M.A.ECONOMICS

SEMESTER - IV (CBCS)

INDUSTRIAL ECONOMICS

SUBJECT CODE : 91641

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ABILITY ENHANCEMENT SKILLS Semester IV

Industrial Economics

Number of Credit: 6
Pattern of Evaluation: Standard

Preamble: Ability Enhancement Course, to be offered in the fourth semester, requires a good understanding of both Microeconomics and Macroeconomics. This course aims at providing a theoretical exposition of the behaviour of the firm, market structure and industrial finance with some issues and relevant empirical evidence of Indian industries.

Module 1: Theory of the Firm: (14 Hours)
Firm Competition and Performance: Effects of Monopoly Power- Determinants of Firm Structure- Mergers- Horizontal and Vertical- Conglomerate Integration. Market Structure: Patterns of Market Structure- Determinants of Market Structure- Economies of Scale- Product Differentiation- Capital Requirements. Pricing Strategy in Oligopoly: Theories of Interdependence- Tacit Collusion and Price Leadership- Limit Pricing.

Module 2: Technical Change: (10 Hours)
Market Concentration: Measures of Market Concentration. Advertising: Optimal Advertising- Advertising and Market Structure- Cost of Advertising. Invention and Innovation: Process and Product Innovation- Effects of Innovation on Welfare and Employment- Adoption and Diffusion of Innovation.

Module 3: Financial Analysis: (14 Hours)
Financial Analysis: Funds Flow- Cash Flow Statements- Balance Sheet- Income Statement (Profit and Loss Account)-Ratio Analysis- Multi-Period Compounding- Continuous Compounding. Investment Appraisal: Nature of Investment Decisions- Net Present Value Method- Internal Rate of Return- Discounted Payback Period. Cost of Capital: Determining Components of Cost of Capital- Capital Asset Pricing Model (CAPM)- Weighted Average Cost of Capital (WACC). Capital Structure: Optimum Capital Structure- Modigliani-Miller Hypothesis- CAPM and Capital Structure.

Module 4: Indian Industry: (10 Hours)
Industrial Growth: Trends in Industrial Growth in India-Industrial Location (factors) and Location Policy in India. Small-Scale Industries: Definition-Role-Policy-Issues and Performance. Public Enterprises in India: Performance and Constraints. Competitiveness of Indian Industries: Competition Policy and Foreign Direct Investment. 43

References:

Essential Readings

1. Ahluwalia I. J., Industrial Growth in India- Stagnation since the mid-sixties, Oxford University Press, Delhi,1985 (Module 4)

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MODULE - I

1

THEORY OF FIRM - I

Unit Structure

1.0 Objectives
1.1 Introduction
1.2 Firm Competition and Performance: Effects of Monopoly Power
    1.2.1 Structure Conduct and Performance
    1.2.2 Competition and Performance
    1.2.3 Market Structure and Monopoly Power
1.3 Effects of Monopoly Power
1.4 Determinants of Firm Structure
1.5 Mergers
    1.5.1 Types of Mergers
1.6 Market Structure
1.7 Summary
1.8 Questions
1.9 References

1.0 OBJECTIVES

- To understand the performance of a firm in perfect competition
- To study the effects of monopoly power on the market
- To evaluate the role of business integration
- To study the types of business integration
- To understand the patterns of market structure
- To bring about the determinants of market structure.

1.1 INTRODUCTION

Industrial Economics is a branch of Economics. It is the application of microeconomic theory to the analysis of firms, markets, and industries. It explains and draws inferences about the effectiveness with which scarce resources are used; and points out policies that might improve the situation. Industrial Economics is primarily concerned with the evolution of the industry as a process in time at both the macro level, the sector or industry level, and the firm level.

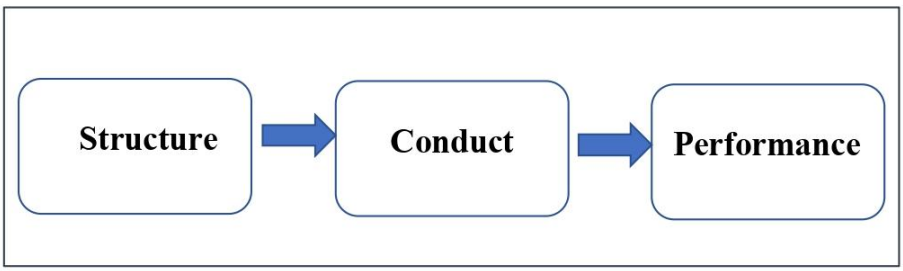
One of the key areas in Industrial Economics is understanding the structure and its effect on the performance of the industry. Industrial Economics uses different theoretical models to understand the behaviour of firms. Initially, the focus was to understand the structure of the market and observe the performance of the firm concerning the structure of the firm. But over the years the approach has changed, and the efficiency of individual firms is now given importance.

1.2 FIRM COMPETITION AND PERFORMANCE: EFFECTS OF MONOPOLY POWER

1.2.1 Structure Conduct and Performance:

Structure Conduct and Performance theory is an integral part of Industrial Economics. It is based entirely upon neoclassical theory. This theory was published by Edward Chamberlin and Joan Robinson in 1933. The technique was further formalized by Mason in 1939. Then the theory was modified by Joe S. Bain in 1951. According to the theory, the market structure determines a firm's conduct which further determines the performance of the firm. The relationship between the structure to conduct and conduct to performance has been used to study industrial organizations. The relationship is denoted as under.

Figure 1.1: Structure, Conduct, and Performance



As denoted in the figure, the structure determines the conduct of the firm, and the conduct of the firm determines the performance.

The structure illustrates the characteristics and composition of markets and industries in an economy. At the micro level, it is the features of a firm like the nature of commodities they produce and the operations on which they are classified. The number of competitors in the industry, ease of entry, and exit. Market structure is determined based on the degree and nature of competition for goods and services.

Conduct refers to actions taken by the firm or its behaviour or responses of the firm. The conduct or the action of the firm includes product differentiation, pricing of the product, collusion, and exploitation of market power.

Many indicators are applied to measure the performance of a firm. Traditionally it was believed that profitability is the only criteria to measure the performance of a firm, but in modern times it is measured by many indicators like productive efficiency, allocative efficiency, etc.

The structure conduct and performance have many attributes. Such attributes make the relationship between structure, conduct, and performance more complex. Joe S. Bain studied the cross-section behavior of industries. He explained two situations:

1. High level of concentration:

Concentration refers to the degree of control exercised by the largest firm in the economy over the economic activity. If there is a high level of concentration, there will be less degree of competition. Prices will be higher, and the profits will also be higher. Thus, when there is a high concentration, it will lead to higher profits. Structure (High concentration) will determine the conduct (high prices) which will further determine the performance (high profit). In this case, the structure -conduct-performance has a direct relationship that runs from structure to conduct and conduct to performance.

2. Scale of Economies and Concentration:

It has been mentioned that concentration is determined by barriers to entry. If economies of scale are lower in some industries, then the concentration is higher in such industries. Higher concentration leads to higher profits.

The structure conduct and performance approach were evaluated by Baumol. According to him the cost of production rather than a market structure determines the profit. Similar views were shared by Demsetz from Chicago School. He suggested that high profits may be a sign not of market power but efficiency. In any market, the firm with the lowest costs will be likely to increase in size and market share, there will be pressure on all firms to be efficient. Later the performance was regarded as the expertise and ability of a firm to efficiently utilize the available resources to achieve its objectives.

1.2.2 Competition and Performance:

The structure-conduct-performance approach can be derived through the theories of perfect competition and monopoly.

Table 1.1: Structure, Conduct, and Performance in Perfect Competition and Monopoly

Market	Structure	Conduct
Perfect Competition	• A large number of firms • Free entry to Industry • No intervention by the Government	• Price is determined by the market. • P=AR=MR • P=MC in the long run
Monopoly	• Single firm • High barriers to entry	• Price determined by the firm • Price is above MC

As denoted in table 1 the structure of perfect competition leads to the conduct or behavior of the firms in such a way that the price of all the firms is equal to the marginal cost. As a result, the firms in the industry earn normal profits. But the structure of the Monopoly market is such that the firm decides price above the marginal cost as a result the firm earns a super normal profit.

These two models are extremes where the number of firms is infinite versus one and free entry versus no entry. The firms or industrial units follow the conduct which falls between these two extremes. The status of any industry can be found between these two extremes. By observing the structure of that industry in terms of the number of firms, ease of entry, etc., the performance of that industry can be predicted. As one moves from the industries with many firms to the industry with only a few firms or only one firm, profitability will increase. It will increase from the normal level of profit with many firms to the super-normal level of profit in a monopoly. This suggests that the performance of a firm in a perfect competition structure is such that all the firms in the industries with such a structure earn a normal profit.

1.2.3 Market Structure and Monopoly Power:

The structure of the monopoly market is such that there is only a single seller in the market. As the only seller, the monopolist holds control over the market. Monopoly power is defined as the ability of the seller or producer to charge a greater price than the Marginal Cost. How far the monopolist will become successful to raise the price higher than the marginal cost is determined by the degree of monopoly power. The degree of monopoly power is not the same in the case of all monopolies. It is determined by many factors.

The degree of monopoly power is determined by many factors. According to Aba P. Lerner, the degree of Monopoly power is 0 in perfect coemption. In perfect competition, P=MC. But in the Monopoly market, P > MC. The difference between price and marginal cost is positive in a Monopoly market, the higher the difference between price and marginal cost, the higher the degree of Monopoly Power. This idea is supported by the formula given below.

Lerner's Index of Monopoly Power = $\frac{P - MC}{P}$ Where P- Price, MC – Marginal Cost.

Factors Determining Monopoly Power:

1. Entry Barriers:

According to Joe S. Bain the structure of a market is determined or differentiated based on entry barriers. The extent of barriers to entry determines the monopoly power. Barriers to entry are the factors that prevent the new firm to enter the industry. According to Bain barriers to entry is "an advantage of established sellers in an industry over potential

entrant sellers, which is reflected in the extent to which established sellers can persistently raise their prices above competitive levels without attracting new entrants to enter the industry." George J. Stigler, defined it as "a cost of producing that must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry." A major barrier to entry is cost, the new firms who want to enter the market are not able to compete with the already established firms concerning cots. Other barriers to entry are ownership of resources, economies of scale, etc. Higher the entry barrier, the higher the monopoly power.

2. The Number of Firms:

The number of firms in the market is another determinant of monopoly power. In perfect competition, there is a large number of firms in the industry therefore monopoly power in a perfectly competitive market is 0. But as the number of firms tends to reduce monopoly power improves. There are greater chances that the firms in the market with a few numbers of firms can charge prices higher than marginal cost. In a monopoly market, the monopolist is in the position to charge a higher price than the marginal cost.

3. Product Differentiation:

Product differentiation increases the monopoly power of a firm. In the case of homogeneous products, prices different from the price of rival firms can not be charged. As a result, the power of a firm to charge higher prices is weak in perfect competition with homogeneous products. As the degree of product differentiation goes up, the monopoly power becomes higher.

Sources of Monopoly Power:

As mentioned earlier, the formula to measure monopoly power has been introduced by A. P. Lerner. It is called as Learner's index. The formula is Monopoly Power = $\frac{P-MC}{P}$ but it is $\frac{1}{e}$ In other words, it is reciprocal to the elasticity of demand. The smaller the elasticity of demand larger is the monopoly power. The elasticity of demand is an important source of monopoly power. The monopolist gets the power to control the market through the following sources.

1. Elasticity of Market Demand:

In a monopoly market, there is only one firm that produces the product. As a result, there is no difference between the elasticity of the firm's demand and the elasticity of market demand. Therefore, in this case, the firm's degree of monopoly power is determined directly by the elasticity of market demand. But in any market where close substitutes are available, the elasticity of demand determines the price charged by the producer. In a market with close substitutes, the elasticity of demand is higher, if any firm charges a higher price there will be a greater decrease in the quantity

demanded. In such a case the firm has very little power to influence the price.

2. Economies of Scale:

Economies of scale determine the cost structure of the firm. As the firm produces more units of a commodity the fixed cost is distributed over the production**.** But to get the benefits of scale and lower fixed costs the number of firms in the market needs to be less. If the number of firms in the market is large, the output will increase but the cost may not decrease.

To get the advantage of scale the monopolist may not allow the other firms to enter the market.

3. Control over the Resources:

In very few cases the source of monopoly power is the ownership of inputs required for the production. If a particular firm owns all the input required to produce a particular good or service, then it could emerge as the only producer of that good or service and it can create monopoly power.

4. Sunk Costs:

The sunk costs are the expenditure or costs that cannot be recovered. The sunk costs can be the source of monopoly power. A new firm in an industry requires to incur costs to establish itself in the industry. If entry into the industry is difficult, the cost to establish the business will be greater. If the cost required to establish a business is unlikely to be recovered, the business cannot be established. Such firms find it difficult to exit the market. Their exit is costly. Costly exits make the entry of the firms into the industry more difficult. In such cases, monopoly power is higher.

5. Government Restrictions:

Sometimes the Government provides some special benefits to some business firms. Such benefits become the source of monopoly power. State and local governments have commonly assigned exclusive permission or rights to conduct business in a specific market. Such rights or special permissions may create monopoly power. Governments might also regulate entry into an industry or a profession through licensing and certification requirements. Governments also provide patent protection to inventors of new products or production methods to encourage innovation; these patents may afford their holders a degree of monopoly power.

1.3 EFFECTS OF MONOPOLY POWER

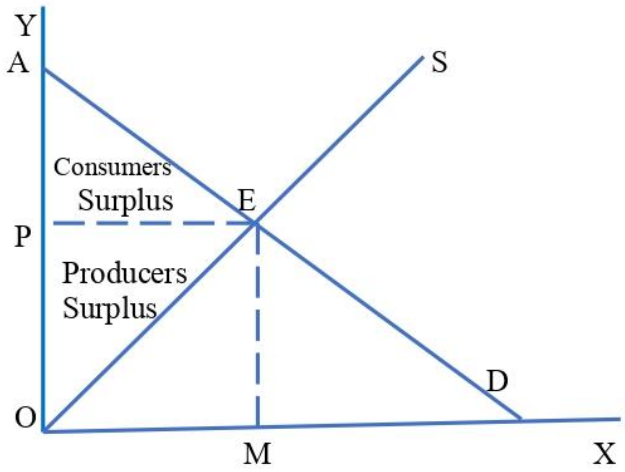
The structure-conduct-performance approach implicitly explains that monopoly leads to poor performance and is harmful to economic welfare. Harberger was the first to measure the reduction in welfare caused by the

exercise of market power in 1954. He studied industry-level data and explained that the activities of the manufacturing sector of the USA in the 1920s resulted in a reduction of welfare equivalent to 0.1 percent of GNP. Economists like Schwartzman (1960), Bell (1968), Worcester (1973), and Siegfried and Tiemann (1974), Cowling and Mueller (1978) also estimated loss of the welfare due to monopoly power. Following are the effects of monopoly power.

1. Effect on Consumers:

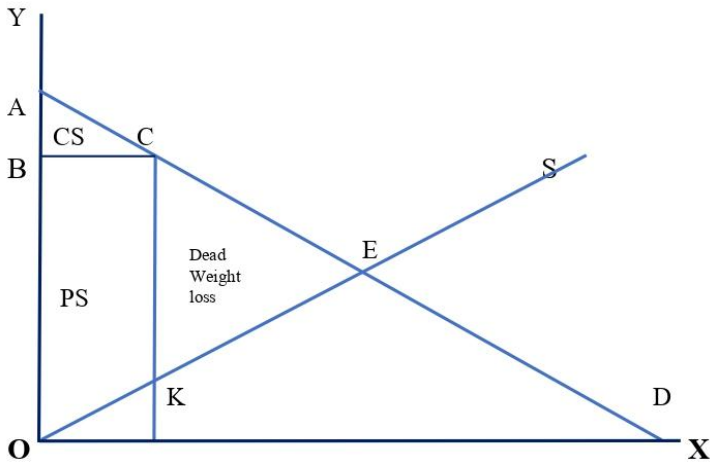
Monopoly power affects consumers welfare. It creates dead weight loss for the consumers. The monopolist with high monopoly power can charge a high price by controlling output. It creates a mismatch between demand and supply.

Figure 1.2: Consumers' surplus



In figure 1.1 in case of competition, the price is equal to AR and MR. Consumers get the benefit of a comparatively lower price. As indicated in Diagram 1.1 APE is consumers' Surplus and OPE is producers' surplus. The equilibrium price OP brings demand and supply to equilibrium at point E. But when there is monopoly power in the market equilibrium situation is different.

Figure 1.3: Deadweight loss



But as denoted in figure 1.3 CEK is dead weight loss. It reduces consumers' surplus. Thus, consumers' welfare is affected due to deadweight loss arising from monopoly power.

2. Market Failure:

Market failure is a situation where there is a defective allocation of resources. The existence of Monopoly power leads to market failure. The monopolist with higher monopoly power will be in the position to set prices higher. This limits the output. Such limited output takes away consumers' surplus. Output less than the demand in the market creates inefficiency which leads to market failure. This reduces aggregate welfare.

3. Price Discrimination:

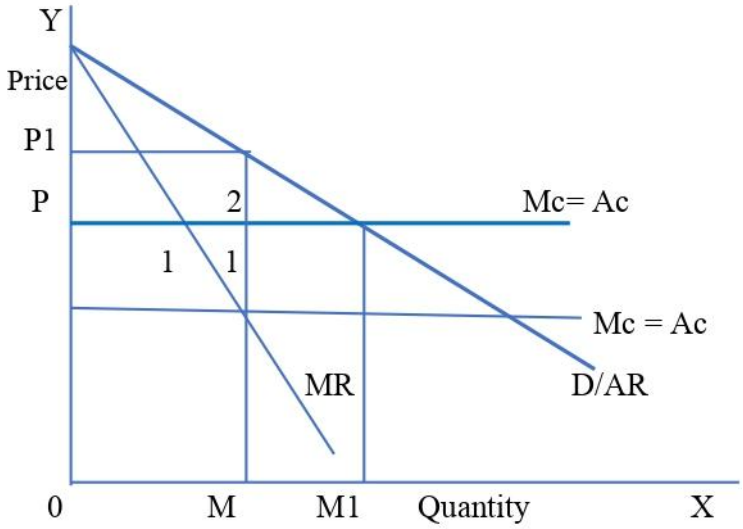
Monopoly power leads to price discrimination. Not only the monopolist is in the position to charge a higher price, but he can reduce consumers surplus of different consumers by charging different prices to different consumers according to their capacity to pay. The Monopolist with a high degree of monopoly power is in the position to extract entire consumers' surplus.

Although monopoly power is harmful to society some economists have taken the opposite view.

4. Monopoly and Reduction In Cost:

The economists like Williamson and Demsetz argued that monopolists may reduce the cost of production. Lower costs reduce deadweight loss but lead to higher profits and economic growth. This is explained in the following diagram.

Figure 1.4: Reduction of cost



In the diagram, Op is the price charged under perfect competition. And Op1 is a price charged under monopoly. At op price MC=Ac is cost. But the cost at monopoly price that is op1 is lower than the cost at competitive

price op. Thus, although the monopoly price is higher and output is less (OM) than the output produced in perfect competition (OM1), the cost is equally low and the production under monopoly is more cost-effective. The area denoted by triangle 2 is allocative loss (deadweight loss). But the area denoted by 1 is productive gain. The advantage is greater than the loss. Therefore, there will be an overall improvement in society's welfare.

Although it is difficult to understand the effect of monopoly power on the welfare of society, in general, it is believed that monopoly power creates harmful effects on society. But if it the monopoly power is used to increase the welfare of the society by reducing the cost of production it may create improvement in the welfare of the society.

1.4 DETERMINANTS OF FIRM STRUCTURE

As mentioned earlier, structure means the characteristics and components of the market and industries in the economy. The structure of a firm is a system that outlines how certain activities are directed to achieve the goals of an organization. These activities include rules, roles, and responsibilities. The firm's structure also determines how information flows between levels within the organization. For example, in a centralized structure, decisions flow from the top down, while in a decentralized structure, decision-making power is distributed among various levels of the firm.

In other words, the Structure of a firm describes the environment within which firms in a particular market operate. It can be identified by considering the number and size distribution of buyers and sellers, the extent to which products are differentiated, how easy it is for other firms to enter the market, and the extent to which firms are integrated or diversified. The following are the factors that determine the structure of the firm.

1. Size of the firm:

The size of the firm determines the structure of the firm**.** If the size of the firm is very small, it may not have **a** formal structure. Individuals perform their duties but there are no definite rules and regulations. If the size of the firm is large formal rules and regulations are applied. There is a difference between the top management and the other employees. There is specialization in every job. It is expected that every stakeholder follows formal rules and regulations. There is a delegation of authorities. Generally, the flow of communication is from top management to the other employees.

2. Life cycle of the Firm:

Firms have their life cycle stages. Most firms go through the stages of 1) birth 2) youth 3) midlife, and 4) maturity. Such stages influence the structure of the firm. In the **Birth,** stage firms may not have a formal structure, and there are not many delegations of authority. But if the firm is in the second stage of its life cycle that is if it is in the **Youth** phase, the

formal structure of the firm is designed, and some delegation of authority occurs. The third stage of the firm's life cycle is **Midlife, In** this phase, the firm has achieved some success. The structure of the firm becomes more formal and complex. As the firm becomes older, it may also become more mechanistic in structure. The last phase is the phase of **Maturity.** Firms in this stage are more interested in maintaining a stable, secure environment. The emphasis is on improving efficiency and profitability. The structure changes accordingly.

3. Business Strategy:

The structure of a firm also depends on the strategy of the firm. If the strategy of the firm is to increase the business very quickly, then the structure of the firm needs to be very flexible. The employees are empowered to take quick decisions therefore decentralization in decision-making is always given importance. But if the strategy of the firm is to introduce innovative products in the market, then the structure required is top to a down structure where decision-making flows from top-level management to the employees.

4. Use of Technology:

The use of technology affects the firm's structure. If the firm needs to use mass production technology mechanical structure is most appropriate. mass production technologies involve standardization and specialization of work activities, so the structure needs to be more mechanical. But if the flow of production is continuous and the production is undertaken on a small scale, a low level of standardization and specialization is required.

5. Customers and Markets:

The primary determining factor of the structure of a firm is the type of market and consumers. If the firm provides services to a wide variety of clients at different locations, the structure of the firm should be such that it may be able to deal with several branches of the company. The structure should be designed such that decision-making flows from the central authority to the branches.

6. Geography:

The geographical spreading of a business influences its structure. Where there is a considerable degree of geographical distribution, there is likely to be more need for careful coordination and control compared to a single site location. If the firm has a powerful requirement to offer services or products in a specific geographical area, the firm may have its branches at different locations. Every branch can operate as a fully self-contained, small form of the parent association.

7. External Business Environment:

External environmental factors like the availability of raw materials, human resources, and financial resources are examples of the external environment. Such external factors affect the operations and long-term

growth of the firm. If the influence of external factors is greater, the structures need to be more flexible and there should be decentralized decision-making.

