding on its own. Acquisitions are often paid in cash, the acquiring company's stock or a combination of both. An acquisition, also known as a takeover, is the buying of one company (the target) by another[1]. The business being transferred is known as 'target', which may be separately incorporated or may consist of operating unit or division: a collection of

assets, employees, relationship, etc. owned along with other businesses by a single entity[7].

1.6. TYPES OF ACQUISITIONS

There are four types of acquisitions:

- (i) **Friendly Acquisition-** Both the companies approve of the acquisition under friendly terms. There is no forceful acquisition and the entire process is cordial[1]. A friendly takeover is the acquisition of a target company by an acquirer/bidder with the consent or approval of the management and board of directors of the target company³.

Example: In 2014, Facebook Inc. announced the acquisition of the mobile messaging company, WhatsApp. According to the statement issued by Facebook, the deal was intended to “support Facebook and WhatsApp’s shared mission to bring more connectivity and utility to the world by delivering core services efficiently and affordably.”

The acquisition was executed in the form of a friendly takeover. Facebook acquired all outstanding shares and options of WhatsApp for \$4 billion in cash and 183 million of Facebook Class A common shares. Additionally, Facebook assigned more than 45 million restricted shares to WhatsApp’s employees. The total value of the deal was estimated at around \$19 billion. Following the acquisition, WhatsApp retained its brand and continued functioning, as the company’s operations remained independent from the operations of Facebook. Also, WhatsApp’s co-founder and CEO Jan Koum obtained a seat on the board of Facebook³.

- (ii) **Reverse Acquisition-** A private company takes over a public company. Reverse acquisition is a process whereby private companies can become publicly traded companies without going through an initial public offering (IPO). A private company buys enough shares to control a publicly-traded company. The private company's shareholder then exchanges its shares in the private company for shares in the public company. At this point, the private company has effectively become a publicly-traded company⁴.

Example: The computer company Dell (DELL) completed a reverse takeover of VMware tracking stock (DVMT) in December 2018 and returned to being a publicly traded company. It also changed its name to Dell Technologies⁴.

(iii) **Back Flip Acquisition-** A very rare case of acquisition in which the purchasing company becomes a subsidiary of the purchased company[1].

Example: In 2005, SBC Communications purchased AT&T for \$16 billion and retained the AT&T name, while the SBC name was absorbed into the overall company. SBC did this because AT&T was and is one of the most popular brand names in the world, and has one of the longest histories of a telephone company⁵.

(iv) **Hostile Acquisition-**The term “Hostile Acquisition” is defined as when a company puts a bid on a target firm, which is being opposed by the management of the targeted company which furthermore advises its shareholders not to sell to the acquiring firm. Also, if a bid is placed for the shares of the target company without informing its board and is directly aimed to the shareholders, the term hostile takeover is also applied. The bid or offer could be suggested towards the shareholders with or without the consent or negotiations from the management of the targeted firm. hostile bids and offers are generally directly aimed at the shareholders of the targeted company in hope of gaining control over the company without the consent from the board of directors of the targeted firm[8].

Here, as the name suggests, the entire process is done by force. The smaller company is either driven to such a condition that it has no option but to say yes to the acquisition to save its skin or the bigger company just buys off all its share, thereby establishing majority and hence initiating the acquisition[1].

Example: In September 2009, Irene Rosenfeld, CEO of Kraft Foods Inc. (KHC), publicly announced her intentions to acquire Britain's top confectionery company, Cadbury PLC. Kraft offered \$16.3 billion for the maker of Dairy Milk chocolate, a deal rejected by Sir Roger Carr, Cadbury's chair. Carr immediately put together a hostile takeover defence team, which labelled Kraft's offer unattractive, unwanted, and undervalued. The government even stepped into the fray. The United Kingdom's business secretary, Lord Mandelson, said the government would oppose any offer that did not grant the famed British confectioner the respect it was due. Kraft was undeterred and increased its offer in 2010 to about \$19.6 billion. Eventually, Cadbury relented and in March 2010 the two companies finalized the takeover. However, the contentious battle inspired an overhaul in the rules governing how foreign companies acquire UK companies. Of major concern

was the lack of transparency in Kraft's offer and what its intentions were for Cadbury post-purchase⁶.

1.7. REASONS FOR INTERNATIONAL MERGERS AND ACQUISITIONS

Ideally for a merger to create wealth, it should provide something for the shareholders that they could not get by holding individual shares of the merging firms. The anticipated benefits from merging are known as synergies and can be captured by abnormal stock returns to shareholders. Reasons for international mergers and acquisitions are as follows[9]:

(1) **Synergy**- Synergy is the most essential component of mergers. In mergers, synergy between the participating firms determines the increase in value of the combined entity. In other words, it refers to the difference between the value of the combined firm and the value of the sum of the participants. Synergy accrues in the form of revenue enhancement and cost savings[6].

This is the new financial math that shows that $2 + 2 = 5$. That is, as the equation shows, the combination of two firms will yield a more valuable entity than the value of the sum of the two firms if they were to stay independent:

$$\text{Value (A + B)} > \text{Value (A)} + \text{Value (B)}$$

Although many merger partners cite synergy as the motive for their transaction, synergistic gains are often hard to realize[10].

There are two types of synergy:

- (a) **Operating Synergy**- This refers to the cost savings that come through economies of scale or increased sales and profits. It leads to the overall growth of the firm[6].
- (b) **Financial Synergy**- This is the direct result of financial factors such as lower taxes, higher debt capacity or better use of idle cash. When a firm with accumulated losses or unabsorbed depreciation merges with a profitable firm and the combined firm can set off such losses against its profits, a financial synergy, known as tax shield, occurs[6]. The following are some examples:

- When Hindustan Unilever Company acquired Lakme, it helped HUL to enter the cosmetics market through an established brand.