1.5 MERGERS

Traditionally believed the objective of the firms is profit maximization. Firms adopt several strategies to maximize profits. A merger can be one of the strategies to get the highest profits or to earn a greater market share. A merger is a process through which two or more companies mutually form a single venture. In other words, a merger unites two or more companies into one new company. Through mergers, there is the integration of companies' resources, markets, manpower, capabilities, costs, revenues, etc. Generally, firms of equal size and with similar objectives create a new entity through a merger. There are different types of mergers and different reasons why companies decide to merge.

Following are the intentions for mergers:

1. Large-Scale Production:

As the scale of production is increased, costs can be minimized. Larger companies can get the benefit of a cost-saving competitive advantage which small companies generally can not get. After a merger, two companies can increase the scale of production and can get the benefit of economies of scale.

2. Market Share:

One of the common motives to merge is to acquire the highest share of the market. The integration of resources, manpower, technology, etc. enable the merged company to acquire the largest share of the market.

3. Acquisition of assets:

A merger is also driven by a wish to obtain some assets that cannot be obtained using other methods. It is quite common that some companies arrange mergers to gain access to unique assets or to assets that usually take a long time to develop internally. For example, access to new technologies is a frequent objective in many mergers.

4. Value Creation:

One of the objectives of the merger is to generate additional revenue or value. Activities like market expansion, product diversification, research, and development after the merger will help the unit to bring better value addition through better revenue generation.

5. Diversification:

Mergers are often undertaken for diversification purposes. A company can diversify its business through mergers. It may enter a new market and may provide new services to that market. Sometimes managers of

companies follow merges to diversify risks regarding the company's operations. It is thought that mergers would diversify markets and thereby may diversify risks.

6. Taxation:

Companies follow merger practices to get taxation benefits. For a company with large taxable income if merges with a company with tax losses, the total tax liability of the consolidated company will be much lower than the tax liability of the independent company. Thus, a merger can also be looked at as a strategy to get other advantages along with taxation benefits.

7. Incentives for managers:

Mergers are also followed to pursue the personal interests and goals of the top management of a company. A consolidated unit after a merger ensures more power and prestige. The consolidated company after the merger becomes much larger than the single unit. Managers are motivated to form a big company after merging two units into one company. It is called empire building, It happens when the top managers favor the size of a company over its performance.

1.5.1 Types of Mergers:

Mergers take different forms. The form of a merger depends upon the objectives of the companies that merge. After the merger, the firms may have enhanced monopoly power or might have enhanced their knowledge and expertise. The firms apply it to get further benefits from their knowledge and expertise. This expertise may relate to the nature of the range of products, gained through research and development, gained in one geographical market that can then be applied in other geographical markets. Such powers the firms apply in their process through choosing a type of merges. The following are different types of merges.

1. Horizontal Integration:

Horizontal merger strategy is adopted by the firm to strengthen its position in the company. The horizontal extension means how much of a given product a firm produces and how many different products it offers. When the objective of the firms is to expand the market for their products or enter a new market, a horizontal integration strategy is followed. Horizontal mergers allow the firms to explore new markets through new products. Generally, two strategies are followed under horizontal mergers.

1) The firm increases its marketing exposure through subsidiary firms or the sales of its products in different market segments.

2) The company establishes several branches in different parts of the city or country where similar products are offered.

Horizontal Integration is useful for firms to establish themselves in different markets. By offering products or services in different markets

through horizontal mergers, the firm strengthens its position in the industry. Mergers with another company that produces and sells the same product or service. The Horizontal Integration strategy may create a monopoly. The consolidated company after the merger can capture the market, reduce competition, and achieve high profits.

The Horizontal Integration strategy is highly effective when:

- The firm competes in a growing industry
- The firm has sufficient financial resources to handle mergers and acquisitions
- Monopoly power emerging out of merger is allowed
- Competitors lack some capabilities, competencies, skills, or resources that the company already possesses.

Advantages of Horizontal Integration:

1. Expansion and Growth:

This is one of the objectives of undertaking the activity of a merger. If the firm can operate at its full capacity, a merger enables the firm to operate at its full capacity. Sometimes it is less expensive to merge with the other firm than to expand internally. In this situation mergers will provide a wider customer base; the other firm may have distribution systems that can be used to expand the business through marketing. If the firm merges with another firm that operates in different regions, it can expand its operations to new markets. The firms can diversify their products, and services and can get long-term opportunities for your business. Thus, mergers can help the expansion and growth of the business.

2. Reduces competition in the sector:

Horizontal integration can reduce competition. It helps in the case of competitive products and for products for which substitutes are available in the market. If competition is reduced firms can concentrate on satisfying the needs of the consumers. Reduced competition can result in higher profits. It also makes firms more powerful concerning suppliers and distributors.

3. Complements the Existing Products:

The horizontal Integration helps the firms to widen the market as well as product portfolio. The firms can sell more products along with the existing ones. It may complement the existing products. The firms also can reduce the reliance on only one product.

4. Economies of scale and Scope:

The economy of scale describes the situation in which cost advantages are gained by the company due to the heavy production of goods. Companies can achieve economies of scale by increasing their production and

lowering costs. This happens because the cost is distributed among many goods.

The economy of scope describes the situations in which the long-run average and marginal cost reduction of a company happens due to the production of complementary goods and services. It is the efficiency formed by variety, not due to the volume of the products.

5. Increased Revenue and Reduction in Costs:

Mergers help firms reduce costs. For example, firms in the same segment or location can combine resources to reduce costs, duplicate facilities can be avoided. Firms can operate at a cost lower than their competitors. Prices of the final products can be lowered which will drive the competitors out of the market if they cannot compete in a pricing war. Reducing the costs can increase the profit margin and increase the revenue earned.

But a firm must take care because Horizontal integration may impact a company's product line by affecting its profits adversely. Following are some drawbacks of horizontal integration.

1. Diseconomies of Scale:

If the business if merger and vertical integration grow too large and if there are clashes in top management there is a risk of diseconomies of scale. It may lead to increase costs in production.

2. Affects Flexibility:

After the merger, the consolidated firm has additional manpower and more processes, but it requires more accountability. The consolidated firm must have coordination and transparency in its all departments.

3. Investigations from authorities:

Horizontal integration may create a monopoly and the firms may follow anti-competitive practices**.** Such monopolies may attract investigations from competition authorities of the region. The firm must prove every time how it is not limiting the competition in the market.

4. Strict Supervision by the managers:

As per the theory, horizontal integration results in a synergy in which the capabilities and resources between merging firms are expected to complement each other. Horizontal integration also creates a monopoly. If there is a lack of synergy, the top management expects too much from the workers and it leads to strict supervision and control over the process which may lead to unrest among the workers.

As there are some drawbacks of horizontal integration, the firms should take into consideration that the benefits from horizontal integration exceed the losses. Also, the firm should include complementary products or develop by-products. This will help the firms to get benefits from existing

products and maintain existing sales. Also, it will help the firms to get expected profits.

5. Vertical Integration:

Vertical integration, means the stages of the production process in the firm. For example, obtaining inputs, processing the inputs, transforming them into a final product, marketing them, etc. One of the most important decisions that a firm must make is how to obtain its inputs. Whether to produce them within the organization or to purchase them? When the decision is taken to produce it within the organization it is vertical integration. Vertical integration is a strategy that allows a firm to restructure its operations by taking direct ownership of various stages of its production process rather than relying on external contractors or suppliers. The degree of vertical integration in each industry results from the aggregation of these micro-decisions at each stage of the production process. The merger is used as a strategy for vertical integration. In other words, firms a firm supplying raw materials is selected for a merger then there will be vertical integration as the consolidated firm will produce its raw material.

Much of the literature on vertical integration applies the agency theory or transactions costs framework and thus focuses on sources of efficiency gains. But sometimes vertical integration is a reaction to imperfect competition or it can be a source of imperfections.

The extent of vertical integration is often measured by the ratio of net output (value added) by a firm to its gross output (sales). Net output is measured as the sum of the wages, salaries, and profits of a firm, gross output is equal to net output plus material inputs purchased from other firms. If a firm begins to produce some inputs that it had previously bought for other firms, then its degree of vertical integration would rise as its net output rises and its purchase of material inputs from elsewhere declines. Firms follow vertical mergers to get greater control over their supply and make their organization more competitive.

Degrees in Vertical Integration:

1. Full Vertical Integration:

When the firm obtains all the assets, resources, and expertise needed to reproduce the upstream or downstream of the supply chain within the production unit of the firm itself then it is full vertical integration. The firms make use of vertical integration to achieve their goals. Sometimes full vertical integration is used as a substitute for the merger. Instead of going for the merger, the firms adopt vertical integration.

2. Quasi Vertical Integration:

When the firm has ownership of specialized tools upstream or downstream of the supply chain, then it is quasi-Vertical integration. For example, if

the firm has obtained some stake in the form of equity investment to get the benefits of increasing ownership interest.

3. Long-term Contracts:

A mild form of vertical integration is long-term contracts. The firms keep some components of purchasing are held constant. The purpose is to reduce inconsistencies in product delivery, The costs are held constant to a certain extent.

4. Spot Contracts:

When the firms need inputs or raw materials immediately, the firms go for spot contracts. Raw material procurement is made on the spot, so it is called a spot contract.

Types of Vertical Contracts:

1. Forward Vertical Integration:

When the firm merges with the firm with a forward supply chain, it is called forward integration. The forward supply chain is- Producers of raw materials – Manufacturers – Retail Distributors. If a firm is a manufacturing unit, and if it merges with the distributor then it is forward vertical integration.

Forward Vertical integration is also known as upstream integration. Retailers have greater purchasing power. Or the firms at the end of the supply chain have the money to purchase companies behind them. Therefore, forward vertical integration is not common.

2. Backward Vertical Integration:

Backward vertical integration is where a firm merges with another firm at a stage before it is in the supply chain. In other words, it incorporates one of its suppliers. For example, it is called backward vertical integration because the firm is behind in the supply chain. So, in a basic supply chain of raw material producer, manufacturer, and distribution – the distributor could merge with the raw material supplier or the manufacturer. This type of vertical integration is quite common. This is because the distributors at the end of the supply chain have the purchasing power to integrate with the suppliers.

3. Balanced Integration:

Balanced integration is a combination of both backward and forward integration. For example, balanced integration happens when a company merges with a company before it in the supply chain, as well as a company that is after it in the supply chain. The balanced integration consists of transactions toward backward as well as towards forwarding direction in the supply chain.

Advantages of Vertical Integration:

Vertical integration enables firms more control over the supply chain. There are other benefits or advantages of vertical integration. They are mentioned as under.

1. Availability of information:

Vertical integration allows the firms to have greater control over the production process. There is a free flow of information among supply chain members. Such a free flow of information helps to reduce the time required to pass the information from one member of the supply chain to the other. As a result, there is greater flexibility in modifying the process according to the changes in demand, which improves the elasticity of supply.

2. Reduction in Costs:

Through vertical integration, firms can reduce input costs. When the firms either integrate through the production of raw materials or distribution, it can reduce cost by reducing the members in the chain and thereby reducing their margins. Also, the firm can adopt advanced technology in the production process which may further help to reduce costs.

3. Specialization:

Through vertical integration organizations invest within the organization. It can utilize the skills of the people within the organization. It also can specialize in the skill set that is required for the process. Based on specialization, the firm can differentiate itself from others.

4. Quality Control:

As through vertical integration, the firms can have control over the production process, and can also have control over the quality of the product. If there is backward integration the firms can have control over the quality of raw material used. In the case of forwarding integration, the distribution can be improved, and the firm thus can set the standard for the quality of the product.

5. Lower Consumer Prices:

At each stage of the supply chain, the supplier gets some level of profit. After vertical integration, the new firm earns a profit at two points of the supply chain. Therefore, the new firm can charge lower prices.

6. Geographic Expansion:

Vertical integration helps the firms to open new centers

Disadvantages of Vertical Integration:

Following are the disadvantages of vertical integration.

1. Higher Cost:

If the firms undertake backward vertical integration and produce raw material, they may produce it with higher costs than the other suppliers at least in the initial stages of the production. This is because the people within the firm may not have the expertise required for products which may lead to managerial complexity. A clear result of this is an increase in costs and a reduction in core competency.

2. Disadvantages Due to New Technology:

If the new technology is developing very quickly the vertically integrated firm needs to adopt the new technology. The firm needs to invest in new technology. The adoption of new technology can be costly. It can add to the cost of production. This can neutralize the advantages of vertical integration.

3. Lower Profits:

Vertical integration may not be always profitable. The firm may require huge investments and expertise. The firms may not compete with other suppliers or distributors who are already established in the market.

4. Reduces Flexibility:

The established firms in the market have more flexibility than vertically integrated firms. Vertically integrated firms have few choices with the supply chains. But independent suppliers or distributors specialize in the production or distribution of a specific product therefore they can have better flexibility.

5. Conglomerate Integration:

A conglomerate merger or integration is an integration between two firms with unrelated businesses. The two firms are in totally different sectors or different geographical areas. Such mergers are helpful for firms to extend their functions to a different geographical area or to expand their range of products.

Types of conglomerate mergers:

There are two types of conglomerate mergers. Pure Conglomerate Merger- when two firms with nothing in common merge then it is a conglomerate merger. Sometimes the objective of firms is to expand business or to increase product range if such companies merge, then it is called a mixed conglomerate merger.

Advantages of Conglomerate Mergers:

1. Business Diversification:

Firms with conglomerate mergers can diversify their business. The firm gets the advantage of diversification, and it can overcome risks related to weak markets. The firm can overcome the unfavorable effect of a decline

in one business segment by keeping its good performance in another diversified segment.

2. Expanded Customer Base:

A firm with a conglomerate merger can cross-sell its products to the other company. It gets a completely new set of customers that it otherwise could not find. This broadens the customer base and helps to get better profit.

3. Economies of Scale:

The costs like costs of research and development, and costs of advertisements can be reduced if the two firms merge. The costs are spread out to different business units.

4. Utilization of Resources:

Conglomerate merger helps the firms to utilize unused resources like capital and manpower. Excess capital can be utilized in different areas of business. It can also use its unutilized expert manpower in different businesses.

Disadvantages:

Although a conglomerate merger has advantages it has its disadvantages too. following are the disadvantages of conglomerate mergers.

1. corporate governance:

It is quite possible that the diversification of business changes the focus. this may divert the resources away from core operations. Such diversion of resources may result in poor performance.

2. No previous Experience:

In a conglomerate merger firms merging do not have any kind of experience to work with each other. This may result in this management in an organization.

3. Governance Issue:

When different companies with different sets up merge with each other, it is very challenging to develop a new corporate culture. Such kind of differences may create a problem for the smooth functioning of the company.

1.6 MARKET STRUCTURE

Market structure refers to the characteristics of an organization, that influence the behavior of the firm concerning its decisions regarding the determination of price and output. The structure of a firm is an important element as it affects the behavior of the firm. Market structure changes due to changes in organizational features like the degree of competition among firms, In general, the number of firms, the distinctiveness of their

products, elasticity of demand, and the degree of control over the price of the product. No market structure remains static, it keeps on changing due to the organizational features and changes in physical, economic, institutional, and technological factors. The market structure keeps on changing due to the following reasons.

1. Production Pattern:

Many factors determine production patterns. The production pattern is determined by many factors. It may change due to technological factors, economic factors, and institutional factors. The market structure changes with keeping pace with such factors. It changes with changes in technology as well as other factors.

2. Demand Pattern:

Demand for a product change because of change in incomes, changes in tastes and preferences of the consumers, changes in fashions, changes in income distribution among consumers, and changes in the market structure should be changed and updated to keep coordination with changes in the demand.

3. Costs and Patterns of Marketing:

The raw material costs, costs of factors of production, marketing functions, etc., further determine the changes in the structure of the markets. Marketing functions like transportation, storage, financing, and providing market information, determine the market structure.

4. Government Policies:

Government policies regarding taxes, subsidies, purchases, and sales affect the performance of market tasks. The market structure should be changed as per the changes in government policy. The functions like level of sales, purchase of raw material, inventory, quantity to be produced, and taken to market change with changes in the Government's policies.

5. Technological Change:

Technological changes bring changes in the market structure through adjustments in the scale of business, the number of firms, and their financial requirements.

Determinants of Market Structure:

1. Number of Buyers and Sellers:

The number of buyers and firms selling a particular product, determines the effect on the level of competition in the market. If the number of buyers and sellers is large a single seller or buyer has very little impact on the market. The number of buyers or sellers determines the price of the product. If there are very few firms in the market, the firms can influence the price of the products.

2. Economies of Scale:

Market structure is also determined by the size of the firm or the level of production. If the output is produced on a large scale, the firm gets advantages of large-scale production, it can keep the price of its products low and gets a competitive advantage. Such firms can capture entire market demand gradually and, it may create a monopoly in the market.

3. Nature of Product:

Characteristics of the product determines the market structure. If the products are homogeneous, it is sold at the same price in the market. But if the commodity is differentiated then it is sold at a different price. If the product is unique and has no other substitute, it creates a monopoly in the market.

4. Entry Barriers:

If the firms are free to move from one industry to another, the price will remain stable. The industry with a greater number of firms getting profit will attract other sellers in the market. This keeps the prices stable due to competition. But if there is no freedom of entry and exit, different prices prevail in the market. This may create a monopoly in the market.

5. Mobility of Goods:

When the factors of production and products can move very easily, the uniform price will prevail in the market. It will make the market competitive. But against this, if the factors of production and products can not move freely then different prices prevail in the market for a different product.

6. Consumers' Knowledge:

If buyers and sellers have perfect knowledge about the market conditions, the sellers cannot charge a different price for the same product, in such a situation the uniform price prevails in the market. then a uniform price prevails in the market. However, if the buyers have imperfect knowledge, sellers can charge different prices.

7. Government Intervention:

Sometimes the Government has a monopoly over the market Markets are indirectly regulated by the government. The government either imposes heavy taxes or makes the business license mandatory to restrict the entry of firms.

1.7 SUMMARY

One of the key areas in Industrial Economics is understanding the structure and its effect on the performance of the industry. Industrial Economics uses different theoretical models to understand the behaviour of firms. Initially, the focus was to understand the structure of the market

and observe the performance of the firm concerning the structure of the firm. But over the years the approach has changed, and the efficiency of individual firms is now given importance.

Many factors determine the structure and conduct of a firm. The structure of the firm determines the sales, revenue, and profits of the firm. The market structure is determined by several factors. It includes some characteristics, of the consumers like their knowledge about the market, the number of buyers, their tastes, preferences, and habits.

Many times to manage the business work forms adopt mergers and acquisitions. These types give an idea about the types of integration of the firm and their advantages.

In short, the structure, conduct, and performance are the key drivers of decision-making in the oligopoly market;

1.8 QUESTIONS

1. What is market structure? Explain the relationship between market structure and monopoly power.
2. What is the structure of a firm? Explain the determinants of the structure of a firm.
3. What are the patterns of market structures?
4. Define mergers. Explain different types of mergers.

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2

THEORY OF FIRMS - II

Unit Structure

2.0 Objectives
2.1 Introduction
2.2 Economies of Scale
2.3 Product Differentiation
2.4 Capital Requirements
2.5 Pricing Strategy in Oligopoly
2.6 Theories of Interdependence
2.7 Tacit Collusion and Price Leadership
2.8 Limit Pricing
2.9 Summary
2.10 Questions
2.11 References

2.0 OBJECTIVES

- To understand the benefits of large-scale production.
- To evaluate product differentiation tactics of a firm
- To assess the capital requirements of the firms
- To study theories of interdependence through collusion
- To examine tacit collusion strategies of the firm

2.1 INTRODUCTION

Industrial economics is the study of industries, their problems, and their relationship with society. This section discusses the advantages of large-scale production for firms. By producing on a large scale, firms can minimize the cost of production. The firms can also attract consumers by following production differentiation strategies. By differentiating the products it may restrict the entry of new firms into the market. It benefits the existing firms in the market.

But the nature of the firm varies so does the demand for the capital requirement. Firms need to plan their capital requirements depending on the nature of their business. Recognizing the need for capital and arranging the same in advance may make the firm well equipped to get a good profit. Determining the price of the product is an important decision. In an oligopoly market, there are very few firms. These firms know each others' price and output decisions if they compete with each other they become completely interdependent. In this situation price and output,

decisions depend on the decisions of the other firm. If the firms in the market come together to form collusion they may get higher profit.

2.2 ECONOMIES OF SCALE

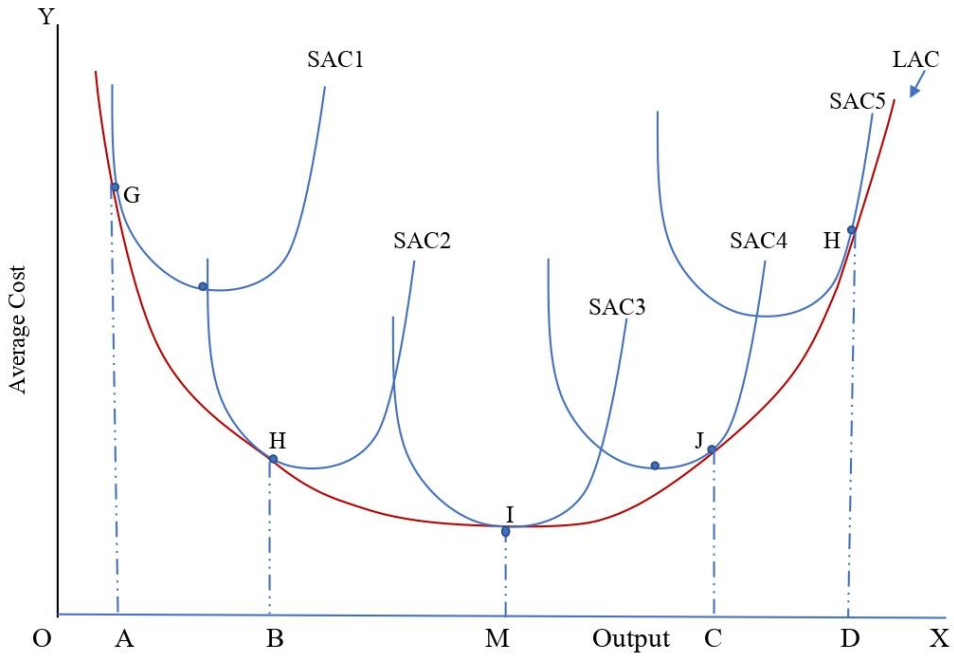
The feature of modern business is large-scale production. The scale economies of scale are cost advantages of large-scale production. The firm gets scale economies or economies of scale if the average cost declines with the output. In other words, the firms get cost advantages if it is operating on a large scale. Companies with large-scale production.

The theory of Economies of Scale studies the relationship between the scale of use of inputs and the output of the enterprise. The theory of economies of scale studies the effect of average cost of production on different levels of output such that all possible efforts are made to produce the put by making efficient use of resources. The long-run average cost curve is called a scaling curve as it denotes economies and diseconomies of scale.

According to Chamberlin, when the size of scale of operation or the use of factors of production increases, the efficiency of factors of production increases due to efficiency of factors of production due to specialization or use of specialized technology.

The concept of economies of Scale can be explained with the help of the following diagram

Figure 2.1: Long-run average cost curve and economies of scale



In the figure, LAC is the long-run average cost curve, and SAC1, SAC2, SAC3, SAC4, and SAC5 are short-run average cost curves. LAC is tangent to all SACs. LAC is the locus of all tangency points. LAC indicates the least possible average cost of producing any level of output. If any firm wants to produce an OA level of output. It will select SA1

plant size on average cost SAC1. The firm will operate on this curve at point G. If the wants to produce OB output, it will select the ASC2 plant and it will operate at point H. Likewise the firm will operate at the point which is tangent to the LAC. Figure 1.5 indicates that a firm can produce higher output at a lower cost. OM level of output is optimum output because at this level of output the cost of production is lowest.

LAC falls till OM level of output and then it slopes upwards. It has a U shape. It is U shaped because LAC is not tangent to SACs at their minimum point. Before OM level of output LAC is tangent to Sacs at their decreasing portion indicating that there is further scope to increase production by reducing the cost of production. But after a point I or OM level of output, LAC is tangent to LAC at their increasing portion. It indicates that beyond output level OM if production has increased the cost of production increases. LAC is called an envelope curve as it envelops SACs. It is also called a planning curve as the producer can plan any output on LAC by choosing any level of output on LAC. The downward sloping LAC can be attributed to economies of Scale. The firm can reduce the cost of production due to economies of scale. The following economies are observed by the firm.

Following are the sources of Economies of scale:

1. Use of Efficient Technology:

First, as the firm increases its scale of operations, it can use more specialized and technically more efficient, machinery to produce large quantities of output. It reduces the per unit cost of production.

2. Division of Labour:

Secondly, when the scale of operations is increased and more labor and other factors are employed, it becomes possible to divide the work into different parts. In another word a greater degree of division of labor becomes possible. Division of labor and specialization reduces the cost of production at a large scale of production, workers can specialize in performing a particular task in the production process. Generally, workers perform one task in the production process, and they can work more efficiently than the one who has to perform several tasks in it. This increases production and reduces the cost of production.

3. Economies Due to Indivisibility of Factors:

Economists like Kaldor and Joan Robinson explained economies of scale as arising from the imperfect divisibility of factors. They argue that most of the factors are bulky. They are indivisible, when the firm uses a greater number of variable factors, such indivisible bulky factors are used at their highest capacity which can therefore yield higher production. This reduces the cost of production. If a small output is produced with these costly indivisible units of the factors, the average cost of production will naturally be high.

4. Marketing Economies:

A firm can get the commercial advantage of buying and selling on a large scale. A firm operating on a large scale can have the advantage of purchasing raw materials in bulk. the supplier of raw materials may provide concessions as a result cost of production decreases. the firm can pass this advantage to the consumers. it may sell the product at a lower price. this may expand the business of the firm.

5. Financial Economies:

A firm operating on a large scale get financial benefits. It becomes easier for the firm to get credit from the banks because the firm has prestige in the market. Further, large firms can sell bonds and stocks in the capital market at more favorable terms. This reduces the cost of raising funds required for business purposes.

6. Risk Bearing capacity:

A large industry can stand in adverse times. It can forecast adverse times and can make arrangements in advance to face such situations. For example, it can store raw materials if there is an anticipated possibility of shortage in near future. Thus, the risk-bearing capacity of the industry operating on a large scale is greater than any industry operating on a small scale.

7. Managerial Economies:

The firm operating on a large scale can employ experts from different fields. It can appoint managers for different departments who can use their expertise end decision-making capacity to improve production and productivity. This helps to reduce the cost of production and increases production and efficiency.

Due to the above-mentioned economies of scale, the long-run average cost curve slopes downwards.

2.3 PRODUCT DIFFERENTIATION

Product differentiation is a kind of entry barrier. Bain in his study mentions product differentiation as an entry barrier. It makes the entry of the new firms quite difficult. product differentiation depends upon the behavior of the firm. It also depends upon the activities of the firm. Chamberlin laid greater emphasis on product differentiation in monopolistic competition. According to Chamberlin, it is the distinguishing feature of monopolistic competition.

Under monopolistic competition, products are not homogenous. Products of different firms are slightly different from each other; therefore, they are close substitutes for each other. These products are differentiated there is some degree of monopoly. Therefore, in a monopolistic competitive market, there is competition as well as a monopoly. The greater the degree of product differentiation greater is monopoly power.

There are two bases of product differentiation:

1. Product differentiation based on features of the product:

When any firm brings changes in size shape color design cover, exclusive patented features, trademarks, and trade names its product becomes different from others. If such kind of product differentiation exists, the buyers are connected with the firm cording to those preferences. Sometimes the firms bring differentiation in the product through qualitative changes for example by changing the quality of raw material. such product differentiation helps the firm to increase demand for the product. Another way to attract buyers in the market through product differentiation is to make advertisements and make the buyers aware of changes made in the packing color design of the product etc.

2. The conditions for the sale of the product:

In this case, the product is differentiated based on the services provided by the producer while selling the product. If the services provided by one firm are different from the services provided by the other buyers get attracted to the firms that provide better services. For example, politeness, courtesy, tone of the salesman, convenience of seller's location, etc. may make the differentiation.

Product differentiation is also categorized as horizontal product differentiation and vertical product differentiation:

1. Vertical product differentiation:

Vertical product differentiation occurs when the producer emphasizes the quality of the product. He tries to improve the quality of the product. The market plays different qualities of the product when the producer upgrades the quality of the product he moves to the upper position in the hierarchy of lower quality to high quality. The quality of the product is improved to attract more customers in the market who are ready to pay a high price for high-quality products.

2. Horizontal product differentiation:

The products are differentiated based on specific features then it was called dance horizontal product differentiation. In this case, a specific product is differentiated based on its feature of that product. For example, the design or the color of that product is changed than other firms in the market. This helps the producers to attract customers in the market

Implications of product differences:

1. Increase in demand:

The very purpose of the product is sensation is to attract a greater number of customers in the market. When products are differentiated it creates a monopoly on a certain element of monopoly in the market. Due to this monopoly element, the firm can charge more prices by attracting a greater

number of customers for the product. The form may increase revenue by using its monopoly through an increase in prices for differentiated products.

2. Consumers benefit:

Horizontal or vertical product differentiation bring changes in the product. The changes are qualitative, or consumers get a greater variety of products. Consumers may get the product as per their likings and preferences.

3. High price:

As the firm introduces additional features to a product, it can charge **a** high price. A single change in the product makes that product less common and better than its substitutes. Consumers are ready to pay a high price as the product is different from other products.

Drawbacks of Product Differentiation:

Product differentiation may not be always beneficial. Sometimes it may have its drawbacks.

1) It may not guarantee an increase in revenue.

2) It may require a lot of time and energy to bring differences in the product.

3) Consumers may not pay a high price attached to price differentiation.

2.4 CAPITAL REQUIREMENTS

The firm needs to recognize the amount of capital required for the business. Firms require to invest in the business even before it undertakes production. Again, from the purchase of raw material to selling the product and providing after-sell services the firm requires capital. The capital needs of the firm are different depending on the operation it has to carry out.

Following are the categories of capital required for the business:

1. Fixed Capital:

Fixed capital is an investment of the company in fixed assets. Firms need capital for the permanent or long-term financial needs of the business. Generally, it is used for purchasing fixed assets like land and buildings, machinery and equipment, furniture, etc. The investment in fixed capital is a long time investment and it can not be withdrawn quickly.

Fixed capital is required while establishing the new company as well as at the time of expansion of the business. Fixed Capital Requirement is influenced by the following factors:

1) Nature of business:

The requirement of capital assets depends on the nature of the business. For some companies the requirement is large for example, public companies like railways. But for trading companies, the requirement for fixed capital will be less.

2)Size of business:

If the size of the operation of the firm is large, it requires heavy investment in fixed assets, Fixed capital requirement of such firms is larger than a firm operating on a small scale.

3) Type of products:

Firms producing investment goods like steel cement and automobiles require a large amount of capital than a firm manufacturing consumer goods like soap, toothpaste, stationery, etc.

4) Process of Production:

A firm with larger automation requires a larger amount of fixed capital as compared to the firm which selects a semi-automatic plant or depends more on manual labor for the production of goods. Similarly, if a firm purchases the components needed for its products from the market rather than producing these in its factory, requires less fixed capital compared to the company that manufactures the components on its own for example automobile company's assembling units.

5) Method of Payment:

If the fixed assets, specialized machinery, and equipment are purchased by making an immediate payment, more amount of fixed capital is required if the firm makes the payments installment or lease basis.

2. Working Capital:

The capital that is required to carry out day-to-day business activities is working capital. It is the funds invested in current assets. For example, wages or salaries to its workforce, repayment of loans, stock-in-trade, etc. It is called **circulating capital** because most of the amount invested in current assets is recovered through realizations of debtors and cash sale of goods and is re-invested in current assets.

Factors Determining Working Capital Requirement:

Every firm requires adequate working capital for running the business smoothly and efficiently. The need for working capital is different for different firms. It depends on the nature and size of the business. The factors that influence working capital needs are-

1) Nature of Business:

The working capital requirement of the manufacturing companies is usually high as against this, the public utilities like electricity and

telephone companies and the concerns like hotels, restaurants, etc. can manage with a small amount of working capital as most of their transactions are undertaken on a cash basis and their inventory needs are low.

2) Size of Business:

The size of the business is a crucial factor in determining the working capital requirements of every firm. If the firm is big and its volume of business is large, the working capital requirement is huge because it requires more inventory.

3) Production Cycle:

The time required for a firm to convert its raw material into finished goods is called the business cycle. If the length of the business cycle is large, the requirement for working capital is more and vice versa. But The length of the production cycle depends upon the nature of the product produced and the nature of the technology used. For example, for products like cars and cotton textiles, the production cycle is longer than the production of stationery, cosmetics, etc.

4) Turnover of Inventory:

The rate or the time within which finished stock is converted into sales is the turnover of inventory. A firm with a high inventory turnover requires less working capital. It is because a firm with a high turnover rate needs less investment in stock.

5) Credit Policy of the Firms:

If firms provide generous credit facilities to their customers, need more working capital than the firms that are strict while giving credit terms. When customers are given a liberal and longer period of credit, the firm's funds get tied up with debtors. This results in a higher requirement for working capital.

2.5 PRICING STRATEGY IN OLIGOPOLY

An oligopoly market is a market where there are few firms. A few firms know each other very well. A decision of a firm in the market affects the decision of other firms. The firms in the Oligopoly market produce homogenous or differentiated products. Since only a few firms are selling a homogeneous or differentiated product in oligopolistic markets, the action of each firm affects the other firms in the industry and vice versa.

1) Chamberlin's Model:

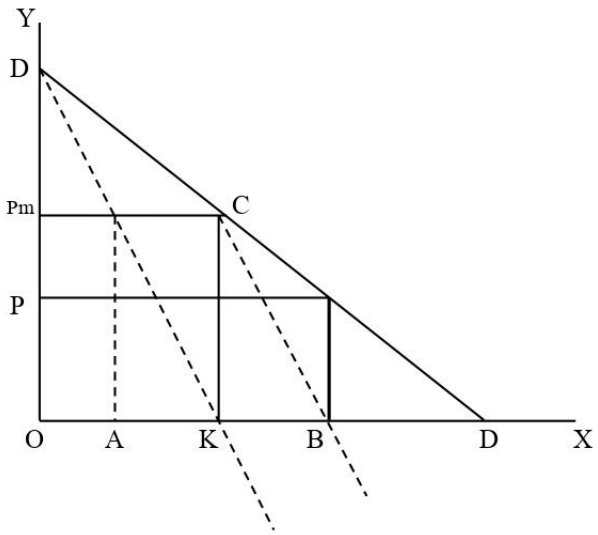
Prof. Chamberlin developed the model to suggest how output and prices are determined in an Oligopoly market. Chamberlin indicates that if the firms in a small group realize their interdependence, they can attain stable equilibrium with profit maximization, and all can enjoy monopoly profit. According to him if the firms do not recognize their interdependence, they

may have either Cournot equilibrium (where a firm assumes that its competitors will keep the quantity of output constant) or Bertrand Equilibrium (where the firm assumes that its competitors will keep price constant).

But according to Chamberlin, firms are well aware of the fact that the competitor's price & quantity decisions are going to have a direct and indirect effect on the firms' equilibrium position. With the understanding of such effects, oligopolistic firms can achieve stable equilibrium with monopoly profit for all the firms in a group.

Chamberlin's model is explained with the help of the following diagram.

Figure 2.2: Stable equilibrium



In the diagram, DD is the demand curve, and OK is firm A's output. Pm is firm A's price. Firm B will consider CD as a demand curve. It will produce quantity KB. As firm B enters the market, the price falls and becomes equal to OP. As a result, firm A will reduce output up to OA. This will increase the price up to Opm. Firm B realizes that this price Opm is a good price and therefore will not change it and it will not change the output level.

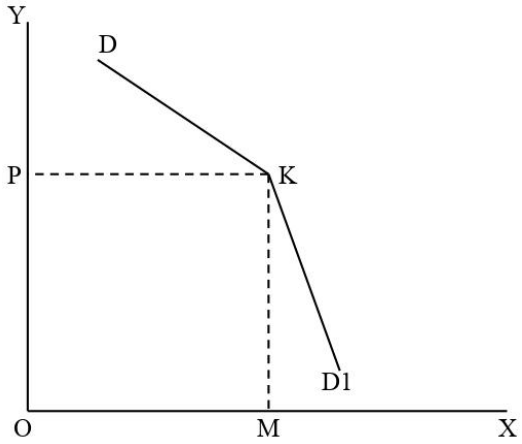
2) Kinked Demand Curve and Price Determination (Non-Collusive):

Hall and Hitch, in their article 'Price Theory and Business Behaviour', used the term kinked demand curve for explaining the price-stickiness in oligopolistic markets. It was Paul Sweezy, who for the first time, used the kinked demand curve as a tool for explaining equilibrium in the oligopoly market.

Under an oligopoly without product differentiation, if a firm raises the price, it will lose all its customers. So this firm will not tend to change its price. Alternatively, firms without product differentiation may enter into a formal or informal agreement and maintain price rigidity.

The kinked demand curve is denoted in the diagram.

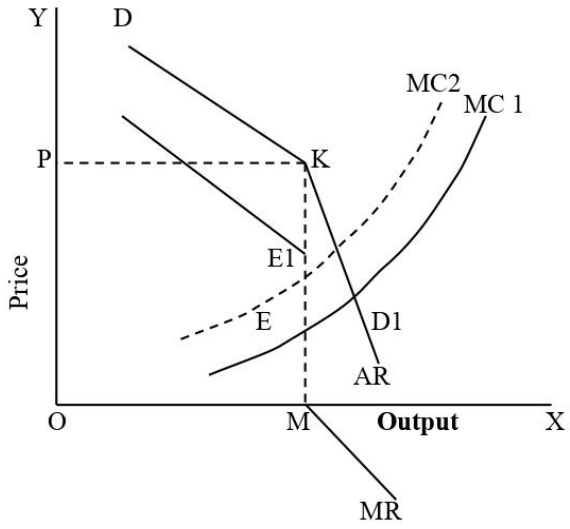
Figure 2.3: Kinked Demand Curve



In the diagram, DKD1 is the demand curve. It has a kink at point K. DK portion of the demand curve is more elastic while the KD1 portion of the demand curve is less elastic. The upper part of the demand curve is more elastic because the firms in the market do not increase the price if any firm increases the price. They fear losing consumers if they increase the price above the OP price. The lower part of the demand curve is inelastic because the firms follow the firm if any firm reduces the price. They fear that if any firm reduces the price, they will lose customers.

By increasing, the price firms may lose customers and by reducing the price there will not be much increase in quantity demanded as other firms follow the firm that reduces the price the same price prevails in the market. OP price never changes. Therefore, the price becomes rigid or sticky.

Figure 2.4: Equilibrium with Kinked demand curve and Price Rigidity



The price determined in the market is OP. This price is rigid. In the diagram, MR is the marginal revenue curve and AR is the average revenue curve. MR is discontinued due to the difference in the elasticity of demand for the AR or DKD1 demand curve. MC1 is the marginal cost curve. E is an equilibrium situation. At equilibrium E OP price is

determined in the market. Even though the cost of production increases the same price prevails in the market. When cost increases, MC2 becomes the new cost curve. E1 becomes the new equilibrium situation. At E1 the same price OP is determined. Irrespective of changes in the cost of production, the same price prevails in the market.

3) Price Leadership - (Collusive):

It is a collusive model of price determination under an Oligopoly. In an Oligopoly market, one firm sets the price and the others follow it because it is advantageous to them or because they prefer to avoid uncertainty.

There are four different types of Price leadership:

(1) Low-Cost Price Leadership:

The firm with low cost sets a lower price than the profit-maximizing price of the high-cost firms. As a result, the high-cost firms are forced to agree to the low-price set by the low-cost firm. A certain level of profit margin is considered while setting the price.

(2) Dominant Firm Price Leadership:

One of the firms in the oligopoly market that produces larger output and therefore dominates the market. Such a firm has greater influence over the market. The dominant firm estimates its demand and determines the price that is most suitable for it to earn profit. The other small firms do not influence the market, follow the price determined by the dominant firm.

(3) Barometric Price Leadership:

The old, largest, experienced most respected firm in the market determines the price. While determining the price, the firm takes into consideration demand for all the firms in the market and their cost of production. It decides the price that is the best for all the firms in the market.

(4) Aggressive Price Leadership:

A very large and dominating firm follows a very aggressive price policy and determines the price by making it compulsory for the other firms to follow the price.

4) Cartels- Formal Collusive Oligopoly:

Firms in the market agree to give up their rights of price and output determination to a Central Administrative Agency of Cartel to secure maximum joint profits for them. Under a perfect cartel, the price and output determination of the whole industry and each member firm is determined by the common administrative authority. The objective is to get maximum profit. The total profits are distributed among the member firms in a way already agreed between them. Total demand in the market is estimated and then the output quota is distributed among the member firms. The allocation of output quota to each of them is made on the grounds of minimizing cost and not as a basis for determining profit distribution.

2.6 THEORIES OF INTERDEPENDENCE

The distinguishing characteristic of oligopoly is interdependence. Since an oligopolist knows that its actions will have a significant impact on the other oligopolists in the industry, each oligopolist must consider the possible reaction of competitors in deciding its pricing policies, the degree of product differentiation to introduce, the level of advertising to undertake, the amount of service to provide, etc. There are two important theories of interdependence'.

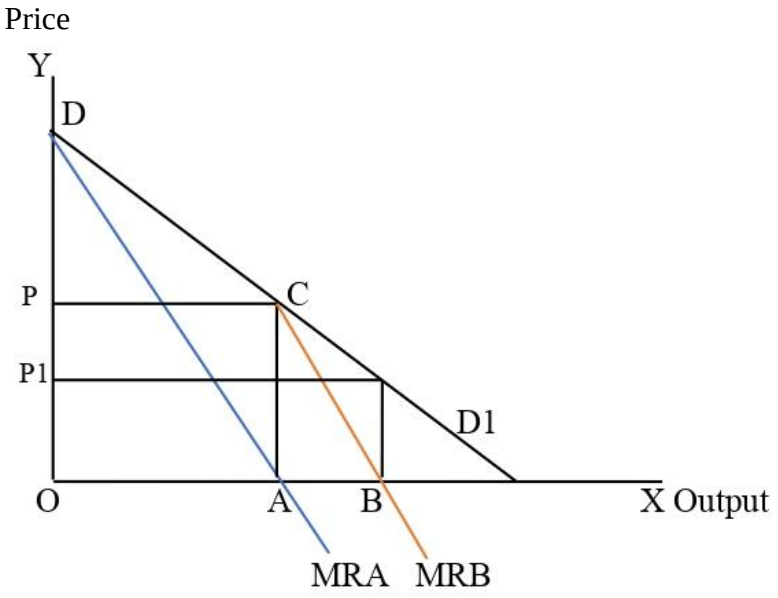
1. Cournot Model:

The most used model for Oligopoly is Cournot Model. It was developed by Augustin Cournot in 1836. He argued that oligopolists compete to determine price and output. It assumes that there are only two firms in the market. As a result, the firms assume that their rival firm's output is fixed. Both firms keep on changing the level of output and finally reach a point where the output curves of the firms meet. It is called Cournot equilibrium. The price set at this point is higher than the competitive price. Following are the assumptions of the theory.

1) There are only two firms in the market. A and B.
2) Both the firms operate at Zero cost of production.
3) The firms produce identical products.
4) Firms decide their own output assuming that the other firm will not change its output.
5) Firm A decides its output first.

The theory can be explained with the help of the following diagram.

Figure 2.5: Cournot Model of Duopoly



As denoted in figure 5 DD1 is the market demand curve, MRA is the marginal revenue curve for firm A and MRB is the Marginal Revenue curve for firm B. Firm A decides the price and output first. Firm A will produce OA quantity of output and it will charge OP price. The firm earns maximum profit because both firms do not incur any costs. The profit of the firm is TR-TC. Where TR is OACP- 0. The firm earns OACP profit.

The firm assumes that firm A will not change its output and price. It considers the demand curve CD1. It will produce half the quantity of AD. Firm B will produce AB quantity for OP1 price. B's share of market demand is ½ OF ½ = $1/4^{Th}$ (A's share is ½ of total market share so B's share is ½ of ½ (1/2*1/2)) Profit of the firm is maximum.

Now A will assume that B will keep its output and price the same. The remaining part of the market share or demand is BD1. A will produce half of BD1 now its share will be ½*3/4=3/8. Firm A will have $3/8^{th}$ of the market or output share.

As a reaction, firm B will produce ½ of the remaining market share. ½ (1-3/8)= 5/16. As a reaction to this, A will produce ½ of the remaining market share. A's share will be ½(1-5/16) This will continue. Finally, equilibrium is reached where every firm will produce 1/3 of the total market share. Both the firms together produce 2/3 of the market share. The profits of both firms are maximum, but the profits of the industry are not maximum.

If the firms recognize their interdependence, they may earn monopoly profit.

Limitations:

1) Wrong assumption of zero cost – The theory assumes that the cost of production of the firms is zero. But it is highly impossible. Every production has a cost.

2) It is wrong to assume that the two firms in the market decide quantity independently.

3) Firms in an Oligopoly market compete with each other on prices rather than quantity.

4) Closed model. Entry of new firms into the market is not considered.

2. Bertrand Model:

Joseph Bertrand developed a theory for the duopoly market. According to him, the firms in the market have the same market demand. Bith both firms will try to get maximum profit assuming that the other firm will charge the **same price**. Bertrand modified Curnot's model. His model is based on the following assumptions.