- When Glaxo and Smith Kline Beecham merged, they not only gained market share but also eliminated competition between each other.
- Tata Tea acquired Tetley to leverage Tetley's international marketing strengths[1].

(2) **Growth-** One of the most common motives for mergers is growth. There are two broad ways a firm can grow. The first is through internal growth. This can be slow and ineffective if a firm is seeking to take advantage of a window of opportunity in which it has a short-term advantage over competitors. The faster alternative is to merge and acquire the necessary resources to achieve competitive goals. Even though bidding firms will pay a premium to acquire resources through mergers, this total cost is not necessarily more expensive than internal growth, in which the firm has to incur all of the costs that the normal trial and error process may impose. While there are exceptions, in the vast majority of cases growth through mergers and acquisitions is significantly faster than through internal means[10].

(3) **Diversification-** Other motives for mergers and acquisitions include diversification, whereby companies seek to lower their risk and exposure to certain volatile industry segments by adding other sectors to their corporate umbrella. The track record of diversifying mergers is generally poor with a few notable exceptions. A few firms, such as General Electric, seem to be able to grow and enhance shareholder wealth while diversifying. However, this is the exception rather than the norm. Diversification may be successful, but it seems to need more skills and infrastructure than some firms have[10].

(4) **Related versus Unrelated Diversifications-** Not all kinds of diversifications turn out poorly. While research studies show that unrelated diversifications tend to yield poor results, related diversifications, mergers, and acquisitions into a field that is close to the acquiring firm's main line of business tend to have a more impressive track record. Other studies have shown that increased corporate focus tends to be associated with higher share values. This result has intuitive appeal. The lesson from such research tells us that staying with what a company knows best may yield positive results, but straying into businesses that it does not know is an uphill battle that only a select few companies can manage successfully. For example, the ICICI ITC alliance made the retailer network and depositor base available to the merging entity. Similarly, IBM merged with Daksh for acquiring competencies that the latter possessed[10].

- (5) **Acquiring new technology-** To remain competitive, companies need to constantly upgrade their technology and business applications. To upgrade technology, a company need not always acquire technology. By buying another company with unique technology, the buying company can maintain or develop a competitive edge. A good example is a merger of a logistics company such as a land transport entity with an air-line cargo company. Another example is a merger between Blackberry and Treo which can incorporate cell phone capability and e-mail connectivity in one device; palm pilots and tablet laptops can provide benefits to both the entities[1].
- (6) **Improved profitability-** Companies explore the possibilities of a merger when they anticipate that it will improve their profitability. The results of the International Business Owners Survey, 2004, carried out by Grant Thompson, conducted across 26 countries in Europe, Africa, Asia-Pacific, and the US, showed that 34% of business use M&A to maintain or improve profitability. For example, European Media Group Bertelsmann, Pearson, and others have driven their growth by expanding into the US through M&As[1].
- (7) **Entry into new markets-** Mergers are often looked upon as a tool for hassle-free entry into new markets. Under normal conditions, a company can enter a new market, but may have to face stiff competition from the existing companies and may have to battle out for a share in the existing market. However, if the merger route is adopted, one can enter the market with greater ease and avoid too much competition. For example, the merger of Orange, Hutch, and Vodafone took place to achieve this objective[1].
- (8) **Tax benefits-** M&As are also adopted to reduce tax liabilities¹¹. Companies with consistent history of positive earnings may seek to utilize tax credit of less successful companies⁵. By merging with a loss-making entity, a company with a high tax liability can set off the accumulated losses of the target against its profits gaining tax benefits. For example, Ashok Leyland Information Technology (ALIT) was acquired by Hinduja Finance, a group company, so that it could set off the accumulated losses in ALIT's books against its profits[10].

1.8. REASONS FOR FAILURE OF INTERNATIONAL MERGER AND ACQUISITIONS

While there is often a great hype when a merger or acquisition is announced, the end result is not always positive. The most common reasons for failure are as follows:

- (1) **Unrealistic price paid for target-** The process of IM&A involves valuation of the target company and paying a price for taking over the assets of the company. Quite often one finds that the price paid to the target company is much more than what should have been paid. While the shareholders of the target company stand benefited, the shareholders of the acquirer end up on the losing side. This is because they have to carry the burden of the overpriced assets of the target company which dilutes the future earnings of the acquirer. Having bid overenthusiastically, the buyer may find that the premium paid for the acquired company's shares, the so-called 'winner's curse' wipes out any gains made from the acquisition. This phenomenon is generally noticed in the later years when the acquirer has to revalue the assets and write goodwill booked at the time of IM&As[1].
- (2) **Difficulties in cultural integration-**IM&As operate within the two entities of their home (i.e., headquarters) and host (i.e., subsidiary) cultures. This situation creates conflict over the degree of cultural adaptation. It has been argued that cultural differences can create major obstacles to achieving integration benefits. The conflicts, costs, and difficulties associated with cross-border contact increase with growing cultural differences between two organizations. Clashes between different organizational practices may arise from national cultural barriers, language problems, different legal systems, and regulatory hurdles. Cross-border acquisitions appear to be particularly difficult to integrate because they require “double layered” acculturation, whereby firms need to adjust not only to a different national culture but also to different organizational values and practices[11].
- (3) **Inability to handle takeovers:** In the U.K, research proposed of the top management fears about their organizations inability to handle, manage the change that is to come as a consequence of new alliances, takeovers. Executives are usually confident of their strategic plans for the overall improvement but they are not trained, experienced and equipped for the international business buyouts, these fears degrade the organizational effectiveness ultimately heading towards the deterioration of financial health. Compared to a domestic buyout, the international buyouts are in fact more difficult to handle and execute. The skills required against the potential risks are usually lacking in the acquiring entities.