1) There are two firms A and B

2) The cost of production for the firms is the same

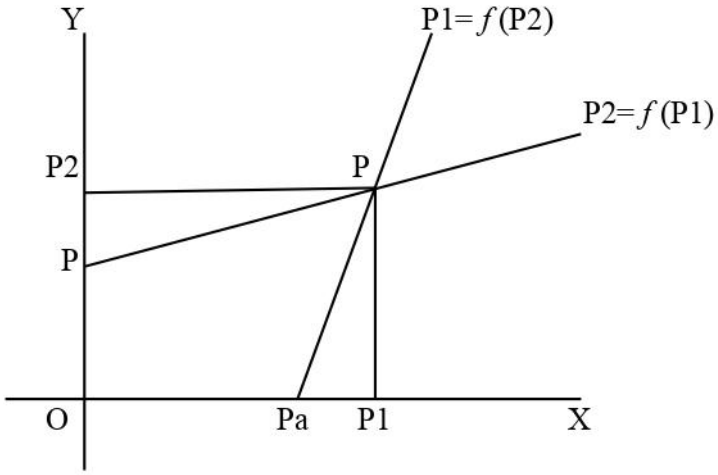
3) Firms have unlimited production Capacity

4) Each firm takes an independent decision.

5) Each firm believes that the price of the rival firm remains constant.

Firms will take into consideration various price combinations based on their price and the prices of the other firm. If one of the firms reduces the price, the other firm decides whether to change the price. Price adjustments of the firms are denoted in the following diagram.

Figure 2.6: Bertrand Reaction Curves



In the above diagram, P1 is the reaction curve of firm A and P2 is the reaction curve of firm B. Reaction curves of the firms are drawn by taking into consideration iso- profit. P1=f(p2) is firm A's reaction curve based on its price and the prices of firm B. P2= f (p1) is firm B's reaction curve based on its price and the prices of firm A. When the reaction curves intersect, the equilibrium is reached. It is a stable equilibrium. Any deviation from this equilibrium point leads to changes in the forces of price and output such that ultimately the same equilibrium point is reached. According to Bertrand's model, **output and price under a duopoly are equal to those under pure or perfect competition**. This is in contrast with Cournot's model, in which the equilibrium output is less than the purely competitive output and, therefore, the price is higher than the purely competitive price.

3. Stackelberg Theory:

A German economist Stackelberg developed this model in is different from Cournot's model. In Cournot's model, both firms in case of a duopoly adjust their output independently and simultaneously assume that the output of the other's will remain constant.

Stackelberg's model is different from Cournot's model in two respects 1) Firms recognize their interdependence. A firm knows that its rival firm will take into account the quantity of output determined by it. 2)The two firms do not take their decisions simultaneously; one firm determines its output first, and the other firm follows.

Assumptions of Stacklberg's Theory:

1) A duopolist can sufficiently recognize market competition based on the Cournot model.

2) Each firm aims to maximize its profits based on the expectation that the decisions of its competitors will not be affected by its output.

3) It assumes perfect information for all players in the market.

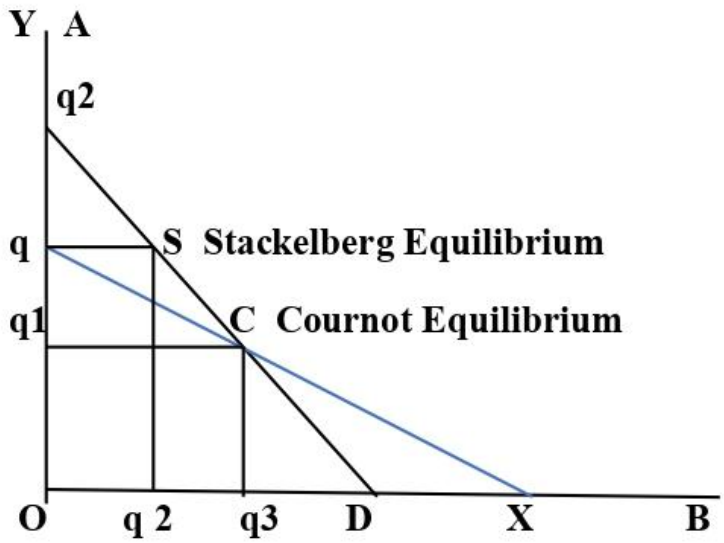
4) The operating firms try to maximize profits based on their rivals' decisions**.**

Suppose there are two firms in the market, one firm is the leading firm and the other is the follower. If both produce the same good at the same production cost. Each firm chooses the production quantity that maximizes its profits, taking the quantity produced by other firms in the market into consideration. When the leader firm decides the price the follower will maximize profit by using this price to determine its output.

Any decrease in price by the follower firm will lead to a fall in the price of the leader firm. A fall in the price of the leader firm will increase the share of the leader. The share of the other firms will decline. They may produce less or exit the industry.

Thus the follower firm has no incentive to reduce the price.

Figure 2.7: Stackberge's Equilibrium



If firm A assumes itself as a leader and B as the follower, it will produce oq quantity. Consequently, firm B follows with q2, which is the best it can maximize up to. In the diagram S is the Stackelberg equilibrium point where firm A produces more than it could produce at equilibrium point C, the Courton equilibrium point. Similarly, when firm B follows after firm A has taken the output decision, it produces much less than it could have in a Courton game.

4. Game Theory:

Professor Neumann and Morgenstern in their book "The Theory of Games and Economic Behaviour" published in 1944 provided the application of games theory in the Oligopoly market. The game theory examines the outcome of a situation of interactions between the parties when they have conflicting interests. According to professors Neumann and Morgenstern, in an oligopolistic market situation, an individual oligopolist is faced with the problem of choosing the rational course of action, called a **strategy**. The strategy that brings gain against the counter-reaction by a competitor is called Payoffs.

A matrix of payoffs is called a payoff matrix. For example-

If there are two firms in the market and each firm has 3 strategies the payoff matrix is denoted in the following table.

Table 2.1 Payoff Matrix

Firm A's Strategy	Firm B's Strategy		
	B1	**B2**	**B3**
A1	4	5	12
A2	5	7	9
A3	9	5	7

Firm A has 3 strategies A1, A2, and A3. Firm B has three strategies- B1, B2, and B3

If firm A chooses one strategy, firm B has three strategies available. It will choose the most appropriate strategy for it out of three available strategies. For example, if A chooses strategy A2 B has B1, B2, and B3 strategies available. If the firm selects strategy B2. Then B's payoff is 7. Pay off matrix is 3X3=9. (A's strategies X B's Strategies)

Firms in an Oligopoly market make decisions based on the price-output decisions of the other firms in the market. The decisions are strategic.

Co-Operative and Non-Cooperative Game:

The games can be cooperative and noncooperative. The game is cooperative if the firms can enter into an agreement and they can choose such strategies that may give out a maximum joint profit.

The game is noncooperative if the firms have conflicts of interest and they can not enter into any agreement.

Dominant Strategy:

The payoff of the firm depends on the available strategies of the other firm. But some strategies are so strong that the firm will get maximum payoff irrespective of the strategy of the other firm.

The dominant strategy can be explained with the help of the following example.

Table 2.2: Dominant strategy

		Firm B (Rs crores)	
		Advertising	**Nonadvertising**
Firm A	**Advertising**	A: 10	A:15
		B: 5	B:0
	Non-Advertising		
		A: 6	A: 10
		B:8	B:2

The pay-off matrix denotes profits of firms A and B in crores by choosing two strategies 1) to advertise or 2) not to advertise.

- If both the firms decide to advertise, Firm A will earn profits of Rs. 10 crores while firm B will earn 5 crores.
- If A follows advertising but B is not advertising A's profit is Rs. 10 crores and B's profit is 0 crores. B will not earn any profit.
- If A does not advertise and B advertises, A's profit is 6 crores and B's profit is 8 crores
- If A does not advertise and B also does not advertise, A's profit will be 10 crores and B's profit will be 2 crores.

The example suggests that it is always better for firm A to adopt the strategy of advertisement. Irrespective of any strategy followed by the other firm. It is the **dominant strategy** of firm A because it will benefit regardless of any counter strategy followed by firm B.

Nash Equilibrium:

Nash equilibrium is a situation in the game where there is no possibility of movement for the firms. Once this equilibrium is reached there is no incentive for any player to deviate from the chosen strategy. Nash equilibrium has been named after John F. Nash, an American mathematician, and economist. It indicates that there is no possibility of individual gain once Nash equilibrium is reached.

The Nash Equilibrium can be explained with help of the following example.

Table 2.3: Nash Equilibrium

		Firm B (Rs crores)	
		Advertising	**Nonadvertising**
Firm A	**Advertising**	A: 10	A:15
		B: 5	B:0
	Non-Advertising		
		A: 6	A: 20
		B:8	B:2

Always the firms may not get the dominant strategy. In the above example:

- If firm B adopts the strategy of advertising, the profits of firm A are 10 crores. If firm B adopts the strategy of not advertising A's profits are 6 crores. The best choice for firm A is to follow the strategy of advertising.

- If firm B follows the strategy of not Advertising, firm A will earn profits of 15 crores by following a strategy of advertising. If firm A also follows the strategy of nonadvertising its profits are 20 crores Thus, given that firm, B chooses the strategy of not advertising the choice of strategy not advertising is firm A is optimal.

Thus the optimum strategy of firm A depends on the strategy adopted by firm B. If there is no dominant game, the firms take into consideration the best possible strategy of the other firm.

- When firm A chooses the strategy of advertising firm B will get profits of 5 crores by adopting the strategy of advertising. But if it chooses not to advertise its profits will be zero.

- If firm A chooses the strategy of not advertising firm B will get a profit of 8 crores if it decides to advertise. If it decides not to advertise it will earn only 2 crores. Thus, for firm B, the strategy of advertising is better irrespective of any strategy adopted by firm A. So while deciding on the strategy A will assume that B will follow the strategy advertising.

When A will choose the strategy of advertising given that firm B also will follow advertising. It will choose the best strategy given the best strategy adopted by firm B. Firm B will also adopt the best strategy given the strategies of firm A. In this situation, there is no incentive for the firms to move away from the equilibrium. It is a Nash Equilibrium. There can be more than one Nash Equilibrium.

2.7 TACIT COLLUSION AND PRICE LEADERSHIP

Tacit collusion means implicit collusion. Collusion is the anti-competitive behavior of firms. Sometimes the firms cannot come together and form collusion. Price leadership is a situation where the firms in the market follow the price charged by the leader firm.

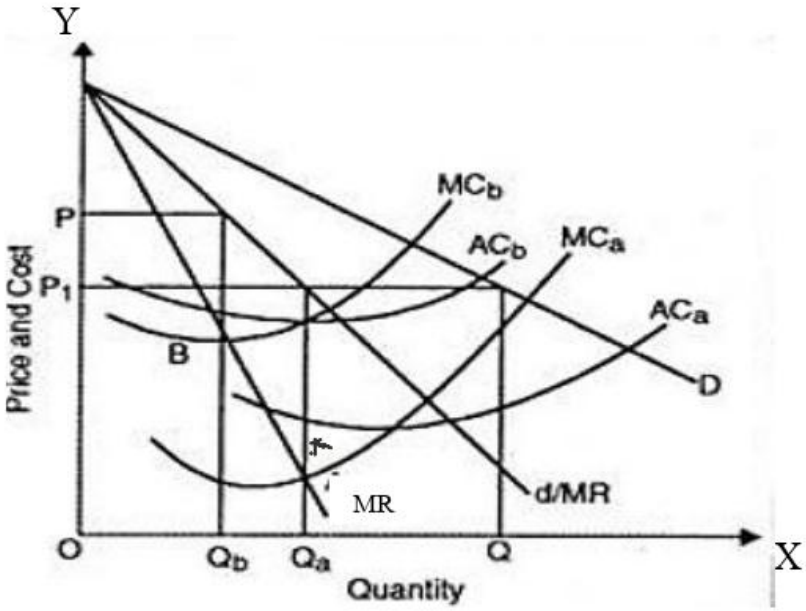
Another form of collusion is formal collusion. A cartel is an example of formal collusion where the firms in the market form the Cartel Board to take decisions regarding price and output.

But in the case of tacit collusion, the firms do not form collusion explicitly. But they agree to determine output and price implicitly. The following two models of price leadership are examples of tacit collusion.

1. Low-cost Price Leadership:

The firm with the lowest cost of production determines the price and other firms in the market follow the price. The price determination by a firm with low cost is denoted in the following diagram.

Figure 2.8: Low-Cost Price Leadership

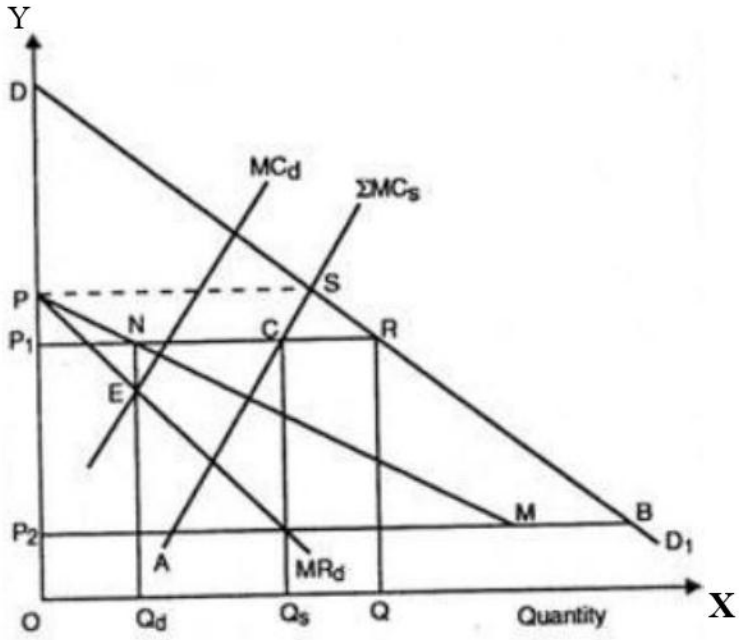


In the diagram, D is a market demand curve d is the demand curve of the firms in the market. MR is the marginal revenue curve of firms A and B. ACa and MCa are the average and Marginal costs Curves of firm A. ACb and MCb are average and marginal cost curves of firm B. A is the equilibrium of firm A. B is the equilibrium of firm B. At equilibrium, firm A charges op1 price. At the equilibrium, firm B charges OP price. The price charged by firm B is higher than firm A because the cost of production of firm B is higher than the cost of production of firm A. But as firm A takes initiative to determine the price, firm B cannot charge OP1 price. It follows firm A and charges op price. At price OP, firm B produces Ob quantity, and firm A produces Oa quantity. Thus as the cost of production of firm A is the lowest, it leads the other firms in the market and determines the price of products. The price determined by firm A is followed by the other firms in the market.

2. Price determination by the dominant firm:

When a dominant firm in the market takes lead to determine the price it is the dominant firm Price leadership. The dominant firm has a larger share of the market. The other firms in the market are smaller. The small firms follow the price determined by the dominant firm. This has been explained through the following diagram.

Figure 2.9: Dominant Firm Price Leadership



In the diagram, DD1 is the demand curve AS is the supply curve. S is a market equilibrium where the op piece is determined. PM is the demand for the dominant firm. MRd is a marginal revenue curve of the dominant firm. DM is the market supply curve. MCd is the marginal cost curve of the dominant firm. E is the equilibrium of the dominant firm. At equilibrium, the firm determines Op1 as a profit-maximizing price. Out of the total quantity produced, it produces P1C units. The other firms in the market will follow the price but they will produce P1N units. The dominant firm in the market determines the price and quantity as a market sharing agreement.

2.8 LIMIT PRICING

Limit pricing is a pricing strategy where the firm charges such a low price that it becomes impossible for the other firms to enter the market. The limit pricing theory has been developed by **J. S. Bain** in his article '**Oligopoly and Entry Prevention'** Bain explained that the firm determines the price above the competitive price but below the monopoly price. A competitive price is a price with normal profit. A monopoly price is a price where profits are maximized. Limit Price is the price that is above the competitive price and below the monopoly price. It is the price that the existing firms in the industry charge without fear of attracting new firms to the industry. The theory of limit pricing is based on the following assumptions-

1. The long-run demand curve for industry is determinate and is unaffected by the price adjustments by the existing firms or by the entry of new firms.

2. There is collusion (Agreement) among the oligopolists.

3. The firms can calculate the limit price**.**

4. Below limit price, new firms will not enter the market and above limit price, entry is attracted.

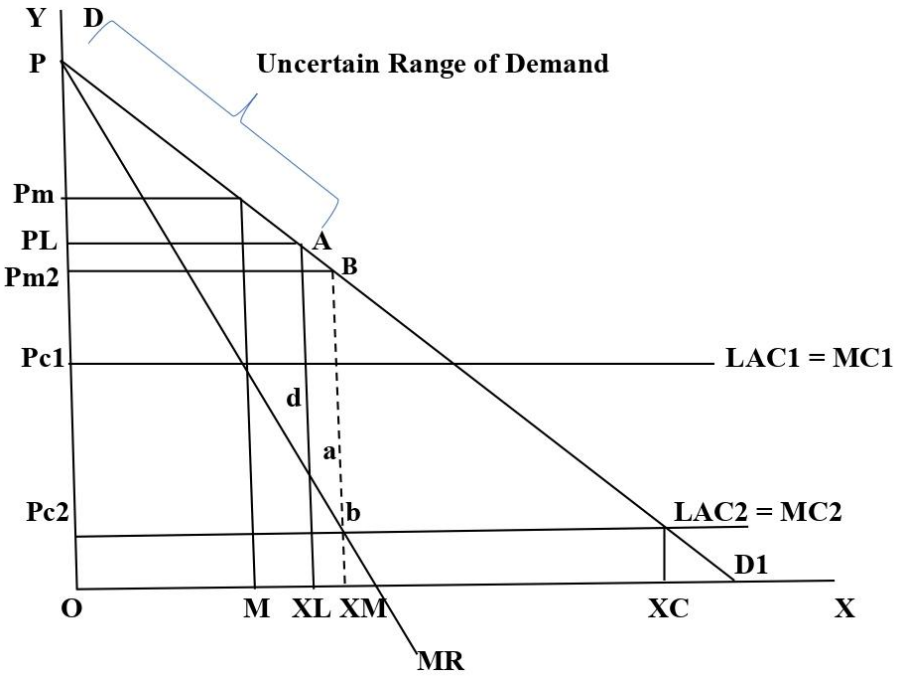
5. Established firms aim at maximization of profits.

There are two models of limit pricing theory:

A) Limit Pricing Without Collusion:

If there is no collusion with the new firms, the limit price is determined as indicated in the following diagram.

Figure 2.10: Limit Pricing with no collusion



In the diagram, DD1 is the market demand curve. MR is the marginal revenue curve. PL is the limit price. The limit price is determined based on 1 cost of prospective entrants. 2 elasticity of demand in the market. 3) Long run average cost 4) No. of firms in the industry. 5) Size of the market.

DA is an uncertain part of the demand curve as the behaviour of the new entrants is unknown. AD1 is a certain part of the demand curve. am is a certain part of the marginal revenue curve. In the diagram LAC1 and LAC2 are long-run average cost curves. At LAC1 there are two possible alternatives. It can charge a price PL or it can charge a monopoly price. Which is more than PL. This price will give more profit, but the profits are not certain. So, the firm will compare certain profits with uncertain profits and choose a price between PL and Pm.

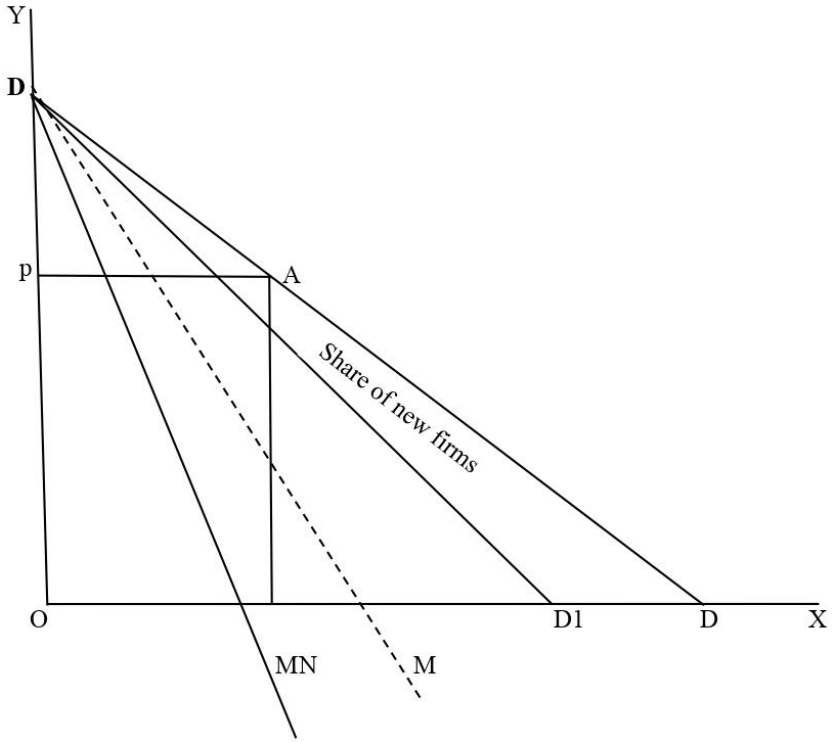
If the LAC is LAC2, then the profit-maximizing price is OPM2. Profits are maximum at this price and this price is less than PL. Therefore, the

firm will prefer this price. PL will be the limit price. If these new firms enter the market, then the supply of the product would increase and for a given price this increase in supply results in a fall in the prices below their average cost of production. After the entry of the firms, the price would be less than the average cost. If the new firms enter at this price then they may suffer from losses.

B) Limit Pricing with Collusion:

If the newly entered firms and the established firm are in collusion, the demand curve shifts to its left. Demand decreases. But the demand for the newly entrant firms is certain. There is no uncertainty in the market, it can be explained with the help of the following diagram.

Figure 2.11: Limit pricing with Collusion



In the diagram, DD is the demand curve. With the entry of new firms, DD1 becomes the new demand curve. This demand is certain as the firms are in collusion. There are three alternatives open to the firm.

1) To charge limit price PL without allowing the new firms in the market.

2) To make collusion with the firms and to charge a price above the limit price. Enter into collusion and accept the DD1 demand curve which is certain.

3) To charge a monopoly price.

The firm chooses the alternative which is the most profitable for her. According to Bain if the established firms in the Oligopoly market charge the monopoly price, they get huge profits. But if firms charge a price equal

to the long-run average cost the established firms will get the benefit but the new entrants just earn a normal profit.