An American study says that insurance companies opting for international acquisition fail to raise their market returns i.e., neither the corporate restructuring proves to extremely fruitful nor extremely disastrous. The returns of these insurance firms tend to vary with the wealth of the host country. Whenever negotiations are taking place

between the two companies, the top management is usually very energetic in getting the deal but they fail to do necessary homework i.e., the top brass does not discuss, foresee strategic goals, does not consider boosting the motivation of employees at work place[2].

- (4) **HR related issues:** Some of the mergers and acquisitions failures occur due to the ineffective performance of HR functions. In modern business scenario, HR role for business success has become hugely important, so in case of mergers and acquisitions if a business is ignorant of compensation and benefits significance then it would lead to failure of mergers and acquisitions. Whenever any new business setup is created the HR function has to be extra vigilant as it is directly associated with the blood of the company i.e., “employees”. So, after mergers, acquisitions, management has to comply with HR practices of fair treatment and has to communicate responsibilities of all the personnel after external restructuring of a firm. Normally mergers, takeovers neglect employee interests due to which there is always a possibility of low job satisfaction and low retention ratio of employees. In this way, a company may lose its intellectual capital in the form of experienced employees who would have incurred training and other related costs. So, the top management has to keep in mind that one of the major hindrances in merger and acquisitions erupts by not properly taking care of people and the functions of HR[2].
- (5) **Overstated synergies-** Mergers and acquisitions are looked upon as an important instrument for creating synergies through increased revenue, reduced costs and reduction in networking capital and improvement in the investment intensity. Overestimation for these can lead to failure of mergers[1].
- (6) **Regulatory issues-** Countries differ with respect to their attitude and regulation of foreign involvement in their various sectors. Some sectors may be completely closed to outsiders. Some countries may regulate certain forms of takeover activity, such as tender offers. Even foreign buyers in countries such as the United States need to be familiar with the regulatory environment. Foreign acquisitions carrying national security implications, for example, are subject to the Exon-Florio law. Differences in rules between two countries may also exist in the legal stages of acquisition regulation. A country, for example, may require that the bidder satisfy conditions stated in the offer within 60 days of posting. Gaining approval from the other country involved, however, may require six or seven months. Other differences may relate to the threshold requirements for full bids, acquisition price requirements, and the minimum periods for bids to remain open. When differences in regulatory systems

arise, firms may abandon their bids. Alternatively, they may withdraw bids to shareholders in stringent regulation areas. Regulators, on their part, may work on a case-by-case basis or may not even demand strict adherence to requirements if their constituents are not significantly affected[12].

- (7) **Currency Concerns-** International restructuring activity is subject to currency fluctuations. Currency concerns become especially evident at three critical points of the restructuring experience. First, when the firm starts evaluating the target. Second, currency concerns surface when agreement is reached on terms of the transaction but payment is not due for a certain period of time. Third, traditional translation and economic exposures arise as the target is integrated within the bidder's operations[12].
- (8) **Due Diligence issues-** Due diligence is an important part of the merger process, since it provides in-depth information to the acquiring firm and to those supplying the necessary financing. The information provided may refer to any aspect of the firm, including strategic orientation, quality of management, cash position, tax status, financial controls, and others. When cross-border transactions are contemplated, due-diligence may be complicated by the following factors[12]:
- Currency issues
 - Commercial, foreign investment, and foreign exchange policies formulated by the host government.
 - Acquiring financing in one country in order to complete a transaction in another.
 - Assessment of the economic, political, and social, and cultural framework of the host country.
 - Political risk.
 - Tax complications.
 - Assessment of the condition of financial statements, including consideration of debt/equity norms and accounting procedures[12].
- (9) **Control issues-** The existence of regulatory, cultural, political, and other types of concerns may have implications for the degree of control that can be exerted on the target[12].
- (10) **Additional issues-** In addition to the concerns stated above, we can identify a number of economic and non-economic issues that require attention by firms engaging in acquisition activity. Paramount among them is the management of human resources. Firms are usually aware of market growth, technological, and other components of their new business environment, they are much less familiar with rules and customs of

treating human resources. Early attention to these issues increases the probability of success of the activity[12].

1.9. PROS AND CONS OF A MERGER:

There are many reasons why your company may prefer external growth through mergers instead of internal growth.

Advantages of a Merger:

- (i) Increases corporate power and improves market share and product lines.
- (ii) Aids in diversification, such as reducing cyclical and operational effects.
- (iii) Helps the company's ability to raise financing when it merges with another entity having significant liquid assets and low debt.
- (iv) Provides a good return on investment when the market value of the acquired business is significantly less than its replacement cost. Studies suggest that the shareholders of target firms that are acquired receive the greatest benefit.
- (v) Improves the market price of stock in some cases, resulting in a higher P/E ratio. For example, the stock of a larger company may be viewed as more marketable, secure, and stable.
- (vi) Provides a missed attribute; that is, a company gains something it lacked. For instance, superior management quality or research capability may be obtained.
- (vii) Aids the company in financing an acquisition that would not otherwise be possible to obtain, such as were acquiring a company by exchanging stock is less costly than building new capital facilities, which would require an enormous cash outlay. For instance, a company may be unable to finance significant internal expansion but can achieve it by purchasing a business already possessing such capital facilities.
- (viii) Achieves a synergistic effect, which means that the results of the combination are greater than the sum of the parts. For instance, greater profit may result from the combined entity that would occur from each individual company due to increased efficiency (e.g., economies of scale) and cost savings (e.g., eliminating overlapping administrative functions, volume discounts on purchases). There is better use of people and resources.
- (ix) Obtains a tax loss carry forward benefit if the acquired company has been losing money. The acquirer may utilize the tax loss carry forward benefit to offset its own profitability, thus reducing its taxes.