2.9 SUMMARY

Firms in the market are interested in getting maximum profit by minimizing costs, Economies of scale are the advantages of large-scale production. The firms get many benefits from large-scale production Economies of scale are denoted on the Long Run Average Cost curve or envelope curve. Firms can minimize the costs and get the benefits of large-scale production up to a certain extent beyond that extent the cost increases. Economies may turn into diseconomies.

Firms adopt many ways to get the maximum share of the market. Product differentiation, and understanding the requirements of capital are some of such efforts to improve market share and safety of the firms.

The firms can not determine their decisions independently. In an oligopoly market, there is interdependence. The price and output determination in this market depends on the nature of collusion in the market. The theories like the Cournot model, Stacklerberg's theory, Games Theory, and Bertrand's model explain the interdependence in the Oligopoly model. The theories like price leadership and limit pricing explain tacit collusion in the market. The basic model of the Kinked demand curve suggests price rigidity.

2.10 QUESTIONS

1) Explain various economies of scale with the help of the Long Run Average Cost Curve.

2) Explain price rigidity with the help of the Kinked demand curve.

3) What is non collusive Oligopoly? Explain any two models of noncollusive oligopoly.

4) What is interdependence in Oligopoly? Explain how game theory is an example of interdependence.

5) What is Nash equilibrium? Explain Nash equilibrium with the help of an example.

6) Describe the Cournot model of Oligopoly.

7) Evaluate Limit Pricing Theory of Oligopoly market.

8) What is price leadership? explain the models of Price Leadership.

9) Write a note on

    1. Staklberge model

    2. Bertrand Model

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MODULE - II

3

TECHNICAL CHANGE - I

Unit Structure

3.0 Objectives

3.1 Introduction

3.2 Meaning and Measures of Market Concentration and Monopoly Power

- 3.2.1 Meaning
- 3.2.2 Measures of Market Concentration and Monopoly Power
- 3.2.3 Concentration and The Market Performance of A Firm

3.3 Advertising

- 3.3.1 Optimal Advertising
- 3.3.2 Advertising and Market Structure
- 3.3.3 Cost of Advertising

3.4 Summary

3.5 Questions

3.0 OBJECTIVES

- To study the concept of Market Concentration
- To study different aspects related to Advertisement.

3.1 INTRODUCTION

Advertising is a form of communication used for passing on business information to the existing and potential customers. The information is usually related to the firm, quality of its product, place of availability of its product etc. It is necessary both for the sellers as well as customers. However, it is more important for the sellers as it serves as a means for them to convey all relevant information about their product. Present day producers usually indulge in large scale production and it is difficult for them to market their products without advertising. It serves as a supplement to the forms personal efforts of selling the product. Importance and relevance of advertising has become more significant in recent times with more severe competition and changing technologies. Customer's choice, taste and preference keep changing at a very fast rate. Thus, understanding advertising, its impact on price, demand, costs and sales become very essential. In addition, to have a better understanding of the effect of advertising it is also important to assess the interaction between market structure and advertising and effect of advertising on price competition.

Advertising refers to expenditure by the firm to promote sales of its product and services. The expenditure includes the payment for the space in print and electronic media like radio, televisions and websites. Promotional activity like special displays or offers in shops and commercial shows also forms the part of advertising. The main objective is to have an impact on the consumers' choice so that they decide in favor of the product and services provided by the advertisers. Two major roles of advertising have been identified by economists. Firstly, it provides information based on facts to the consumers about the nature and characteristics of the product, its price and availability or the '*informative*' advertising. Secondly it persuades the consumers to decide in favor of a specific product or service by highlighting and emphasizing the quality of the product or associating it with lifestyle or a celebrity or '*persuasive*' advertising. The later one makes an attempt to persuade or motivate the consumers to buy the product without taking the pain to supply any useful or additional information to the consumer like characteristics of the product, price, availability and location of the store. Most of the television advertisements fall in this category. While the informative advertising does make an attempt to provide all the relevant information. However, as all advertisements contain some information regarding the product, it is difficult to make a distinction between the 'informative' and 'persuasive' advertising. The objective of the firm to engage in advertising remains the same in both types of advertising. The main objective is to bring about change in the preference of consumers by using the superior quality or promoting brand loyalty to persuade them. Consequently, firms are able to sell their product more and at a higher price. It also enables them to lower the average production cost by producing or selling more output and gaining more profit.

3.2 MEANING AND MEASURES OF MARKET CONCENTRATION AND MONOPOLY POWER

3.2.1 Meaning:

Market concentration measures the extent to which market shares are concentrated between a small number of firms. It is often taken as a proxy for the intensity of competition. Indeed, in recent years changes in concentration have increasingly been used to argue that the intensity of competition is falling, that the growth of large firms with high market shares is driving up profits, damaging innovation and productivity, and increasing inequality. Some have argued that the competition rules need to be rewritten and a crackdown by overly antitrust agencies is required. Market concentration or, more specially, the degree of sellers' concentration in the market, is an important element of the market structure which plays a dominant role in determining the behaviour of a firm in the market. By market concentration we mean the situation when an industry or market is controlled by a small number of leading producers who are exclusively or at least very largely engaged in that industry. Two variables that are of relevance in determining such a situation are (i) the number of the firms in industry, and (ii) their relative size distribution. In

the context of industrial economics, the implication of market concentration is far wider than whatever we find in the theory of the firm. It will be our attempt in this chapter to focus on such implication in the framework of 'market-structure conduct performance' link.

3.2.2 Measures of Market Concentration and Monopoly Power:

In order to test empirically the behavioural hypotheses about the firm and industries, we need a measurement of market concentration. Various quantitative indexes have been suggested for this purpose which we are going to summaries in this section. Some of them are used to measure the monopoly power of the firms and some for-market concentration. These two terms, i.e., monopoly power and market concentration, are closely interrelated and cannot be separated from each other in the measurement process. The degree of market concentration would vary with the monopoly power in a particular industry, or we may also say that existing firms acquire monopoly power if the market is concentrated. The indexes that we are going to discuss here would therefore be indicating to us almost similar things with minor differences. The measures for monopoly power would be more appropriate at firm level. They indicate the actual monopoly power exercised by the firms. The measure of concentration on the other hand would give us the potential monopoly power in the market or industry as a whole. Obviously some firms would be having monopoly power in the situation of market concentration. If the market of firms and their relative sizes in the market are changing, we expect a change in the monopoly power of the firms. The concentration is, therefore, a necessary condition for the monopoly power although it is difficult to say that there is one to one proportionality between them. Before discussing the indexes, it will be useful here to mention some general conditions or requirements which should be satisfied by each one of them. This helps us in screening the indexes while making the final choice for empirical work. The conditions are:

I. The measure must yield an unambiguous ranking of industries by concentration. Consider Fig. 1 in which concentration curves, i.e., the graphs between cumulative number of firms from largest to smallest and cumulative percentage of market supply are shown by J1, J2, J3 for their industries separately. J1 is above J2 and J3 everywhere. It means the industry which is represented by it is more concentrated than the other two. However, there is ambiguity in the ranking of the second and third industries represented by J2 and J3 respectively.

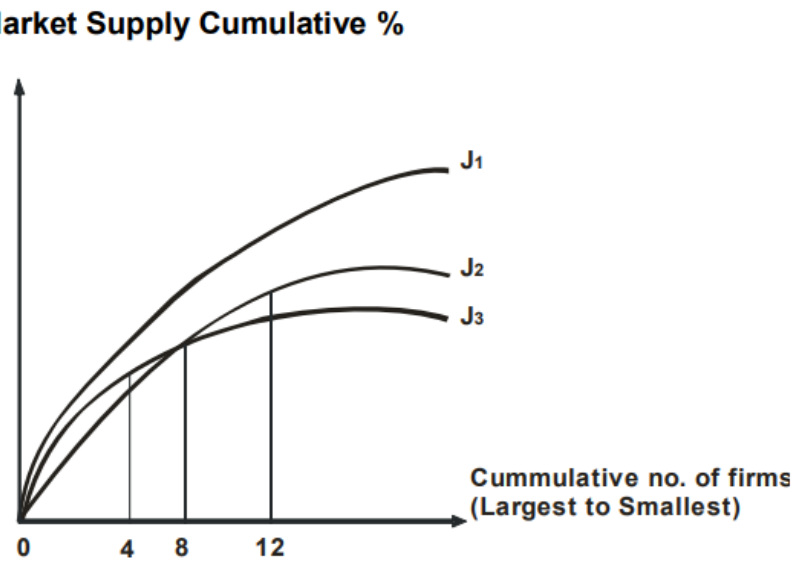

Fig 3.1 Hypothetical Cumulative Number of Firms

II. The concentration measure should be a function of the combined market share of the firms rather than of the absolute size of the market or industry.

III. If the number of firms increases then concentration should decrease. However, if the new entrant is large enough, then concentration may go up.

IV. If there is transfer of sales from a small firm to a large one in the market, then concentration increases.

V. Proportionate decrease in the market share of all firms reduces the concentration by the same proportion.

VI. Merger activities increase the degree of concentration.

The Concentration Ratio:

The most popular and perhaps simplest index for measurement of market concentration or monopoly power of the few firms is the use of the concentration ratio, that is, the share of the market or industry held by some of the largest firms. The market share of such firms may be taken either in production or sales or employment or any magnitude of the market. In symbolic form the concentration ratio is written as:

$$C = \sum_{i=1}^{m} P_i$$

m: 4, 8, 10, 12, …….., 20,…….

Where Pi = market share of i^{th} firm in descending order. The normal practice is to take the four-firm (m = 4) concentration ratio but if the total number of firms operating in the market is large enough then one 20-firm concentration ratio to assess the situation. The higher the concentration ratio the greater the monopoly power or market concentration existing in the industry.

There are some limitations of this index. It does not take the entire concentration curve into account; it rather indicates market concentration at a point of the curve. The ranking of industries depends on the point chosen. If the point is changed there may be changes in the ranking of the industries also. This is the situation shown in Fig. 1 for J2 and J3 curves on the basis of the 4-firm concentration ratio, industry 3 is more concentrated than industry 2, but on the basis of the 12-firm concentration ratio the ranking is reserved. For the 8-firm concentration point both are equally concentrated. There is thus some ambiguity as to which point is to be chosen. Further the concentration ratios depend to a great extent on how the market is defined. A broad market would tend to reduce the computed concentration ratio whereas a narrow one would usually have the opposite effect. This means, in the standard industrial classification, the concentration ratios will be lower for the two-digit major industry group than the ratios for the three-digit industries in the same group.

The data for the finer classification of the industries may not be available, hence it may be difficult to have precise idea of market concentration using the aggregate data; moreover, it may not be comparable with other industries or countries' data. There are other limitations also. The ratio does not reflect the presence of or absence of potential entry of firms, they being based upon national figures, do not say anything about the regional market power; they do not describe the entire number and size distribution of firms, only a part of that is considered by them; they do not say anything about monopoly power of the individual firms in the market and ignore the role of imports in the domestic market. The ratios may give a conflicting picture of the concentration with the use of different variables for size of the firms.

In spite of the limitations, the ratios are widely used in industrial economics. They are simple to compute, readily available for the manufacturing sectors, and capable of measuring market concentration with a finer classification of the industries. They are consistent with the economic theory, as we know that, other things being equal, monopolistic practices are likely to be in operation to a greater extent where a small number of the leading firms account for the bulk of any industry's output than where the industry's output is evenly distributed among the firms.

The Hirschman - Herfindahl Index:

It is the sum of the squares of the relative sizes (i.e., market shares) of the firms in the market, where the relative sizes are expressed as proportions of the total size of the market symbolically,

$$Herfindahl\ Index\ (H) = \sum_{i=1}^{n} (P_i)^2$$

where, Pi = qi/Q, qi is output of i^{th} firm and Q is total output of all the firms in the market, and n is the total number of firms. This index takes account of all firms in the market (i.e., industry). Their market shares are weighted by the market share itself. The larger the firm, more will be its weight in the index. The maximum value for the index is one where only one firm occupies the whole market. This is the case of a monopoly. The index will have minimum value when the n firms in the market hold an identical share. This will be equal to 1/n, that is

$$H = \sum_{i=1}^{n} \left[\frac{1}{n}\right]^2 = \frac{1}{n}$$

H decreases as n increases. Inverse of H gives us an equivalent measure of the market concentration. The index is simple to calculate. It takes account of all the firms and their relative sizes; it is therefore popular in use and consistent with the theory of oligopoly because of its similarity to measures of monopoly power. Adelman has explored its properties extensively and related it directly to the concentration curve.

The Entropy Index:

This index has been suggested by Hart to measure the degree of market concentration. It uses the formula

$$E = \sum_{i=1}^{n} P_i\ L_n\ L_n\ \frac{1}{pi};\ \ 0 \le E \le 1_n n$$

where E is defined as 'Entropy Coefficient; Pi is the market share of i^{th} firm and n the number of firms. This coefficient in fact measures the degree of market uncertainty faced by a firm in relation to a given customer. This will be the situation when the number of firms is large enough. i.e. the market is not concentrated. For a monopoly firm (n =) the entropy coefficient takes the value of zero which means no uncertainty and maximum concentration. Thus, we find opposite (inverse) relationship between the entropy coefficient E and the degree of market concentration. If there are n firms, all equal in size, then

$$E = \sum_{i=1}^{n} \frac{1}{n} * ln\ ln\ n\ = ln\ ln\ n$$

Both, increased equality of market shares and an increase in the number of firms increase the entropy coefficient but the latter factor plays a diminishing role because of the use of logarithms which implies that addition of an extra firm, when number is already large enough, it

becomes less significant from the point of view of market concentration. In terms of number equivalent the number can be measured as exp (E).

To take into account the number of firms as a determinant of the entropy coefficient one may use the relative measure of the entropy, i.e., the entropy coefficient E divided by the maximum value of the coefficient (log n)

$$E_r = \frac{E}{\ln \ln n}; \quad 0 \leq E_Y \leq 1$$

This expression indicates the actual degree of dispersion of market share to the maximum dispersion possible for a given number of firms. The entropy coefficient is a useful measure of market concentration in the sense that the population of the firms for which the entropy coefficient is to be computed can be decomposed or disaggregated into several groups, say on the basis of sizes, regions, products and the classification of industry, etc. to compute separate entropy coefficients for them, a weighted sum of such coefficients would then give the overall entropy coefficient. Such a decomposition is not possible in the case of other indexes of market concentration.

3.2.3 Concentration and the Market performance of a Firm

There are many behavioural hypotheses about concentration and market performance as we read in microeconomics, a firm with substantial monopoly power will tend to charge high price, produce and sell less output, make high rates of profit, grow faster than others, capable of doing anything it wants in connection with its business such as R & D, advertisement and so on. Let us presume that concentration is an appropriate measure of such power, we are then in a position to verify the various propositions of the economic theory which reflect the relationship between concentration and market performance of the firm. This will naturally be based on the empirical evidence available so far but no attempt will be made to make an exhaustive survey of this here. Only a few selected studies will be referred in connection with the individual hypotheses.

a) Concentration and Profits:

A firm derives market power or monopoly power in the situation of concentration. Such market power, via market conduct activities or directly leads to an increase in the profitability of the firm. It is frequently assumed that persistence of high rates of profits over a long period is the consequence of high degree of intra-industry concentration. J. S. Bain was the first to make an empirical study of this proposition, who found it valid for the U.S. industries. The relationship was found so strong that Bain was to argue for the profit rate as an index to measure the concentration. Since then, there has been a flood of studies on the relationship which by and large supported this but some of them were, of course, very critical also.

There are some difficulties in establishing the correct relationship between the two variables (concentration & profitability) as both of them are subject to ambiguities of measurement: which index of measurement is to be used for concentration? There are so many of them. If one measure is taken, it may have strong correlation with profitability, but if another is taken, it may have a weak relationship. Further, measurement of profit rates is also not free from bias. This is generally based on accounting data which ignores certain opportunity cost elements related to own funds or own labour of the entrepreneur in the business; some arbitrary valuations are placed for such elements which may induce bias in the relationship. What denominator is to be used to compute profit rate is also not clear sales or assets or production or something like that. Researchers make their own choices for such rates, without giving the proper rationale for that. In spite of such difficulties, we should not discard the relationship between concentration and profitability. It is a positive one which is consistent with the theoretical logic, through very precise estimation of which is yet to come.

b) Concentration and Price-cost Margins:

Price-cost margin is another way to define profitability. This is a short-term view of profitability based on current sales and cost figures. Say the average price-cost margin is just a ratio of these two magnitudes. Empirical studies, particularly those conducted by Collins and Preston supported the positive relationship between concentration and the price-cost margin for the American four-digit industries. Shephered also confirmed the positive relationship between them for most of the U.S. industries Koch and Fenili however, looked at the concentration acting as a surrogate for other determinants of price cost margins because of its being causally linked with them. They found it as an insignificant predictor of price cost margins when other relevant indicators of market structure like product differentiation, rate of technological change, etc. were also considered side by side. We may not agree with their findings simply because when all such determinants were taken together along with concentration, multicollinearity might have distorted their relationship making concentration insignificant. For its significance, there is a strong theoretical base which cannot be demolished because of statistical inadequacies of measurement.

In a recent book, Hay and Morris have presented a summary table of 67 studies on market structure and profitability for the period 1971 to 1988. According to this, market concentration was found to be a significant determinant of profitability with expected sign in 28 studies, insignificant in another 28 studies; and doubtful in the remaining studies. All this reveals that no specific generalization could be made about the relevance of the market concentration as a determinant of profitability although major support is coming for its being a positive factor as per the theory.

c) Concentration and Growth of the Firm:

The growth of the firm is a topic which requires a full chapter for discussion. Here we will just mention how concentration is relevant for this. There are two different streams of thoughts to explain the causal relationship between the two variables. According to one view, a firm with market power, as a consequence of concentration, may prefer to maintain its high rate of profit by restricting the output and charging high prices. If it grows, it has to sacrifice some profit margin, and lower prices which may not be in its interest. Moreover, there will be all kinds of restrictions imposed by the Government to stop further growth of such firms. Furthermore, static diseconomies of scale and numerous dynamic factors and bottlenecks all adversely affect the ability of such firms to grow. Thus, we expect that the higher the monopoly power of the firm, the lesser its growth may be. The few firms in the concentrated industry may be dominant enough to restrict the growth of the other firms and to stop the entry of new ones because of the various barriers to entry at their disposal. There is, thus, very little perspective for the growth of the firms in a concentrated industry and so for the overall growth of the industry itself. There are some empirical studies where the inverse relationship between initial market concentration and subsequent market growth has been verified.

The second view about the concentration and growth of the firm and hence of the market, is a positive one. In order to maximize the long-term profit, firms may like to grow over time even under market concentration. They may prefer to create excess capacity to meet the future growing demand and to discourage new entry in the market. They may have some short-term sacrifice of profit in order to stimulate long-term benefits. So, we find a case for the positive relationship between initial market concentration and growth of the firms. The firms with market power may be finding themselves at ease regarding finances and other requirements of growth. They would, therefore, like to avail the opportunities for those other things remaining the same. There are empirical evidence for such propositions also.

There are all kinds of problems in establishing which view is valid. The empirical studies differ in scope, coverage of period, database and even measurement of concentration and growth. No definite verdict is, therefore, available from them. For the present, the relationship between concentration and growth of the firm and market, is an open issue for further verification.

d) Concentration and Technological change:

The issues related to technological change and market structure will be examined later on in a full chapter of this book. At this stage, let us look into one aspect of this, that is, whether concentrated industries are the most research oriented and technically progressive. It is true that the few firms who enjoy monopoly power in a concentrated industry will be large enough. They will be having stability, financial resources and ability to

initiate the processes of R&D and gain the benefits from them. Dasgupta and Stiglitz, in their papers clearly showed the situation when market concentration and innovative activities are positively correlated. There is no conclusive empirical evidence to prove such a proposition. In fact, studies conducted by Williamson have shown quite opposite results. Doubts about this have also been expressed by Bliar. It may not be the concentration but the other attributes of market structure like size of firm, product differentiation possibilities, etc, which may be having collinearity with concentration and thus causing a spurious positive correlation between concentration and thus causing a spurious positive correlation between concentration and technological change. Nothing can be said in either way about the relationship. It is open for further empirical verification.

3.3 ADVERTISING

Advertising is simply the action of drawing public attention to goods, services, events, or to whatever you want them to pay attention. Advertising today is a highly specialized business which owes its development to the continuous advance in mass communication and in manufacture even if at its heart it still is drawing public attention to something.

3.3.1 Optimal Advertising:

The Dorfman–Steiner theorem:

The Dorfman–Steiner theorem (or Dorfman–Steiner condition) is a neoclassical economics theorem which looks for the optimal level of advertising that a firm should undertake. The theorem is named after Robert Dorfman and Peter O. Steiner who developed the approach in their widely cited 1954 article in the *American Economic Review*. Firms can increase their sales by either decreasing the price of the good or persuading consumers to buy more by increasing advertising expenditure. The optimal level of advertising for a firm is found where the ratio of advertising to sales equals the price-cost margin times the advertising elasticity of demand. The obvious result is that the greater the degree of sensitivity of quantity demanded to advertising and the greater the margin on the extra output then the higher the level of advertising.

A simple textbook presentation of the mathematical statement of the approach is as follows:

$$\frac{p_A A}{p.q} = \frac{p-c}{p}.e_A$$

Where,

$p_{\mathbf{A}}$ is the price per unit of advertising

A is the amount of advertising

p is the price of the good

q is the output of the good

c is the average or marginal, depending on the assumptions, cost of production

e_A is the advertising elasticity of demand

3.3.2 Advertising and Market Structure:

Advertising expenditure is also determined by the size and number of the competitor in the market. In a perfectly competitive market, advertising will be unnecessary for a firm that sells a homogenous product. Whereas a monopolist would rarely need to advertise as consumers have no other choice for the product. The monopolist may require advertisement to increase the sale of its particular product rather than products in general. Thus, advertising can be used as a competitive tool in a market structure that ranges from monopolistic competition to duopoly where products are differentiated and also there are relatively few competitors.

Demand for products is expected to be more price inelastic in a monopolistically competitive market. This is because in such a market, products are differentiated i.e. There are a large number of competitors in the market and the product of each firm is not a perfect substitute for others. Based on the analysis of Dorfman and Steiner it can be concluded that in such a market, the advertising-to-sales ratio would be higher. The same applies to a monopolistic market with differentiated products also. Thus, it can be concluded that it is likely that advertising-to-sales ratios will be high in imperfectly competitive markets with differentiated products and low in competitive markets and monopoly.

Another major issue associated with advertising and market structure that needs attention is the way in which the firm's advertising-to-sales ratio or advertising intensity and price elasticities vary with market structure. As the number of firms increases, the price elasticity of demand also increases. By increasing the price the firm not only increases the demand but at the same time it also increases its market share. Thus if the industry is more fragmented, the advertising intensity would be low. The effect of market structure on advertising intensity and demand elasticity can be explained with the help of the following two cases. If we suppose that advertising equally increases each firm's demand for example advertising for milk without naming the brand will increase the demand for all the firms selling milk. The advertising for milk is considered as a public good for all milk sellers.