- (x) Use surplus cash from a tax perspective. Dividends received by individual shareholders are fully taxable, whereas the capital gains from a combination are not taxed until the shares are sold. In addition, amounts remitted from the acquired to the acquiring firm are not taxable. The combined firm's capital structure also may allow for increased use of debt financing, which results in tax savings from greater interest reductions[5].

Disadvantages of a Merger:

- (i) Reverse synergies which reduce the net value of the combined entity (e.g., adjustments of pay scales, costs of servicing acquisition debt, defections of key acquired company staff).
- (ii) Adverse financial effects because the anticipated benefits did not materialize; for example, expected cost reductions were not forthcoming.
- (iii) Antitrust action delaying or preventing the proposed merger.
- (iv) Problems caused by dissenting minority stockholders[5].

1.10. KEY CORPORATE AND SECURITIES LAWS CONSIDERATIONS FOR MERGER

I. Company Law:

The Merger Provisions govern schemes of arrangements between a company, its shareholders and creditors. The Merger Provisions are in fact worded so widely that they provide for and regulate all kinds of corporate restructuring that a company can possibly undertake, such as mergers, amalgamations, demergers, spin-off/ hive off, and every other compromise, settlement, agreement or arrangement between a company and its members and/or its creditors[6].

A. Procedure under the Merger Provisions- Since a merger essentially involves an arrangement between companies, those companies which intend to merge must make an application to the National Company Law Tribunal (“NCLT”) having jurisdiction over such company for (i) convening meetings of its respective shareholders and/or creditors; (ii) or seeking dispensation of such meetings basis the consents received in writing from the shareholders and creditors. Basis the NCLT order, either a meeting is convened or dispensed with. If the majority in number, representing 3/4th in value of the creditors or

shareholders present and voting at such meeting (if the meeting is held) agree to the merger, then the merger, if sanctioned by the NCLT, is binding on all creditors and shareholders of the company. The Merger Provisions constitute a comprehensive code in themselves, and under these provisions, the NCLT has full power to sanction any alterations in the corporate structure of a company. For example, in ordinary circumstances a company must seek the approval of the NCLT for effecting a reduction of its share capital. However, if a reduction of share capital forms part of the corporate restructuring proposed by the company under the Merger Provisions, then the NCLT has the power to approve and sanction such reduction in share capital and companies will not be required to follow a separate process for reduction of share capital as stipulated under the CA 2013[6].

B. Fast track merger- The Fast Track merger covered under section 233 of CA 2013 requires approval from shareholders, creditors, the Registrar of Companies, the Official Liquidator and the Regional Director. Under the fast-track merger, scheme of merger shall be entered into between the following companies:

- i. two or more small companies (private companies having paid-up capital of less than INR 100 million and turnover of less than INR 1 billion per last audited financial statements); or
- ii. a holding company with its wholly owned subsidiary; or
- iii. such other class of companies as may be prescribed.

The scheme, after incorporating any suggestions made by the Registrar of Companies and the Official Liquidator, must be approved by shareholders holding at least 90% of the total number of shares, and creditors representing 9/10th in value, before it is presented to the Regional Director and the Official Liquidator for approval. Thereafter, if the Regional Director/ Official Liquidator has any objections, they should convey the same to the central government. The central government upon receipt of comments can either direct NCLT to take up the scheme under Section 232 (general process) or pass the final order confirming the scheme under the Fast Track process[6].

C. Cross Border Mergers- Section 234 of the CA 2013 permits mergers between Indian and foreign companies with prior approval of the Reserve Bank of India (“RBI”). A foreign company means any company or body corporate

incorporated outside India, whether having a place of business in India or not. The following conditions must be fulfilled for a cross border merger¹³:

- i. The foreign company should be incorporated in a permitted jurisdiction which meets certain conditions.
- ii. The transferee company is to ensure that the valuation is done by a recognized professional body in its jurisdiction and is in accordance with internationally accepted principles of accounting and valuation.
- iii. The procedure prescribed under CA 2013 for undertaking mergers must be followed. The RBI also issued the Foreign Exchange Management (Cross Border Merger) Regulations, 2018 (“Merger Regulations”) on March 20, 2018 which provide that any transaction undertaken in relation to a cross-border merger in accordance with the FEMA Regulations shall be deemed to have been approved by the RBI[6].

II. Securities Laws:

B. Takeover Code- The Securities and Exchange Board of India (the “SEBI”) is the nodal authority regulating entities that are listed or to be listed on stock exchanges in India. The SEBI (Substantial Acquisition of Shares and Takeovers) Regulations, 2011 (the “Takeover Code”) restricts and regulates the acquisition of shares, voting rights and control in listed companies. Acquisition of shares or voting rights of a listed company, entitling the acquirer to exercise 25% or more of the voting rights in the target company or acquisition of control, obligates the acquirer to make an offer to the remaining shareholders of the target company. The offer must be to further acquire at least 26% of the voting capital of the company. Further, if the acquirer already holds 25% or more but less than 75% of the target company and acquires at least 5% shares or voting rights in the target company within a financial year, it shall be obligated to make an open offer. However, this obligation is subject to the exemptions provided under the Takeover Code. Exemptions from open offer requirement under the Takeover Code include inter alia acquisition pursuant to a scheme of arrangement approved by the NCLT. Further, SEBI has the power to grant exemption or relaxation from the requirements of the open offer under the Takeover Code in the interest of investors and the securities market. Such relaxations or exemptions can be sought by the acquirer by making an application to SEBI[6].

C. Listing Regulations- The SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 (“Listing Regulations”) provides for a comprehensive framework governing various types of listed securities. Under the Listing Regulations, SEBI has laid down conditions to be followed by a listed company while making an application before the NCLT, for approval of a schemes of merger/amalgamation/reconstruction. Certain key provisions under the Listing Regulations applicable in case of a scheme involving a listed company are as follows[6]:

- **Filing of scheme with stock exchanges:** Any listed company undertaking or involved in a scheme of arrangement, must file the draft scheme with the relevant stock exchanges, prior to filing them with the NCLT (as per the process laid down under CA 2013), to seek an observation letter or no-objection letter from the relevant stock exchanges[6].
- **Compliance with securities law:** The listed companies shall ensure that the scheme does not violate, limit or override any of the provisions of the applicable securities law or requirements of the stock exchanges.
- **Change in shareholding pattern:** The listed companies are required to file the pre and post arrangement shareholding pattern and the capital structure with the stock exchanges as per requirements of the listing authority or stock exchanges of the home country in which the securities are listed[6].
- **Corporate actions pursuant to merger:** The listed company needs to disclose to the stock exchanges all information having a bearing on the performance/operation of the listed entity and/or price sensitive information[6].

1.11. THE PROCESS OF MERGERS AND ACQUISITIONS

While there is no set formula to guarantee a successful merger, in order to minimize the negative impacts previously discussed, a map of M&A process and issues should be developed. The following steps describe the model of process and issues[5]:

Step 1:Formulate- This stage involves the organization setting out its business objectives and growth strategy in a clear, rational, and data-oriented way. Companies should avoid vague and general objectives. Instead, a specific criterion should be formulated based on the objectives that have been determined and on a strategy of

growth through acquisition. These criteria should be expressed in terms of goals like market share, geographic access, new products or technologies, and general amounts for financial synergy. The organization should evaluate the ideal target company based on factors such as the following[5]:

- What type of cost structure does the ideal target have?
- What market channels would this target provide?
- What kinds of organizational competence and capabilities would provide maximum leverage and the greatest number of synergies?
- Are there strategic customer accounts or market segments to be gained?
- In what global regions or countries can we build additional capacity through this target? • What is the optimum capital structure?
- What are the sources for new acquisitions?
- Will the ideal targets be operated as independent holdings, or does the organization intend to integrate the business partly or fully into its operations?
- If joint venture structures are to be used what level of involvement is desired by the parent company?

Step 2:Locate- After the strategic template has been set in Step 1, the search for desirable target companies should become more focused on financing an operational analysis. These initial parameters, terms, and conditions are defined and ultimately submitted as part of a letter of intent. These letters describe the desired objectives and give an overview of the proposed financial and operational aspects of the transaction. They also include specific details on items like the assets and business units involved, the equity positions of the parent companies, the assumption-of-debt requirements, inter-company supply agreements, employee liabilities, taxes, technology transfer, indemnification, public announcements, and other essential terms and conditions. Additional agreements outside the letter of intent should be made about the following issues. In the case of a joint venture arrangement, the governance structure of the partnership and specific issues for approval need to be agreed upon. The overall process to be used for determining top-level organizational structure and staffing decisions should also be agreed upon. Agreement on the integration process to be used, including mutual participation, formation of key task forces, planning phases, and leadership roles should take place at this point. Another additional agreement that should be made at this point is high-level reconciliation of major discrepancies regarding executive compensation, employee benefits, and incentive compensation

plans. Once a consensus is made regarding these agreements, companies can move to Step 3[5].

Step 3: Investigate- The third step in the model relies on exploring all facets of the target company before finalizing a definitive agreement. Due diligence must be exercised in the financial, operational, legal, environmental, cultural, and strategic areas. Key findings should be summarized for executive review, and all potential merger problems should be identified. Due diligence findings are used to set negotiating parameters, determine bid prices, and provide the basis for initial integration recommendations[5].

Due diligence is particularly important in light of recent felonious accounting practices. Had Enron or WorldCom been acquired without due diligence, the newly formed company would probably not have uncovered accounting irregularities until months after the acquisition. This could cost billions in market capitalization. There are other areas where due diligence is helpful with assessing risk. The following are key areas to focus due diligence[5].

- (a) Market. How large is the target's market? How fast are specific segments growing? Are there threats from substitute technologies or products? To what extent is the market influenced or controlled by governments?
- (b) Customers. Who are the target's major customers? What are their purchase criteria: price? Quality? Reliability? Do buyers of product X also buy product Y, and do they buy both through similar channels? Are there unmet needs? Are changes in buying behaviour to be expected?
- (c) Competitors. Who are the target's major competitors? What is the degree of rivalry? What are the competitor's strengths and weaknesses? What barriers to entry exist for new competitors? How will the competitors try to exploit the merger or integration issues to their own advantage?
- (d) Culture and human resources. Which key people must be kept, which core areas of competence should be retained, and how possible is it to do either? Are there major cultural discrepancies with the target? If they could cause major defections or other losses of productivity, is the organization willing to resolve them? If so, at what cost? [5]

To be uninformed on any of these issues can prove to be just as costly as the discovery of fraudulent accounting practices. This level of detailed evaluation must be

conducted before an executive team can properly recognize the level of integration that will be appropriate to support the deal[5].