If we assume that the demand is fixed and independent of the advertising, the only effect that it will have on the firms is shifting of the demand across the rival firms. For example, when there is competition between the branded and corresponding generic drugs. Here advertising does not intend to encourage consumers to buy more quantities of the drug, but it

simply switches their choice between branded and generic drugs. In this case, the advertising elasticity increases as the number of firms increases. Under monopolistic condition advertising elasticity would be zero and it would be positive under duopoly. When the number of firms increases and the industry concentration decreases the variation in the advertising intensity for each firm decreases as the number of firms decreases. The benefits from advertising realized by the firms that pay for it decreases as the industry becomes more fragmented. This can be explained using the following three effects: the margin of each firm decreases, each firm receives a lower share of the benefits of the demand-increasing effect of advertising and each firm receives a greater share of the benefits of the demand-shifting effect of advertising.

3.3.3 Cost of Advertising:

Advertising cost in economic theory is assumed to include all pure selling costs. Heavy expenditure on advertising is usually undertaken by competing firms.

Two types of advertising are:

1. Informative:

To give details to the public concerning the availability of a product or service, its uses, advantages, prices, quality, etc.

2. Persuasive:

To obtain new customers and to retain existing ones, i.e., to develop or retain brand loyalties. Advertising costs being one kind of selling costs are designed to increase the demand for the firm's products. The function of advertising is to inform consumers. As pointed out earlier in economic theory, advertising costs are known as selling costs, which may be defined as "as the costs necessary to persuade a buyer to buy one product rather than another or to buy from one seller rather than another". Selling costs are those that adapt the demand to the product, in other words, setting costs are incurred to get the business.

Pure selling costs are designed to shift the demand schedule. They do not include physical distribution expenses. Selling costs have no necessary functional relationship to output. Advertising is a device for manipulating the firm's sales volume.

Advertising not only shifts the firm's demand curve to the right of where it would otherwise be, but it may also make demand less elastic. Selling costs are likely to induce the old purchasers to purchase more and to attract new purchases as well, and this implies an increase in demand.

The new demand curve will be above the old demand curve or it will be to the right of the demand curve. The elasticity of the new demand curve depends on the buying habits of the new buyers. If they are sensitive to price changes, it will be more elastic. If they are not sensitive to price

changes, the new demand curve will be less elastic. Naturally, every firm is interested in increasing its sales by shifting the demand curve to the right.

From the foregoing discussion, we can infer that advertising costs are one kind of selling costs which are incurred to boost the sales of a company's product. It is primarily directed by the company at increasing the demand for its products. One of the objectives of advertising is to make the demand less elastic.

The elasticity which results from the issue of advertisements may be called a promotional elasticity of demand. A promotional elasticity may be said to be the measurement of the responsiveness of sales to the changes in the extent of advertising while the price is constant.

This elasticity is of two kinds, namely, industrial elasticity and market share elasticity. The former refers to the degree of responsiveness of the total industry's sales to advertising. The latter refers to the extent of the responsiveness of a company's market share to a given change in its share of the industry's advertising.

Advertisements encourage counter advertisements. Therefore, the selling costs are influenced by what rival businessmen are doing. The effectiveness of a company's advertising will depend upon how rivals react to it. Retaliation against competitors' successful advertising may take the form of an attempt to match or better the advertising or an effort to improve other merchandising activities or the product itself. All advertising has in some degree a delayed and cumulative result that gives it the characteristic of an investment outlay.

Shape of the Advertising Cost Curve:

Incremental advertising costs if drawn as a curve will first decline, will be constant over some range of output and then will rise at an increasing rate. This is due to the operation of the economies of scale. Advertisement outlays may be in fixed proportions or in varying proportions.

Sometimes both the methods may be combined. Economic theory usually deals with the U-shaped cost curve. Therefore, advertisement outlay is also assumed to show three stages. The three phases of the advertising outlay namely, the decreasing, constant and increasing phase can be explained in the following manner.

Under usual conditions of static analysis, it is reasonable to assume that when an advertising outlay is increased, its unit cost first declines then levels to a minimum and thereafter rises. In other words, the advertising cost curve takes a U-shape.

The declining phase of the curve is partly explained by economies of specialisation. Longer appropriations may make feasible the use of expert services and more economical media. More important than specialisation

usually are economies of repetition. Often repetition of a particular advertising strategy becomes more economical.

The rising phase of the advertising cost curve is caused primarily by tapping successively poorer prospects as the advertising effort is intensified. A firm is generally forced into such a situation when there is keen competition. The rise in advertising outlay may also be due to progressive expansion of the most efficient advertising media.

The short run marginal advertising cost curve will probably have the same form for all commodities regardless of their elasticity of promotion. The shape of the curve is determined by variations among prospects in accessibility and in susceptibility to advertising and by the diminishing utility of additional units of the product to any one user. The relationship of advertising to sales is more intricate than short run marginal analysis indicates. The selling cost function will differ with the nature of the business strategy involved.

In the above analysis, we assumed production cost to be constant in the short period. We have also assumed constant price which implies that average and marginal revenues are constant. However, to be more realistic we have to introduce an average cost curve that slopes upward and an average revenue curve that slopes downward.

A sloping average revenue function introduces complications, since both price and advertising are then variable. It is possible to keep the advertising costs constant and vary the price, or to keep the price constant and vary the advertising costs. This is what is done by Chamberlin. Chamberlin was the pioneer in attempting to include the economics of advertising in the general economic principles.

As a second step, both the advertising costs and price are varied simultaneously. This was done by Buchanan. He uses the downward sloping demand curve and the corresponding marginal revenue curve (MR) and arrives at the optimum price with the help of the production cost curve (PCC). He then assumes various advertising outlays. Every advertising outlay is expected to raise the demand for the product. Such an advertisement cost curve is explained below.

Advertisement is based on the assumption that there is quite a large number of customers who are prepared to change the brand which they are using. But this is not always true. Sometimes the people stick to those brands of goods which they have been using for a long time.

But in any case, advertising costs are likely to increase the sale of a commodity. They would induce the old customers to buy more and at the same time attract some new customers as well. Thus, the advertising costs are likely to raise the demand curve of a commodity. To illustrate, a firm's original demand curve is DD in Fig. 1 and its corresponding marginal revenue curve is MR. PCC is the production cost curve inclusive of advertising costs. Now the output is OQ and the price is OP. Profit is PKAB.

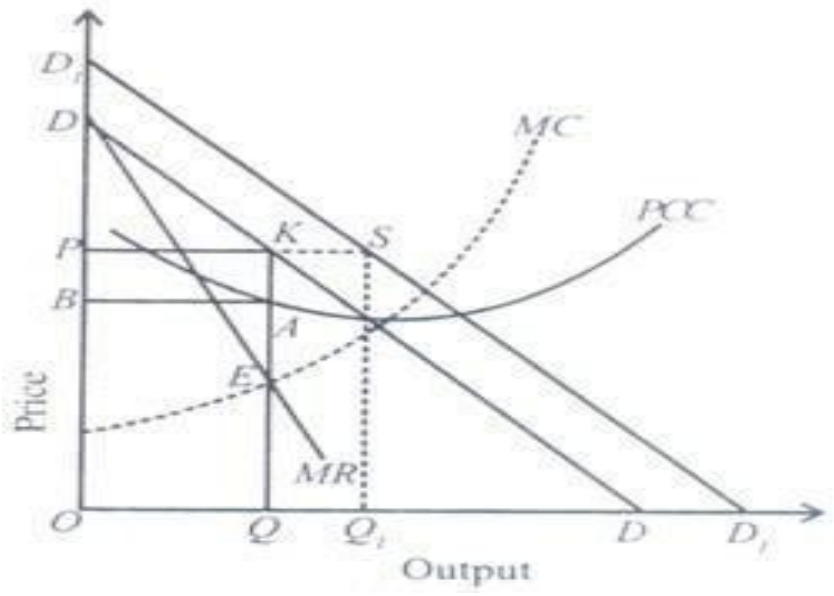

Fig. 3.2 Shape of the Advertising Cost Curve

To get more business, some more advertisements are made by the firm. The additional cost of getting more business through advertisements must be at least equal to the additional profit. As the result of additional advertisement, the demand curve shifts to the right as D_1D_1. The horizontal distance KS between the old demand curve and the new demand curve is the result of advertising.

The firm now sells more output OQ_1 at the same price OP and its profit also increases due to higher sales. (Profit not shown to keep the figure simple). If a series of curves are drawn and joined together, we get the price output curve against the advertisement. Here the assumption is that the advertiser knows the effects of his outlay on sales.

3.4 SUMMARY

- Advertising is a form of communication used for passing on business information to the existing and potential customers.
- Market concentration measures the extent to which market shares are concentrated between a small number of firms. It is often taken as a proxy for the intensity of competition.
- A firm derives market power or monopoly power in the situation of concentration. Such market power, via market conduct activities or directly leads to an increase in the profitability of the firm.
- The Dorfman–Steiner theorem (or Dorfman–Steiner condition) is a neoclassical economics theorem which looks for the optimal level of advertising that a firm should undertake.
- Advertising cost in economic theory is assumed to include all pure selling costs. Heavy expenditure on advertising is usually undertaken by competing firms.

3.5 QUESTIONS

Q.1 (A) Answer the following questions:

1. Discuss the concept of the advertisement in detail.
2. What do you mean by market concentration? Explain its measures.
3. Discuss the concept of concentration and the market performance of a firm.

(B) Short Notes.

a. The concentration ratio

b. The Hirschman-Herfindahl Index

c. The Entropy Index

d. The Dorfman-Steiner Theorem

e. Types of Advertising

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4

TECHNICAL CHANGE - II

Unit Structure

4.0 Objectives
4.1 Introduction
4.2 Process and Product Innovation
4.3 Effects of Innovation on Welfare and Employment
4.4 Adoption and Diffusion of Innovation
4.5 Summary
4.6 Questions

4.0 OBJECTIVES

- To study the concepts of Invention and Innovation.
- To study the effects of Innovation on Welfare and Employment.
- To study the Adoption and Diffusion of Innovation.

4.1 INTRODUCTION

J. A. Schumpeter found innovation as the outstanding fact in the economic history of capitalistic society. Innovation is not confined to such a society only. It is a common feature in almost every economic system whether capitalistic or socialistic or something else. Science and technology are the instruments for rapid economic progress of a society. They become operative through innovation. Innovation is one of the several strategies through which a firm could change its situation in the market in pursuit of its objectives.

It is an instrument which the firm uses to enhance its competitive power in the market. It provides a basis for greater degree of diversification and hence growth of the firm. New products, new methods of production, new markets and new forms of industrial organization etc. which are elements of innovation or technological change, make the firms and industries run efficiently over time.

An invention is the creation of a new technology. By ‘technology' we mean “any tool or technique, and product or process, any physical equipment or method of doing or making, by which human ability is extended”. It is an intellectual act which involves a perception of a new image, of a new connection between old conditions, or of a new area for action. All inventions, big or little, are made for some practical uses. The process of adopting an invention in a practical use is called ‘innovation’.

4.2 PROCESS AND PRODUCT INNOVATION

Process of Innovation:

Innovation is a multi-dimensional concept. There are three terms used in the process of innovation.

A. Invention;

B. Innovation and;

C. Imitation.

A. Invention:

The most important concept of innovation is invention. An invention is the creation of new technology. By technology we mean any tool or technique, any product process, any physical equipment or method of doing or making, by which human capability is extended. It is an intellectual act which involves a perception of a new image, of a new connection between old conditions, or of a new area for action. All inventions small or big are made for some practical uses. The process of adopting an invention in a practical use is called innovation. Innovation is a multi-dimensional concept.

B. Innovation:

It is a very broad and multi-dimensional concept.

i. Product Innovation:

If the existing product line is changed by a firm, i.e., it introduces a new product with or without displacement of the old ones, then it is defined as product innovation.

ii. Process Innovation:

If a new method is initiated to produce existing products, then it is called process-innovation. Both of these are the elements of technological Innovation.

iii. Market Innovation:

When a firm makes changes in its marketing strategy it is defined as market-innovation. The entrepreneur or manager when performs the act of innovation is called

iv. Innovator:

He invests sources for the innovation and takes the risks involved in that. This is a very important role indeed a pivotal one for the growth of industries.

Thus, the concept of innovation is very broad. In Schumpeter's terminology, it is the intrusion into the system of new production functions

"by exploiting an invention or more generally an untried technological possibility..., by opening up a new source of supply of materials or new outlet for products by reorganizing an industry and so on.

C. Imitation:

All the three terms-invention, innovation and imitation are the successive stages of the process of innovation or technological changes i.e., imitation is not possible without innovation which in turn is not possible without invention.

Product Innovation:

Product innovation is necessitated because of a variety of reasons. Primarily, a product change may be stimulated either by change in relative prices of existing products or new technology. Change in consumer preference and cost of production are the sources of change in relative prices of the product. If a product is costly for the firm and at the same time its prices decline in the market because of unfavorable circumstances, it is likely to be replaced by a new one.

This stage of innovation is a planned one. It has a well-defined goal and the adaptation of the new technology or product to achieve the goal is an orderly management function of the firm. The process of innovation takes time and costs money. It is just like gambling where output of the game is uncertain, yet the activity is undertaken with a hope of future gains.

4.3 EFFECTS OF INNOVATION ON WELFARE AND EMPLOYMENT

Technological upgrading is often seen to be a source of economic growth in the long run. In the seventeenth and eighteenth centuries, the introduction of new crops and the abandonment of the practice of fallowing land led to a strong increase in agricultural production per hectare and per worker. In the nineteenth and twentieth centuries, mastery of the powers of steam, electricity, and internal combustion made it possible greatly to increase the ratio of industrial production to the quantities of inputs used. At the end of the twentieth century, innovations in the areas of computerization and telecommunications improved productivity in the service sector. Over a span of centuries, history has been marked by technological innovations that have strongly increased the efficiency of the inputs in the rich countries."

The importance of technological upgrading as an important driver of sustained economic growth and development have been recognized by international institutions and governments in developing countries. Through the positive correlation of per capita income with socio-economic indicators such as health and education outcomes, and standards of living in general, this is likely to have important implications for improving social welfare. However, especially in the short run a country might face a painful adjustment process as its economy adapts to new production

structures. This process is usually characterized with what Schumpeter (1942) calls creative destruction, in which jobs get destroyed but at the same type new employment opportunities are created. The net effect of this mechanism of creative destruction, which is inherent in the process of technological innovation, is a priori unclear.

While more rapid economic growth spurs demand for new products and production activities and thus has the potential to create new employment opportunities (see also Okun's law for the negative relationship between economic growth and unemployment), this new demand might be satisfied by employing more machines rather than more workers in the production process. Especially in the short- and medium-run, when the full growth potential cannot yet be realized, the substitution of labour for machines might lead to a loss of jobs. This fear has occurred through various points in history. A famous example is the Luddite movement in nineteenth century Britain, in which textile workers destroyed weaving and spinning machines out of the fear that their jobs would be taken over by these machines. This fear is also reflected in the still ongoing, prominent debate on whether automation and technological progress lead to a destruction of jobs and makes human labour obsolete or whether it rather contributes to a higher demand for labour.

4.4 ADOPTION AND DIFFUSION OF INNOVATION

Diffusion of Innovations:

Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication, in that the messages are concerned with new ideas.

Elements in the diffusion of innovations:

The four main elements in diffusion of innovations are:

1. Innovation
2. Communication channels
3. Time
4. Social system

The description for these elements is given below:

1) The innovation:

An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption. The perceived newness of the idea for the individual determines his or her reaction to it. The "newness" aspect of an innovation may be expressed in terms of knowledge, persuasion or a

decision to adopt. In this context, to know about the perceived attributes of innovation would be appropriate which are described in the succeeding paras:

a. Relative advantage:

It is the degree to which an innovation is perceived as better than the idea it supersedes. The degree of relative advantage may be measured in economic terms, but social-prestige factors, convenience and satisfaction are also often the important components.

b. Compatibility:

It is the degree to which an innovation is perceived as being consistent with the existing values, past experiences and needs of potential adopters.

c. Complexity:

It is the degree to which an innovation is perceived as difficult to understand and use. In general, new ideas that are simpler to understand will be adopted more rapidly than innovations that require the adopter to develop new skills and understandings.

d. Trialability:

It is the degree to which an innovation may be experimented with on a limited basis. An innovation that is trailable represents less uncertainty to the individual who is considering it for adoption, as it is possible to learn by doing.

e. Observability:

It is the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt.

2) Communication channels:

A communication channel is the means by which messages get from one individual to another. The following classification of channels would help the communicator to use them appropriately:

a. Interpersonal channels:

It refers to those which are used for face-to-face communication between two or more individuals.

b. Mass media channels:

These enable the messages to reach a larger, diverse audience simultaneously in a relatively shorter time. e.g.: Radio and T.V.

c. Locality channels:

They originate within the social system of the receiver. eg: neighbors, relatives, opinion leaders etc.

d. Cosmopolite channels:

They originate outside a particular social system. eg: Extension worker, sales personnel etc.

3) Time:

It is an important element in the diffusion process. Time is an obvious aspect of any communication process. Time does not exist independently of events, but it is an aspect of every activity. The time dimension is involved in diffusion (i) in the innovation - decision process, (ii) in the innovativeness of an individual or other unit of adoption, and (iii) innovation's rate of adoption in a system.

4) Social System:

It is defined as a set of interrelated units that are engaged in joint problem solving to accomplish a common goal. The members or units of a social system may be individuals, informal groups, organizations and / or subsystems. The social system constitutes a boundary within which an innovation diffuses.

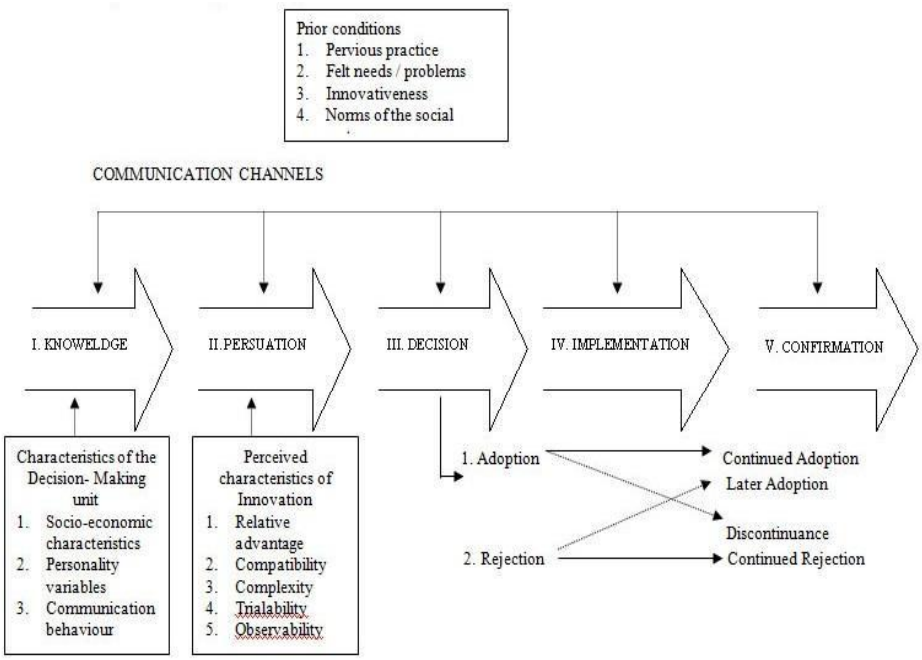
Innovation - Decision Process:

As an alternative to the "Stages in the adoption process" *viz.*, Awareness, Interest, Evaluation, Trial and Adoption, due to the advancements in diffusion research, currently" Innovation Decision process" is proposed which enlightens the sequential stages in the adoption - decisions made by individuals or other units of adoption. The "Innovation - Decision Process" is the process through which an individual (or other decision - making unit) passes from first knowledge of an innovation, to forming an attitude towards the innovation to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision.

This process consists of a series of actions and choices over time through which an individual or an organization evaluates a new idea and decides whether or not to incorporate the new idea into ongoing practice.

The conceptualization of the model of the innovation decision process consists of the following five stages

Fig. 4.1. Paradigm on Stages in the Innovation-Decision Process



1) Knowledge stage:

Knowledge occurs when an individual (or the decision - making unit) is exposed to the innovation's existence and gains some understanding of how it functions. The following three types of knowledge possessed by an individual influence the decisions:

a. Awareness:

knowledge motivates an individual to seek "how-to" knowledge and principles knowledge. This type of information - seeking is concentrated as the knowledge stage of the innovation - decision process, but it may also occur at the persuasion and decision stages.

b. How to knowledge:

Consists of information necessary to use an innovation properly. When an adequate level of how-to knowledge is not obtained prior to the trial and adoption of an innovation, rejection or discontinuance is likely to result. Change agents could perhaps play their distinctive role to concentrate on "how-to knowledge" at the trial and decision stage in the process.

c. Principles knowledge

Consists of information dealing with the functioning principles underlying how innovation works. It is usually possible to adopt an innovation without principles knowledge, but the danger of misusing the new idea is greater, and discontinuance may result. The long-range competence of individuals to judge future innovations is facilitated by principles of knowledge.

2) Persuasion stage:

Persuasion occurs when an individual (or other decision - making unit) forms a favorable or unfavorable attitude toward innovation.

While the mental activity as the knowledge stage was mainly cognitive (or knowing), the main type of thinking at the persuasion function is affective (or feeling). At this stage, a general perception of the innovation is developed. The individual becomes more psychologically involved with the innovation and hence he or she seeks information about the new idea.

3) Decision stage:

Decision occurs when an individual (or other decision - making unit) engages in activities that lead to a choice to adopt or reject the innovation.

Adoption is a decision to make full use of an innovation as the best course of action available. Rejection is a decision not to adopt an innovation.

The small - scale trial is often part of the decision to adopt, and is important as a means to decrease the perceived uncertainty of the innovation for the adopter.

4) Implementation stage:

Implementation occurs when an individual (or other decision - making unit) puts an innovation into use. Until the implementation stage, the innovation-decision process has been a strictly mental exercise. But implementation involves overt behavior change as the new idea is actually part into practice.

Problems of implementation are likely to be more serious when the adopter is an organization rather than an individual. Reason is that in an organizational setting, a number of individuals are usually involved in the innovation - decision process, and the implementers are often a different set of people from the decision makers.

5) Confirmation stage:

Confirmation occurs when an individual (or other decision - making unit) seeks reinforcement of an innovation - decision already made, but he or she may reverse this previous decision if exposed to conflicting messages about the innovation.

The confirmation stage continues after the decision to adopt or reject for an indefinite period in time. At this stage, the change agents have the additional responsibility of supporting messages to individuals who have previously adopted.

As a sequential effect, there is a possibility for "discontinuance". A discontinuance is a decision to reject an innovation after having previously adopted it. There are two types of discontinuances:

i) **Replacement discontinuance:** is a decision to reject an idea in order to adopt a better idea that supersedes it

ii) **Disenchantment discontinuance:** is a decision to reject an idea as a result of dissatisfaction with its performance.