Step 4:Negotiate- This step includes requirements for successfully reaching a definitive agreement. Deal teams should be briefed by due diligence teams, who together with executives should formulate the final negotiating strategy for all terms and conditions of the deal. Considerations include price, performance, people, legal protection, and governance[5].

Step 5: Integrate- The last step of the model should be customized to each organization and adapted to each specific deal. This is the actual process of planning and implementing the newly formed organization with its processes, people, technology, and systems. In determining how to resolve the issues that arise at this stage, the merging organizations must carefully consider such questions as how fast to integrate, how much disruption will be created, how disruption can be minimized, how people can be helped to continue focusing on customers, safety, and day-to-day operations, and how to best communicate with all the stakeholder groups of the company[5].

1.12. CASE STUDY

A. Kraft's takeover of Cadbury- By Scott Moeller[1]

The story: In 2009, US food company Kraft Foods launched a hostile bid for Cadbury, the UK-listed chocolate maker. It became clear almost exactly two years later in August 2011, Cadbury was the final acquisition necessary to allow Kraft to be restructured and indeed split into two companies by the end of 2012: a grocery business worth approximately \$16bn; and a \$32bn global snacks business. Kraft needed Cadbury to provide scale for the snacks business, especially in emerging markets such as India. The challenge for Kraft was how to buy Cadbury when it was not for sale.

The history: Kraft itself was the product of acquisitions that started in 1916 with the purchase of a Canadian cheese company. By the time of the offer for Cadbury, it was the world's second-largest food conglomerate, with seven brands that each generated annual revenue of more than \$1bn.

Cadbury, founded by John Cadbury in 1824 in Birmingham, England, had also grown through mergers and demergers. It too had recently embarked on a strategy that was

just beginning to show results. Ownership of the company was 49 per cent from the US, despite its UK listing and headquarters. Only 5 per cent of its shares were owned by short-term traders at the time of the Kraft bid.

The challenge: Not only was Cadbury not for sale, but it actively resisted the Kraft takeover. Sir Roger Carr, the Chairman of Cadbury, was experienced in takeover defences and immediately put together a strong defensive advisory team. Its first act was to brand the 745 pence-per-share offer “unattractive”, saying that it “fundamentally undervalued the company”. The team made clear that even if the company had to succumb to an unwanted takeover, almost any other confectionery company (Nestlé, Ferrero and Hershey were all mentioned) would be preferred as the buyer. In addition, Lord Mandelson, then the UK’s business secretary, publicly declared that the government would oppose any buyer who failed to “respect” the historic confectioner.

The response: Cadbury’s own defence documents stated that shareholders should reject Kraft’s offer because the chocolate company would be “absorbed into Kraft’s slow growth conglomerate business model – an unappealing prospect that sharply contrasts with the Cadbury strategy of a pure play confectionery company”. Little did Cadbury’s management know that Kraft’s plan was to split it into two to eliminate its conglomerate nature and become two more focused businesses, thereby creating more value for its shareholders.

The result: The Cadbury team determined that a majority of shareholders would sell at a price of roughly 830 pence a share. A deal was struck between the two chairmen on January 18 2010 at 840 pence per share plus a special 10 pence per share dividend. This was approved by 72 per cent of Cadbury shareholders two weeks later.

The key lessons: In any takeover, especially a cross-border deal in which the acquired company is as well-known as Cadbury was in the UK, the transaction will be front-page news. In this case, it was the lead business story for at least four months. Fortunately, this deal had no monopoly or competition issues, otherwise those regulators could also have been involved.

But aside from any regulators, most other commentators will largely be distractions. It is important for the acquiring company’s management and advisers to stay focused on the deal itself and the real decision-makers – the shareholders of the target company.

As this deal demonstrates, these shareholders may not (and often will not) be the long-term traditional owners of the target company stock, but rather very rational hedge funds and other arbitrageurs (in Cadbury's case, owning 31 per cent of the shares at the end), who are swayed only by the offer price and how quickly the deal can be completed.

Other stakeholders may have legitimate concerns that need to be addressed but this can usually be done after the deal is completed, as Kraft did.

B. Videocon's Cross Border Acquisition with Thomson[13]

Videocon Industries Limited ("Videocon"), an Indian multinational conglomerate, has engaged in a series cross border merger and acquisition activities during the past decade. As a firm coming from developing countries, Videocon has experienced changes both internally and externally to enhancing its role in Indian electronic market and is trying to penetrate its influence into foreign markets. Videocon's acquisition with Thomson S.A, is listed in one of the top acquisition activities made by Indian firms during the past ten years in terms of deal value. This acquisition is not only significant to Videocon in terms of accelerating its future development in both domestic and global markets, but also, in a broader perspective, indicates the progress made by Indian firms in cross border M&As.

Background of Videocon: Videocon Industries Limited, formerly named Videocon Leasing & Industrial Finance Limited, is a global operating Indian conglomerate. The company was found in 1979 by Nandlal Madhavlal Dhoot. With a mission: "To delight and deliver beyond expectation through ingenious strategy, intrepid entrepreneurship, improved technology, innovative products, insightful marketing and inspired thinking about the future", after three decades of development, it is now a top consumer electronics and home appliances brand in India and the third largest CPT manufacturer in the world. The company is under control of the Dhoot family whom possesses over 70% of the company's ownership. Mr. Nandlal Madhavlal Dhoot initiated his sons into the company. One of his sons, Mr. Venugopal Dhoot, the Chairman and Managing Director of Videocon, and another son Mr. Pradipkumar Dhoot, the company's Whole-Time Director. The Dhoot family has involved actively in managing Videocon's business.