Adopter Categories:

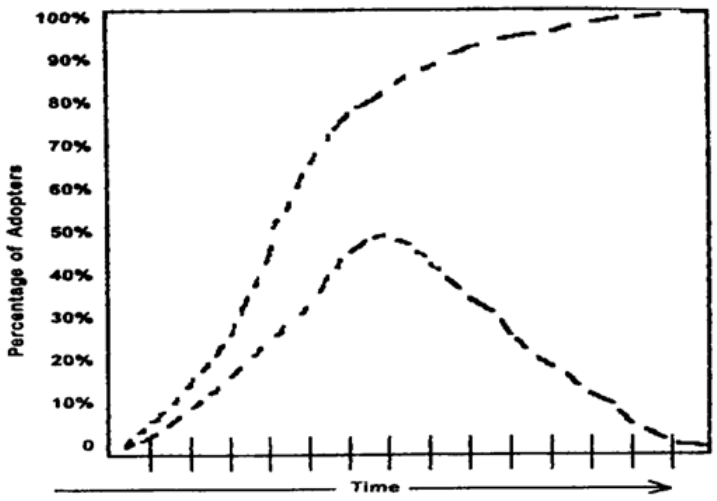
There are different categories of farmers. According to Rogers (1971), the farmers based on their innovativeness can be classified as:

1. Innovators (Venturesome)
2. Early adopters (Respectable)
3. Early majority (Deliberate)
4. Late majority (Skeptical)

All individuals in a social system do not adopt an innovation at the same time. Rather, they adopt in an ordered time sequence, and they may be classified into adopter categories on the basis of when they first begin using a new idea. In technology transfer programmes, it is of great practical utility for the extension workers to identify the individuals who are likely to adopt innovations early and who may lag behind.

The adoption of an innovation over time follows a normal, bell-shaped curve when plotted over time on a frequency basis. If the cumulative number of adopters is plotted, it results in an S-shaped curve. The S-shaped curve rises slowly at first when there are few adopters in a time period, accelerates to a maximum when about half of the individuals in the system have adopted and then increases at a gradually slower rate as the few remaining individuals finally adopt (Fig. 2). The S-shaped curve is like that of a 'learning curve' as propounded by the psychologists. Each adoption in the social system is in a sense equivalent to a learning trial by an individual.

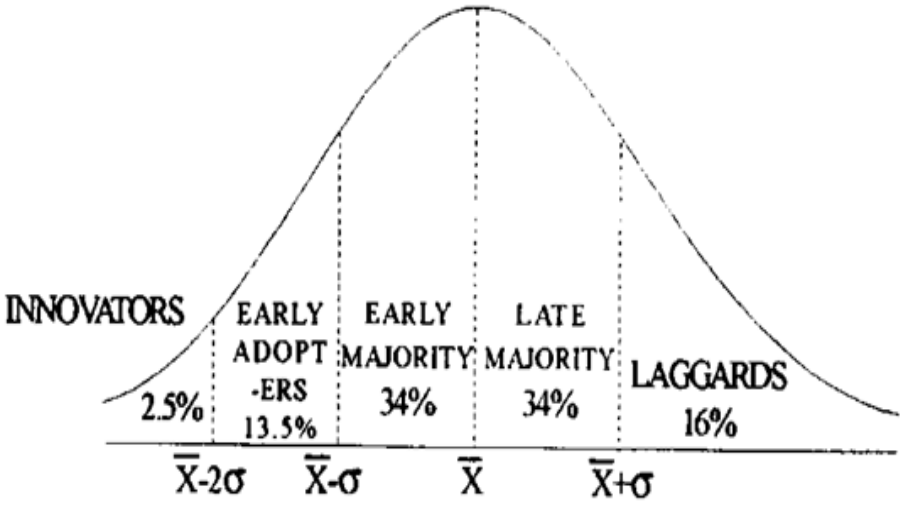
Fig. 4.2 The bell-shaped frequency curve and the S-shaped cumulative curve for adopter categories



Both of these curves are for the same data, the adoption of an innovation over time by the members of a social system. But the bell-shaped curve shows these data in terms of the number of individuals adopting each year, whereas the S-shaped curve shows these data on a cumulative basis.

The distribution of adopters over time closely approaches normality, and may be explained by the statistical concept of normal curve. The distribution of the adopters may be partitioned into five adopter categories by using the mean (x) and standard deviation. The area lying to the left of the mean time of adoption minus two standard deviations includes 2.5 percent of the individuals who are the first to adopt an innovation and are known as innovators. The next 13.5 per cent between the mean minus one standard deviation and the mean minus two standard deviations to adopt the new idea are called as early adopters. The next 34 per cent of the adopters between the mean date of adoption and minus one standard deviation are known as early majority. Between the mean and one standard deviation to the right of the mean are located the next 34 per cent to adopt the new idea, the late majority. The last 16 per cent to the right of mean plus one standard deviation are the last to adopt the innovation of the laggards. The five-adopter categories are conceptualized as ideal types and are presented in Figure 3.

Fig. 4.3 Adopter categorization on the basis of innovativeness



The innovativeness dimension, as measured by the time at which an individual adopts an innovation, is continuous. However, this variable may be partitioned into five adopter categories by laying of standard deviations from the average time of adoption.

The detailed information on the characteristics of adopter categories is given below:

Innovators: Venturesome:

Observers have noted that venturesomeness is almost an obsession with innovators. They are eager to try new ideas. This interest leads them out of

a local circle of peers and into more cosmopolitan social relationships. Communication patterns and friendships among a clique of innovators are common, even though the geographical distance between the innovators may be great. Being an innovator has several prerequisites. These include control of substantial financial resources to absorb the understanding and apply complex technical knowledge.

The salient value of the innovator is venturesomeness. He desires the hazardous, the rash, the daring, and the risky. The innovator also must be willing to accept an occasional setback when one of the new ideas he adopts proves unsuccessful.

These are the first people to adopt a new idea, much ahead of other people. They are very few in numbers, probably not more than one or two in a community.

Characteristics:

1. Have larger industries.
2. High net worth and risk capital.
3. Willing to take risks.
4. Usually not past middle age
5. Generally, well educated
6. Have respect and prestige in progressive communities but not in conservative type of communities.
7. Mentally alert and actively seeking new ideas.
8. Their sphere of influence and activity often goes beyond the community boundaries.
9. They have many formal and informal contacts outside the immediate locality.
10. They often by-pass the local extension worker in getting information from the originating sources, and may learn about new things even before he does.
11. They subscribe to many farm magazines and specialized publications.
12. Other industries may watch the innovators and know what they are doing but the innovators are not generally named by other industries as "neighbors and friends" to whom they go for information.

Early Adopter: Respectable:

Early adopters are a more integrated part of the local social system than are innovators. Whereas innovators are cosmopolites, early adopters are localities. This adopter’s category, more than any other, has the greatest degree of opinion leadership in most social systems. Potential adopters

look to early adopters for advice and information about the innovation. The early adopter is considered by many as "the man to check with" before using a new idea. This adopter category is generally sought by change agents to be a local missionary for speeding the diffusion process. Because early adopters are not too far ahead of the average individual in innovativeness, they serve as a role model for many other members of a social system. Members of a social system respect the early adopter. The early adopter is respected by his peers. He is the embodiment of successful and discrete use of new ideas. And the early adopter knows that he must continue to earn this esteem of his colleagues if his position in the social structure is to be maintained.

Characteristics:

1. Younger than those who have a slower adoption rate, but not necessarily younger than the innovators
2. They are not the persons who test the untried ideas but they are quickest to use tried ideas in their own situations.
3. Have large industries.
4. Higher education than those who adopt more slowly.
5. High income.
6. They participate more in the format activities of the community.
7. They also participate more in government programmes.
8. This group usually furnishes a disproportionate amount of the formal leadership (elected positions) in the community.
9. They read papers and farm journals and receive more bulletins than people who adopt later.
10. They may be regarded as community adoption leaders.

Early Majority: Deliberate (Local Adoption Leaders):

The early majority adopt new ideas just before the average member of a social system. The early majority interact frequently with their peers, but leadership position; are rarely held by them. The early majority's unique position; between the very early and relatively late to adopt make; them an important link in the diffusion process.

The early majority may deliberate for some time before completely adopting a new idea. Their innovation-decision is relatively longer than that of the innovator and the early adopter. "Be not the last to lay the old aside, nor the first by which the new is tried", might be the motto of the early majority. They follow with deliberate willingness in adopting innovations, but seldom lead.

Characteristics:

1. Slightly above average in age, education and industrial experience.
2. They take a few more farm journals and bulletins than the average.
3. They have medium high social and economic status.
4. Less active in formal groups than early adopters, but more active than those adopting later.
5. In many cases, they are not formal leaders in the association
6. They also attend extension meetings and farm demonstrations.
7. They are most likely to be informal resources than early adopters and innovators, and so cannot afford to make hasty or poor decisions.
8. They associate mainly with people of their own community.
9. They value highly the opinions their neighbors and friends hold about them; for this is their main source of status and prestige.
10. They are mostly mentioned as "neighbors and friends" from whom the majority of farmers seek information.

Late Majority: Skeptical:

The late majority adopt new ideas just after the average member of a social system. Adoption may be both an economic necessity and the answer to increasing social pressures. Innovations are approached with a skeptical and cautious air, and the late majority do not adopt until most others in their social system have done so. The weight of system norms must definitely favor innovation before the late majority are convinced. They can be persuaded of the utility of new ideas, but the pressure of peers is necessary to motivate adoption.

Characteristics:

1. Those in this group have less education and are older than the early majority.
2. They take fewer leadership roles than the earlier adopters.
3. They take and read fewer papers, magazines and bulletins, than the early majority.
4. They do not participate in as many activities outside the community as do people that adopt earlier.

Laggards: Traditional:

Laggards are the last to adopt an innovation. They possess almost no opinion leadership. They are the most locality in their outlook of all adopter categories, many are near isolates. The point of reference for the

laggard is the past. Decisions are usually made in terms of what has been done in previous generations. This individual interacts primarily with others who have traditional values. When laggards finally adopt an innovation, it may already have been superseded by another more recent idea which the innovators are already using. Laggards tend to be frankly suspicious of innovations, innovators, and change agents. Their traditional direction slows the innovation decision process to a crawl. Adoption lags far behind knowledge of the idea. Alienation from a too-fast-moving world is apparent in much of the laggard's outlook. While most individuals in a social system are looking to the road of change ahead, the laggards have his attention fixed on the rear-view mirror.

Characteristics:

1. Least education.
2. Oldest.
3. Participate least in formal organizations, cooperatives and government programmes.
4. They hardly read farm magazines and bulletins.

4.5 SUMMARY

- J. A. Schumpeter found innovation as the outstanding fact in the economic history of capitalistic society.
- Innovation is a multi-dimensional concept. There are three terms used in the process of innovation.
- All inventions small or big are made for some practical uses. The process of adopting an invention in a practical use is called innovation.
- More rapid economic growth spurs demand for new products and production activities and thus has the potential to create new employment opportunities
- Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system.

4.6 QUESTIONS

Q.1 (A) Answer the following questions:

1. Elaborate the difference between invention and innovation.
2. What is the process of innovation?
3. Discuss the effects of innovation on welfare and employment.
4. What are the elements in the diffusion of innovations?

(B) Write Short notes:

a. Product Innovation

b. Innovation - Decision Process

c. Early Adopter: Respectable

d. Early Majority: Deliberate (Local Adoption Leaders)

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MODULE - III

5

FINANCIAL ANALYSIS - I

Unit Structure

5.0 Objectives
5.1 Introduction
5.2 Meaning Importance of Funds Flow Statement
5.3 Understanding Cash Flow Statement
5.4 Analysis of Balance Sheet
5.5 Definition and Importance of Income Statement
5.6 Meaning and Types of Ratio Analysis
5.7 Meaning, Nature and Scope of Investment Decision
5.8 Meaning and Types of Capital Budgeting of A Firm
5.9 Questions

5.0 OBJECTIVES

After going through this unit, you must be able to understand:

- Meaning of Funds Flow in Financial Analysis
- The Cash Flow Statement
- Balance Sheet Analysis
- Importance of Income Statement in Financial Statement
- Meaning and Importance of Ratio Analysis
- Meaning, Nature and Scope of Investment Decision
- Various types of Capital Budgeting

5.1 INTRODUCTION

Financial analysis is used to evaluate economic trends, set financial policy, build long-term plans for business activity, and identify projects or companies for investment. This is done through the synthesis of financial numbers and data. A financial analyst will thoroughly examine a company's financial statements—the income statement, balance sheet, and cash flow statement. Financial analysis can be conducted in both corporate finance and investment finance settings.

One of the most common ways to analyze financial data is to calculate ratios from the data in the financial statements to compare against those of other companies or against the company's own historical performance.

The goal of financial analysis is to analyze whether an entity is stable, solvent, liquid, or profitable enough to warrant a monetary investment. It is used to evaluate economic trends, set financial policy, build long-term plans for business activity, and identify projects or companies for investment.

5.2 MEANING IMPORTANCE OF FUNDS FLOW STATEMENT

Meaning:

A funds flow statement is a statement that comprises the inflows and outflows of funds. It includes the sources of funds and application of funds for the particular period. Therefore, you can analyse the reasons behind the change in a company's financial position.

A funds flow statement explains the changes in a company's working capital. It considers the inflows and outflow of funds (source of funds and application of funds) for a particular period. The statement helps in analysing the changes in a company's financial position between two balance sheet periods.

The statement helps in determining how the funds are being used. As a result, analysts can assess the company's fund flow in the future.

The statement comprises of the following 2 components:

- Sources of Funds: Includes where the funds have come from and their source.
- Application of Funds: Denotes the usage of funds for short term and long-term needs.

Fund inflows can be through issues of shares or debentures or from the sale of fixed assets. Or through business operations.

Importance of a Funds Flow Statement:

- **Financial Position:** A profit and loss statement or balance sheet does not explain the reasons for the change in a company's financial position. The statement will give information about where the funds have come (Source of Funds) and where the funds have been used (Application of Funds).
- **Company Analysis:** Often, companies that are making profits end up in cash crunch scenarios. In such scenarios, the funds flow statement offers a clear picture of the source and usage of funds.
- **Management:** The funds flow statement assists management in determining its future course of action and also serves as a management control tool.

- **Changes in Assets and Liabilities:** The statement shows the reason behind the change in assets and liabilities between two balance sheet dates. As a result, you can conduct an in-depth analysis of the balance sheet.
- **Creditworthiness:** Lending institutions use the this statement of a company to analyse the creditworthiness. They compare the statement over the years before approving a loan. Therefore, the statement depicts a company's credibility in terms of fund management.

5.3 UNDERSTANDING CASH FLOW STATEMENT

A cash flow statement is a financial statement that provides aggregate data regarding all cash inflows a company receives from its ongoing operations and external investment sources. It also includes all cash outflows that pay for business activities and investments during a given period.

A company's financial statements offer investors and analysts a portrait of all the transactions that go through the business, where every transaction contributes to its success. The cash flow statement is believed to be the most intuitive of all the financial statements because it follows the cash made by the business in three main ways—through operations, investment, and financing. The sum of these three segments is called net cash flow.

These three different sections of the cash flow statement can help investors determine the value of a company's stock or the company as a whole.

How Cash Flow Statements Work:

Every company that sells and offers its stock to the public must file financial reports and statements with the Securities and Exchange Commission (SEC).1 The three main financial statements are the balance sheet, income statement, and cash flow statement. The cash flow statement is an important document that helps interested parties gain insight into all the transactions that go through a company.

There are two different branches of accounting—accrual and cash. Most public companies use accrual accounting, which means the income statement is not the same as the company's cash position. The cash flow statement, though, is focused on cash accounting.

Profitable companies can fail to adequately manage cash flow, which is why the cash flow statement is a critical tool for companies, analysts, and investors. The cash flow statement is broken down into three different business activities: operations, investing, and financing.

Let's consider a company that sells a product and extends credit for the sale to its customer. Even though It recognizes that sale as revenue, the company may not receive cash until a later date. The company earns a

profit on the income statement and pays income taxes on it, but the business may bring in more or less cash than the sales or income figures.

Cash Flows From Operations:

The first section of the cash flow statement covers cash flows from operating activities (CFO) and includes transactions from all operational business activities. The cash flows from operations section begins with net income, then reconciles all non-cash items to cash items involving operational activities. So, in other words, it is the company's net income, but in a cash version.

This section reports cash flows and outflows that stem directly from a company's main business activities. These activities may include buying and selling inventory and supplies, along with paying its employees their salaries. Any other forms of in and outflows such as investments, debts, and dividends are not included.

Companies are able to generate sufficient positive cash flow for operational growth. If there is not enough generated, they may need to secure financing for external growth in order to expand.

For example, accounts receivable is a non-cash account. If accounts receivable go up during a period, it means sales are up, but no cash was received at the time of sale. The cash flow statement deducts receivables from net income because it is not cash. The cash flows from the operations section can also include accounts payable, depreciation, amortization, and numerous prepaid items booked as revenue or expenses, but with no associated cash flow.

Cash Flows From Investing:

This is the second section of the cash flow statement looks at cash flows from investing (CFI) and is the result of investment gains and losses. This section also includes cash spent on property, plant, and equipment. This section is where analysts look to find changes in capital expenditures (capex).

When capex increases, it generally means there is a reduction in cash flow. But that's not always a bad thing, as it may indicate that a company is making investment into its future operations. Companies with high capex tend to be those that are growing.

While positive cash flows within this section can be considered good, investors would prefer companies that generate cash flow from business operations—not through investing and financing activities. Companies can generate cash flow within this section by selling equipment or property.

Cash Flows From Financing:

Cash flows from financing (CFF) is the last section of the cash flow statement. The section provides an overview of cash used in business financing. It measures cash flow between a company and its owners and

its creditors, and its source is normally from debt or equity. These figures are generally reported annually on a company's 10-K report to shareholders .

Analysts use the cash flows from financing section to determine how much money the company has paid out via dividends or share buybacks. It is also useful to help determine how a company raises cash for operational growth.

Cash obtained or paid back from capital fundraising efforts, such as equity or debt, is listed here, as are loans taken out or paid back.

When the cash flow from financing is a positive number, it means there is more money coming into the company than flowing out. When the number is negative, it may mean the company is paying off debt, or is making dividend payments and/or stock buybacks.

5.4 ANALYSIS OF BALANCE SHEET

The term balance sheet refers to a financial statement that reports a company's assets, liabilities, and shareholder equity at a specific point in time. Balance sheets provide the basis for computing rates of return for investors and evaluating a company's capital structure.

In short, the balance sheet is a financial statement that provides a snapshot of what a company owns and owes, as well as the amount invested by shareholders. Balance sheets can be used with other important financial statements to conduct fundamental analysis or calculate financial ratios.

How Balance Sheets Work:

The balance sheet provides an overview of the state of a company's finances at a moment in time. It cannot give a sense of the trends playing out over a longer period on its own. For this reason, the balance sheet should be compared with those of previous periods.

Investors can get a sense of a company's financial wellbeing by using a number of ratios that can be derived from a balance sheet, including the debt-to-equity ratio and the acid-test ratio, along with many others. The income statement and statement of cash flows also provide valuable context for assessing a company's finances, as do any notes or addenda in an earnings report that might refer back to the balance sheet.

The balance sheet adheres to the following accounting equation, with assets on one side, and liabilities plus shareholder equity on the other, balance out:

Assets = Liabilities+Shareholders' Equity

This formula is intuitive. That's because a company has to pay for all the things it owns (assets) by either borrowing money (taking on liabilities) or taking it from investors (issuing shareholder equity).

If a company takes out a five-year, $4,000 loan from a bank, its assets (specifically, the cash account) will increase by $4,000. Its liabilities (specifically, the long-term debt account) will also increase by $4,000, balancing the two sides of the equation. If the company takes $8,000 from investors, its assets will increase by that amount, as will its shareholder equity. All revenues the company generates in excess of its expenses will go into the shareholder equity account. These revenues will be balanced on the assets side, appearing as cash, investments, inventory, or other assets.

Special Considerations:

As noted above, you can find information about assets, liabilities, and shareholder equity on a company's balance sheet. The assets should always equal the liabilities and shareholder equity. This means that the balance sheet should always balance, hence the name. If they don't balance, there may be some problems, including incorrect or misplaced data, inventory or exchange rate errors, or miscalculations.

Each category consists of several smaller accounts that break down the specifics of a company's finances. These accounts vary widely by industry, and the same terms can have different implications depending on the nature of the business. But there are a few common components that investors are likely to come across.

Components of a Balance Sheet:

Assets:

Accounts within this segment are listed from top to bottom in order of their liquidity. This is the ease with which they can be converted into cash. They are divided into current assets, which can be converted to cash in one year or less; and non-current or long-term assets, which cannot.

Here is the general order of accounts within current assets:

- Cash and cash equivalents are the most liquid assets and can include Treasury bills and short-term certificates of deposit, as well as hard currency.
- Marketable securities are equity and debt securities for which there is a liquid market.
- Accounts receivable (AR) refer to money that customers owe the company. This may include an allowance for doubtful accounts as some customers may not pay what they owe.
- Inventory refers to any goods available for sale, valued at the lower of the cost or market price.
- Prepaid expenses represent the value that has already been paid for, such as insurance, advertising contracts, or rent.

Long-term assets include the following:

- Long-term investments are securities that will not or cannot be liquidated in the next year.
- Fixed assets include land, machinery, equipment, buildings, and other durable, generally capital-intensive assets.
- Intangible assets include non-physical (but still valuable) assets such as intellectual property and goodwill. These assets are generally only listed on the balance sheet if they are acquired, rather than developed in-house. Their value may thus be wildly understated (by not including a globally recognized logo, for example) or just as wildly overstated.

Liabilities:

A liability is any money that a company owes to outside parties, from bills it has to pay to suppliers to interest on bonds issued to creditors to rent, utilities and salaries. Current liabilities are due within one year and are listed in order of their due date. Long-term liabilities, on the other hand, are due at any point after one year.

Current liabilities accounts might include:

- Current portion of long-term debt is the portion of a long-term debt due within the next 12 months. For example, if a company has a 10 years left on a loan to pay for its warehouse, 1 year is a current liability and 9 years is a long-term liability.
- Interest payable is accumulated interest owed, often due as part of a past-due obligation such as late remittance on property taxes.
- Wages payable is salaries, wages, and benefits to employees, often for the most recent pay period.
- Customer prepayments is money received by a customer before the service has been provided or product delivered. The company has an obligation to (a) provide that good or service or (b) return the customer's money.
- Dividends payable is dividends that have been authorized for payment but have not yet been issued.
- Earned and unearned premiums is similar to prepayments in that a company has received money upfront, has not yet executed on their portion of an agreement, and must return unearned cash if they fail to execute.
- Accounts payable is often the most common current liability. Accounts payable is debt obligations on invoices processed as part of the operation of a business that are often due within 30 days of receipt.