In the 1980s, along with the cooperation with Japanese corporation Toshiba, Nandlal launched 'India's first world-class colour TVs: Videocon. Today, the company is one

of the most well-known household brands in domestic market, and is listed at Bombay Stock Exchange Limited and National Stock Exchange Limited of India Limited.

Background of the Acquisition (Videocon-Thomson): Although Thomson's CPT business was facing difficulties in developed countries, Videocon saw an opportunity of it in emerging markets. Unlike the developed world, between 2003 and 2005, which the demand of CRT TVs had shifted to LCD/Plasma based technology. In India, the CRT-based technology was still the main stream technology of Colour TVs manufacturing. The high costs associated with LCD/Plasma TVs was hard to bring down the selling prices which could not meet the low-price CTVs demand in India market. Additionally, based on the industry analysis conducted by Videocon, the demand for CTV in Indian market would increase by 17%-20% by the end of 2006. According to this industry analysis, there was a trend of increasing demand for flat colour CRT TVs in the future Indian CTV market. Videocon had also concluded several driving factors in the future CRT TV business. For instance, Low penetration level, Electrification in rural India, Products innovation, Replacement of TVs due to aging, and Price erosion. The industry analysis as one reason enabled Videocon to commit to its decision on acquiring Thomson's CPT business since the demand of CRT TVs in India was quite bright.

Additionally, Videocon's multiple business objectives are also important drivers in participating in this overseas investment. Videocon intends to become a major player in Consumer Electronics and Home Appliances industry in the world through foreign direct investment. The company also plans to complete its value chain in CTV vertical through global operation. Other than these, the company wishes the company would benefit from cross border M&As in various aspects.

Furthermore, there are other motives for Videocon's to conduct the acquisition with Thomson. One motivation behind this acquisition is the pressure that comes from the domestic market (The Economist, 2007). By then, foreign companies such as Samsung, LG, Matsushita and Philips were controlling more than 40% of the market share in Indian market. In order to remain competitive, Videocon decided to shift its focus from selling brand-name electronics to manufacturing components. The pressure was one of the crucial factors that contributed to the latter decision on making acquisitions with foreign companies.

In addition, building up a global supply chain to achieve the goal of becoming one of the top consumer electronics and home appliances companies also motivates

Videocon to go for overseas expansion. If Videocon was able to acquire foreign manufacturing facilities to make components, it would be beneficial for vertical integration in terms of lower cost in productions and parts sourcing. More importantly, it would give Videocon advantages on reducing time and expenditure required to develop in the electronics market.

Moreover, seeking strategic assets is another factor that poses Videocon's foreign acquisition. In addition to acquiring the manufacturing facilities, Videocon also intends to acquire the access to advanced technologies, the research and development facilities which is particularly important in electronics industry since the market has been in a fast pace of development. Furthermore, enhancing manufacturing capability through globalized operations, and operating under economies of scales and scopes are also important motivations for acquiring Thomson. Once Videocon finished the acquisition, it then would be able to operate at five different countries which would largely enhance its capacity by finding an efficient way to manufacture and also the large-scale operations would improve the company's overall margins. Obtaining access to deliver services is also a part of acquiring consideration. Specifically, Videocon can benefit from this acquisition through Thomson's established vender relationship. Except Thomson as a ready buyer for Videocon's glass shell, Videocon would gain clients such as Vestel, Konka, and TCL through Thomson's vender relationship which may largely ensure the sales of its production (Businessworld, 2006). In brief, Videocon views its acquisition of Thomson as a crucial step to get into the global market.

The Process of the Acquisition (Videocon-Thomson): On June 28th 2005, Videocon Industries Limited published an announcement at Bombay Stock Exchange Limited regarding its acquisition with Thomson S.A. In the announcement which stated Videocon Group had successfully concluded an agreement with Thomson S.A. to acquire Thomson's entire CPT business through Videocon's offshore entity. The deal is concluded in EUR240 million by Videocon rising funds through domestic and international debt/equity markets and deliver to Thomson on a debt-cash free basis, with no transfer of any Thomson's existing debts to Videocon. Additionally, Thomson has agreed to subscribe shares in Videocon with a value of Rs 1,200 Crores in the form of GDR (Global Depository Receipt) at price US\$ 10/ GDR. Further, Thomson has also agreed to invest in Videocon Industries Limited and its subsidiary Videocon International Limited in a total € 240 million with a possession of approximately 13.1% of equity in each company. Along with the investment, Thomson also entered

into a shareholders' agreement with Videocon Industries and its shareholders which restricted Thomson to transfer its 10% out of the 13.1% of interests in Videocon within 3 years, until September 30, 2008.

Challenges in the Acquisition: Videocon has been facing difficulties in integrating its overseas operations. As Mr. Kuldeep Drabun, the non-executive & non-independent director, claimed that the company had involved in dealing the difficulties incurred in its acquired foreign factories (Subramanian, 2005). Major problems were working culture differences and languages. Since Videocon focused on reducing costs in production process; however, its newly acquired EU plants required higher labour costs compared with the low labour costs in India. Therefore, the company decided to relocate its production to lower labour cost countries India and China. Another problem regarding languages has incurred in China. Mr. Kuldeep Drabun said that the differences in languages had been an issue sometimes in its Chinese facilities.

Moreover, lack of global operational management experience is another obstacle of integration. After one year of acquisition, Videocon has still not been able to turn the plants in Italy around. Italian government has granted Videocon financial supports to avoid job cutting. In Poland, Videocon has negotiated with the local unions but has not reached a mutual understanding. In Mexico, Videocon has demanded an incentive from the local government to support its expansion in Mexico; however, the negotiation with the local government has not reached a consensus. As some analysts suggested, Videocon might need to bring in professionals who can provide international management skills and experiences to help the company to overcome the difficulties incurred in foreign investments and to improve the ability of international business management regarding its diversified global businesses.

Summary

For companies to survive the competition from transnational companies they have to grow and expand. One of the strategies to do so is through international merger and acquisition. Based on the objectives, area of operation, and other factors of the company, merger can take the form of conglomerate, vertical, market extension, product extension and horizontal. When a company purchased another company known as target company in order to have control over it is known as acquisition. There are different types of acquisition, namely friendly, reverse, backflip and hostile acquisition. There are several motivating factors for international M&A. the basic ones are financial factors and non-financial factors. In spite of several advantages of IM&A it suffers from certain set of drawbacks like cultural and institutional

differences. The recent trend of IM&A has rapidly grown worldwide and have become imperative for growth and expansion, therefore it important for host country to have a clear-cut agreement and understanding of the positive and negative impact they have on both countries. Regulatory bodies of different countries have set up laws and policies in order to control the negative impact of IM&A in the economy.

Key Points

- A merger is a combination of two companies into one larger company where only the acquiring company retains its identity
- Mergers can be conglomerate, vertical, market extension, horizontal, product extension
- Acquisitions are often made as part of a company's growth strategy whereby it is more beneficial to take over an existing firm's operations and niche compared to expanding on its own.
- Acquisitions are often paid in cash, the acquiring company's stock or a combination of both. An acquisition, also known as a takeover, is the buying of one company (the target) by another.
- Types of acquisition are friendly acquisition, reverse acquisition back flip acquisition and hostile acquisition
- Reasons for IM&A are Synergy are 1) operating synergy and financial synergy 2) Growth 3) Diversification 4) Related versus Unrelated Diversification 5) Acquiring new technology 6) Improved profitability 7) Entry into new markets 8) Tax benefits
- Reasons for failure of IM&A are 1) Unrealistic price paid for target 2) Difficulties in cultural integration 3) Inability to handle takeovers 4) HR related issues 5) Overstated synergies 6) Regulatory issues 7) Currency concerns 8) Due diligence issues 9) Control issues 10) Additional issues
- Section 234 of the CA 2013 permits mergers between Indian and foreign companies with prior approval of the Reserve Bank of India (“RBI”). A foreign company means any company or body corporate incorporated outside India, whether having a place of business in India or not.
- Steps for successful IM&A Process of Mergers and Acquisitions are formulate, locate, investigate, negotiate, and integrate.

Check Your Progress

1. Define Merger
2. What are the different types of mergers?
3. What do you mean by acquisitions?
4. How many types of acquisitions are there?
5. What are the pros and cons of international merger and acquisition?
6. What are the reasons for failure of international merger and acquisition?

Questions and Exercises

Choose the correct answer:

1. A combination of two companies into one larger company where only the acquiring company retains its identity is known as
 - (a) Acquisition
 - (b) Amalgamation
 - (c) Merger
2. Acquisition which is not forceful is known as
 - (a) Friendly acquisition
 - (b) Hostile acquisition
 - (c) Back flip acquisition
3. _____ merger takes place between two business organizations that deal in products that are related to each other and operate in the same market
 - (a) Product extension merger
 - (b) Market extension merger
 - (c) Horizontal merger
4. The difference between the value of the combined firm and the value of the sum of the participants is known as
 - (a) Merger
 - (b) Acquisition
 - (c) Synergy
5. International merger and acquisition are also known as
 - (a) Global merger and acquisition
 - (b) Cross border merger and acquisition
 - (c) Cross nation merger and acquisition

Answers: 1- (c), 2- (a), 3- (a), 4- (c), 5-(b)

Short Answer Questions

1. Name the two forms that merger can take place.
2. Explain the types of acquisition.
3. What is synergy? In what forms can it take place?
4. What are the advantages of international mergers and acquisitions?
5. List the process of international mergers and acquisitions.

Long Answer Questions

1. What do you think are the reasons for failure of international merger and acquisition?
2. ABC Company, manufacturing shoes, has taken over XYZ Company which also manufactures shoes at a small scale. What do you think will be the reason for this kind of takeover?
3. Make a list of major companies which have internationally merged or have acquired some other company and state whether they are successful or unsuccessful, giving reasons.

Suggested Readings

- i. Mergers Acquisitions & Corporate Restructuring - Strategies & Practices by Rabi Narayan Kar and Minakshi, Taxmann's Publisher.
- ii. Mergers & Acquisitions: Text & Cases by B. Rajesh Kumar, McGraw Hill Education India.
- iii. International Mergers and Acquisitions: A Reader by Peter J. Buckley and Pervez N. Ghauri, Cengage Learning EMEA.
- iv. Cross Border Mergers and Acquisitions by Scott C. Whitaker, Wiley.
- v. Mergers and Acquisitions: Valuation, Leveraged Buyouts and Financing by Sheeba Kapil and Kanwal N. Kapil, Wiley.
- vi. Mergers and Acquisitions: Managing Culture and Human Resources by Günter K. Stahl (Editor), Mark E. Mendenhall (Editor), Stanford University Press.

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