Long-term liabilities can include:

- Long-term debt includes any interest and principal on bonds issued
- Pension fund liability refers to the money a company is required to pay into its employees' retirement accounts
- Deferred tax liability is the amount of taxes that accrued but will not be paid for another year. Besides timing, this figure reconciles differences between requirements for financial reporting and the way tax is assessed, such as depreciation calculations.

Some liabilities are considered off the balance sheet, meaning they do not appear on the balance sheet.

Shareholder Equity:

Shareholder equity is the money attributable to the owners of a business or its shareholders. It is also known as net assets since it is equivalent to the total assets of a company minus its liabilities or the debt it owes to non-shareholders.

Retained earnings are the net earnings a company either reinvests in the business or uses to pay off debt. The remaining amount is distributed to shareholders in the form of dividends.

Treasury stock is the stock a company has repurchased. It can be sold at a later date to raise cash or reserved to repel a hostile takeover.

Some companies issue preferred stock, which will be listed separately from common stock under this section. Preferred stock is assigned an arbitrary par value (as is common stock, in some cases) that has no bearing on the market value of the shares. The common stock and preferred stock accounts are calculated by multiplying the par value by the number of shares issued.

Additional paid-in capital or capital surplus represents the amount shareholders have invested in excess of the common or preferred stock accounts, which are based on par value rather than market price. Shareholder equity is not directly related to a company's market capitalization. The latter is based on the current price of a stock, while paid-in capital is the sum of the equity that has been purchased at any price.

Importance of a Balance Sheet:

Regardless of the size of a company or industry in which it operates, there are many benefits of a balance sheet,

Balance sheets determine risk. This financial statement lists everything a company owns and all of its debt. A company will be able to quickly assess whether it has borrowed too much money, whether the assets it owns are not liquid enough, or whether it has enough cash on hand to meet current demands.

Balance sheets are also used to secure capital. A company usually must provide a balance sheet to a lender in order to secure a business loan. A company must also usually provide a balance sheet to private investors when attempting to secure private equity funding. In both cases, the external party wants to assess the financial health of a company, the creditworthiness of the business, and whether the company will be able to repay its short-term debts.

Managers can opt to use financial ratios to measure the liquidity, profitability, solvency, and cadence (turnover) of a company using financial ratios, and some financial ratios need numbers taken from the balance sheet. When analyzed over time or comparatively against competing companies, managers can better understand ways to improve the financial health of a company.

Last, balance sheets can lure and retain talent. Employees usually prefer knowing their jobs are secure and that the company they are working for is in good health. For public companies that must disclose their balance sheet, this requirement gives employees a chance to review how much cash the company has on hand, whether the company is making smart decisions when managing debt, and whether they feel the company's financial health is in line with what they expect from their employer.

Limitations of a Balance Sheet:

Although the balance sheet is an invaluable piece of information for investors and analysts, there are some drawbacks. Because it is static, many financial ratios draw on data included in both the balance sheet and the more dynamic income statement and statement of cash flows to paint a fuller picture of what's going on with a company's business. For this reason, a balance alone may not paint the full picture of a company's financial health.

A balance sheet is limited due its narrow scope of timing. The financial statement only captures the financial position of a company on a specific day. Looking at a single balance sheet by itself may make it difficult to extract whether a company is performing well. For example, imagine a company reports $1,000,000 of cash on hand at the end of the month. Without context, a comparative point, knowledge of its previous cash balance, and an understanding of industry operating demands, knowing how much cash on hand a company has yields limited value.

Different accounting systems and ways of dealing with depreciation and inventories will also change the figures posted to a balance sheet. Because of this, managers have some ability to game the numbers to look more favorable. Pay attention to the balance sheet's footnotes in order to determine which systems are being used in their accounting and to look out for red flags.

Last, a balance sheet is subject to several areas of professional judgement that may materially impact the report. For example, accounts receivable must be continually assessed for impairment and adjusted to reflect potential uncollectible accounts. Without knowing which receivables a

company is likely to actually receive, a company must make estimates and reflect their best guess as part of the balance sheet.

Example of a Balance Sheet:

The image below is an example of a comparative balance sheet of Apple, Inc. This balance sheet compares the financial position of the company as of September 2020 to the financial position of the company from the year prior.

Apple Inc.
CONSOLIDATED BALANCE SHEETS
(In millions, except number of shares which are reflected in thousands and par value)

	September 26, 2020	September 28, 2019
ASSETS:		
Current assets:		
Cash and cash equivalents	$ 38,016	$ 48,844
Marketable securities	52,927	51,713
Accounts receivable, net	16,120	22,926
Inventories	4,061	4,106
Vendor non-trade receivables	21,325	22,878
Other current assets	11,264	12,352
Total current assets	143,713	162,819
Non-current assets:		
Marketable securities	100,887	105,341
Property, plant and equipment, net	36,766	37,378
Other non-current assets	42,522	32,978
Total non-current assets	180,175	175,697
Total assets	$ 323,888	$ 338,516
LIABILITIES AND SHAREHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	$ 42,296	$ 46,236
Other current liabilities	42,684	37,720
Deferred revenue	6,643	5,522
Commercial paper	4,996	5,980
Term debt	8,773	10,260
Total current liabilities	105,392	105,718
Non-current liabilities:		
Term debt	98,667	91,807
Other non-current liabilities	54,490	50,503
Total non-current liabilities	153,157	142,310
Total liabilities	258,549	248,028
Commitments and contingencies		
Shareholders' equity:		
Common stock and additional paid-in capital, $0.00001 par value: 50,400,000 shares authorized; 16,976,763 and 17,772,945 shares issued and outstanding, respectively	50,779	45,174
Retained earnings	14,966	45,898
Accumulated other comprehensive income/(loss)	(406)	(584)
Total shareholders' equity	65,339	90,488
Total liabilities and shareholders' equity	$ 323,888	$ 338,516

See accompanying Notes to Consolidated Financial Statements.
Apple Inc. | 2020 Form 10-K

Apple Balance Sheet:

In this example, Apple's total assets of $323.8 billion is segregated towards the top of the report. This asset section is broken into current assets and non-current assets, and each of these categories is broken into more specific accounts. A brief review of Apple's assets shows that their cash on hand decreased, yet their non-current assets increased.

This balance sheet also reports Apple's liabilities and equity, each with its own section in the lower half of the report. The liabilities section is broken

out similarly as the assets section, with current liabilities and non-current liabilities reporting balances by account. The total shareholder's equity section reports common stock value, retained earnings, and accumulated other comprehensive income. Apple's total liabilities increased, total equity decreased, and the combination of the two reconcile to the company's total assets.

5.5 DEFINITION AND IMPORTANCE OF INCOME STATEMENT

An income statement is a financial statement that shows you the company's income and expenditures. It also shows whether a company is making profit or loss for a given period. The income statement, along with balance sheet and cash flow statement, helps you understand the financial health of your business.

The income statement is also known as a profit and loss statement, statement of operation, statement of financial result or income, or earnings statement.

Importance of an income statement:

An income statement helps business owners decide whether they can generate profit by increasing revenues, by decreasing costs, or both. It also shows the effectiveness of the strategies that the business set at the beginning of a financial period. The business owners can refer to this document to see if the strategies have paid off. Based on their analysis, they can come up with the best solutions to yield more profit.

Following are the few other things that an income statement informs:

1. Frequent reports:

While other financial statements are published annually, the income statement is generated either quarterly or monthly. Due to this, business owners and investors can track the performance of the business closely and make informed decisions. This also enables them to find and fix small business problems before they become large and expensive.

2. Pinpointing expenses:

This statement highlights the future expenses or any unexpected expenditures which are incurred by the company, and any areas which are over or under budget. Expenses include building rent, salaries and other overhead costs. As a small business begins to grow, it may find its expenses soaring. These expenditures may involve hiring workers, buying supplies and promoting the business.

3. Overall analysis of the company:

This statement gives investors an overview of the business in which they are planning to invest. Banks and other financial institutions can also analyze this document to decide whether the business is loan-worthy.

Who uses an income statement?:

There are two main groups of people who use this financial statement:

internal and external users. Internal users include company management and the board of directors, who use this information to analyze the business's standing and make decisions in order to turn a profit. They can also act on any concerns regarding cash flow. External users comprise investors, creditors, and competitors. Investors check whether the company is positioned to grow and be profitable in the future, so they can decide whether to invest in the business. Creditors use the income statement to check whether the company has enough cash flow to pay off its loans or take out a new loan. Competitors use them to get details about the success parameters of a business and get to know about areas where the business is spending an extra bit, for example, R&D spends.

Income statement format with the major components:

The following information is covered in an income statement. The format for this document may vary depending on the regulatory requirements, the diverse business needs and the associated operating activities.

Revenue or sales:

This is the first section on the income statement, and it gives you a summary of gross sales made by the company. Revenue can be classified into two types: operating and non-operating. Operating revenue refers to the revenue gained by a company by performing primary activities like manufacturing a product or providing a service. Non-operating revenue is gained by performing non-core business activities such as installation, operation, or maintenance of a system.

Cost of goods sold (COGS):

This is the total cost of sales or services, also referred to as the cost incurred to manufacture goods or services. Keep in mind that it only includes the cost of products which you sell. COGS does not usually include indirect costs, like overhead.

Gross profit:

Gross profit is defined as net sales minus the total cost of goods sold in your business. Net sales is the amount of money you brought in for the goods sold, while COGS is the money you spent to produce those goods.

Gains:

Gain is a result of a positive event that causes an organization's income to increase. Gains indicate the amount of money realized by the company from various business activities like the sale of an operating segment. Likewise, the profits from one time non-business activities are also

included as gains for the business. For example, company selling off old vehicles or unused lands etc.

Expenses:

Expenses are the costs that the company has to pay in order to generate revenue. Some examples of common expenses are equipment depreciation, employee wages, and supplier payments. There are two main categories for business expenses: operating and non-operating expenses. Expenses generated by company's core business activities are operating expenses, while the ones which are not generated by core business activities are known as non-operating expenses. Sales commission, pension contributions, payroll account for operating expenses while examples of non operating expenses include obsolete inventory charges or settlement of lawsuit.

Advertising expenses:

These expenses are simply the marketing costs required to expand the client base. They include advertisements in print and online media as well as radio and video ads. Advertising costs are generally considered part of Sales, General & Administrative (SG&A) expenses.

Administrative expenses:

It can be defined as the expenditure incurred by a business or company as a whole rather than being the ones associated with specific departments of the same company. Some of the examples of administrative expenses are salaries, rent, office supplies, and travel expenses. Administrative expenses are fixed in nature and tend to exist irrespective of the level of sales.

Depreciation:

Depreciation refers to the practice of distributing the cost of a long-term asset over its life span. It is a management accord to write off a company's asset value but it is considered a non-cash transaction. Depreciation mainly shows the asset value used up by the business over a period of time.

Earnings before tax (EBT):

This is a measure of a company's financial performance. EBT is calculated by subtracting expenses from income, before taxes. It is one of the line items on a multi-step income statement.

Net income:

Net profit can be defined as the amount of money you earn after deducting allowable business expenses. It is calculated by subtracting total expenses from total revenue. While net income is a company's earnings, gross profit can be defined as the money earned by a company after deducting the cost of goods sold.

An income statement is a rich source of information about the key factors responsible for a company's profitability. It gives you timely updates because it is generated much more frequently than any other statement. The income statement shows a company's expense, income, gains, and losses, which can be put into a mathematical equation to arrive at the net profit or loss for that time period. This information helps you make timely decisions to make sure that your business is on a good financial footing.

5.6 MEANING AND TYPES OF RATIO ANALYSIS

Ratio analysis can be defined as the process of ascertaining the financial ratios that are used for indicating the ongoing financial performance of a company using a few types of ratios such as liquidity, profitability, activity, debt, market, solvency, efficiency, and coverage ratios and few examples of such ratios are return on equity, current ratio, quick ratio, dividend payout ratio, debt-equity ratio, and so on.

Ratio analysis is a process used for the calculation of financial ratios or in other words, for the purpose of evaluating the financial wellbeing of a company. The values used for the calculation of financial ratios of a company are extracted from the financial statements of that same company.

Types of Ratio Analysis:

Types of ratios are given below:

1. Liquidity Ratios:

This type of ratio helps in measuring the ability of a company to take care of its short-term debt obligations. A higher liquidity ratio represents that the company is highly rich in cash.

The types of liquidity ratios are:

1) Current Ratio:

The current ratio is the ratio between the current assets and current liabilities of a company. The current ratio is used to indicate the liquidity of an organization in being able to meet its debt obligations in the upcoming twelve months. A higher current ratio will indicate that the organization is highly capable of repaying its short-term debt obligations.

Current Ratio = Current Assets / Current Liabilities

2) Quick Ratio:

The quick ratio is used to ascertain information pertaining to the capability of a company in paying off its current liabilities on an immediate basis.

The formula used for the calculation of a quick ratio is:

Quick Ratio = (Cash and Cash Equivalents + Marketable Securities + Accounts Receivables) / Current Liabilities

2. Profitability Ratios:

This type of ratio helps in measuring the ability of a company in earning sufficient profits.

The types of profitability ratios are:

1) Gross Profit Ratios:

Gross profit ratios are calculated in order to represent the operating profits of an organization after making necessary adjustments pertaining to the COGS or cost of goods sold.

The formula used for the calculation of gross profit ratio is-

Gross Profit Ratio = (Gross Profit / Net Sales) * 100

2) Net Profit Ratio:

Net profit ratios are calculated in order to determine the overall profitability of an organization after reducing both cash and non-cash expenditures.

The formula used for the calculation of net profit ratio is-

Net Profit Ratio = (Net Profit / Net Sales) * 100

3) Operating Profit Ratio:

Operating profit ratio is used to determine the soundness of an organization and its financial ability to repay all the short term and long term debt obligations.

The formula used for the calculation of operating profit ratio is-

Operating Profit Ratio = (Earnings Before Interest and Taxes / Net Sales) * 100

4) Return on Capital Employed (ROCE):

Return on capital employed is used to determine the profitability of an organization with respect to the capital that is invested in the business.

The formula used for the calculation of ROCE is:

ROCE = Earnings Before Interest and Taxes / Capital Employed

3. Solvency Ratios:

Solvency ratios can be defined as a type of ratio that is used to evaluate whether a company is solvent and well capable of paying off its debt obligations or not.

The types of solvency ratios are:

1) Debt Equity Ratio:

The debt-equity ratio can be defined as a ratio between total debt and shareholders fund. The debt-equity ratio is used to calculate the leverage of an organization. An ideal debt-equity ratio for an organization is 2:1.

The formula for debt-equity ratio is:

Debt Equity Ratio = Total Debts / Shareholders Fund

2) Interest Coverage Ratio:

The interest coverage ratio is used to determine the solvency of an organization in the nearing time as well as how many times the profits earned by that very organization were capable of absorbing its interest-related expenses.

The formula used for the calculation of interest coverage ratio is:

Interest Coverage Ratio = Earnings Before Interest and Taxes / Interest Expense

4. Turnover Ratios:

Turnover ratios are used to determine how efficiently the financial assets and liabilities of an organization have been used for the purpose of generating revenues.

The types of turnover ratios are:

1) Fixed Assets Turnover Ratios:

Fixed assets turnover ratio is used to determine the efficiency of an organization in utilizing its fixed assets for the purpose of generating revenues.

The formula used for the determination of fixed assets turnover ratio is:

Fixed Assets Turnover Ratio = Net Sales / Average Fixed Assets

2) Inventory Turnover Ratio:

Inventory turnover ratio is used to determine the speed of a company in converting its inventories into sales.

The formula used for calculating inventory turnover ratio is:

Inventory Turnover Ratio = Cost of Goods Sold / Average Inventories

3) Receivable Turnover Ratio:

Receivable turnover ratio is used to determine the efficiency of an organization in collecting or realizing its account receivables.

The formula used for calculating the receivable turnover ratio is:

Receivables Turnover Ratio = Net Credit Sales / Average Receivables

5. Earnings Ratios:

Earnings ratio is used for the purpose of determining the returns that an organization generates for its investors.

The types of earnings ratios are:

1) Profit Earnings Ratio:

P/E ratio indicates the profit earning capacity of the company.

The formula used for the calculation of profit earnings ratio is:

Profit Earnings Ratio = Market Price per Share / Earnings per Share

2) Earnings per Share (EPS):

EPS signifies the earnings of an equity holder based on each share.

The formula used for EPS is:

EPS = (Net Income – Preferred Dividends) / (Weighted Average of Outstanding Shares)

Conclusion – Ratio Analysis Types:

Ratio analysis lays the framework for financial analysis. Ratio analysis is also used by the readers of the financial statements for gaining a better understanding of the wellbeing of a company. A few basic types of ratios used in ratio analysis are profitability ratios, debt or leverage ratios, activity ratios or efficiency ratios, liquidity ratios, solvency ratios, earnings ratios, turnover ratios, and market ratios.

5.7 MEANING, NATURE AND SCOPE OF INVESTMENT DECISION

Meaning of Investment Decision:

Investment decisions concerned with the allocation of funds into different investment opportunities for the purpose of earning the highest possible return. It simply assists firms in selecting the right type of assets for deploying their funds. These decisions are taken by the investor or top-

level managers who properly analyses each opportunity before investing any fund into them.

Investment decisions are crucial decisions for every organization as it determines its profitability. It should be ensured that a proper study is done regarding the risk and return before committing any capital into available investment avenues. Investment decisions are of two types: Long term and short term investment decisions.

Long term investment decisions are concerned with the investment of funds in long term assets and are termed as Capital budgeting. Whereas, short term decisions relate to investment in short term assets which is also called working capital management.

Nature of Investment Decision:

1. **Require Huge Funds:** Investment decisions requires a large amount of funds to be deployed by firm for earning profits. These decisions are very imperative and requires due attentions as firms have limited funds but the demand for the funds is excessive. Every firm should necessarily plan its investment programmes and control its expenditures.

2. **High Degree of Risk:** These decisions involve a high amount of risk as they are taken on the basis of estimated return. Large funds are invested for earning income in future which is totally uncertain. These return fluctuates with the changes in fashion, taste, research and technological advancement thereby leading to a greater risk.

3. **Long Term Effect:** Investment decisions have a long lasting effects on future profitability and growth of firm. These decisions decide the position of a firm in future. Any wrong decision may have very adverse effects on return of an organization and may even endanger its survival. Whereas, right decision taken brings good returns for firm leading to better growth.

4. **Irreversibility:** Decisions related to investment are mostly irreversible in nature. It is quite difficult to revert back from decisions once taken related to the acquisition of permanent assets. Disposing off these high value assets will cause heavy losses to firm.

5. **Impacts Cost Structure:** Investment decisions widely impacts the cost structure of an organization. Firms by taking these decisions commit themselves to various fixed cost such as interest, rent, insurance, supervision etc. for the sake of earning profits. If these investments do not provide the anticipated return, then firm overall cost will raise thereby causing losses.

6. **Long term Commitment of Funds:** Funds are deployed for a longer term by organisations through these decisions. Firm deployed high amount of capital for long period on permanent basis. Financial risk in investment decisions increases due to long term commitment of funds. A firm should properly plan and monitor all of its capital expenditures.

7. **Complexity:** Investment decision are most complex decisions as they are based on future events which is totally uncertain. Future cash flows of an investment cannot be estimated accurately as they are influenced by changes in economic, social, political and technological factors. Therefore, uncertainty of future conditions makes it difficult to accurately predict the future returns.

Scope of Investment Decision:

1. **Selection of Right Assets:** Investment decisions help in choosing right type of investment plan for deploying the funds. Each of available opportunity is properly analyzed by management while taking investment decisions. This way every aspect of asset available for investment is taken into consideration which leads to building up a strong portfolio.

2. **Identify Degree of Risk:** These decisions help in identifying the level of risk associated with an investment opportunity. Decisions are taken on the basis of expected return and risk required for earning such return. Managers properly evaluate assets using various tools for finding out the risk while taking investment decisions.

3. **Determines firm Profitability:** Decisions regarding investment plans determines the future profit earning potential of a firm. A right decision may bring large amount of funds to an organization leading to better growth. Whereas, any wrong decision regarding deployment of funds may cause heavy losses and even adversely affect the continuity of firm.

4. **Enhance Financial Understanding:** Investment decisions imparts large amount of beneficial financial knowledge to individuals taking these decisions. Investors while choosing the asset uses a variety of tools and techniques for analyzing its profitability. It provides a lot of information which enhances the overall financial knowledge and enables investors in taking rational decisions regarding investment.

5. **National Importance:** These decisions are of national importance for a nation as it leads to overall development and growth. Investment decisions taken determines the level of employment, economic growth and economic activities in a country. More amount of investment creates better supply of funds in an economy which increase the pace of overall economic development.

5.8 MEANING AND TYPES OF CAPITAL BUDGETING OF A FIRM

The capital budgeting process allocates a company's investment funds to major projects. The process becomes more elaborate as organizations become larger and the value and complexity of projects increase. Many large companies have formal capital expenditure planning committees with detailed operating procedures that approve all major capital

expenditures. These committees generally consist of a team of experts from across the company and its different disciplines including accounting, finance, marketing, operations, and human resources. They critically review all projects from their varying perspectives to ensure that they are financially and operationally sound and consistent with the company's strategic plans. As the size of capital expenditures decrease and become more routine, investment decision making is pushed down into a company's divisions and departments and the processes used to assess projects become simpler. Most organizations establish cost limits that determine which level of management has authority to approve a project.

The five steps in the capital budgeting process include:

Step 1 - Project idea generation:

Ideas can be found internally or by scanning the external business environment, benchmarking the company against its competitors, or acquiring innovative companies or product ideas. Smaller investment proposals may originate at the department level among junior managers and line workers formed into autonomous work teams. As projects grow in value, divisional and corporate management becomes more involved. Pay and human resource systems at all levels should be designed to encourage employees to contribute.

Step 2 - Screening of proposals:

Before committing to an expensive evaluation of a project, the capital expenditure planning committee or senior management will review the project to ensure it has a reasonable chance of success and is consistent with the company's strategic plans.

Step 3 - Project evaluation:

A project's profitability is determined using different evaluation methods including payback period, discounted payback period, accounting rate of return (ARR), net present value (NPV), internal rate of return (IRR), or profitability indexes (PI). In addition to a thorough quantitative analysis, business units must also prepare a written description and justification which describes how the project supports the organization's strategic goals. All forecasts should be consistent with a common economic outlook provided by the company.

Step 4 - Preparation of the capital budget:

All unprofitable or strategically undesirable projects are eliminated and the remaining projects are ranked based on their profitability along with any resource constraints such as limited funding or a lack of manpower availability. Some projects are mandatory and must be done in order to comply with health and safety or environmental regulations in which case the goal to complete the project efficiently. Others may lose money but are accepted anyway for strategic reasons to give the company exposure to

a new industry or to development new competencies in hopes of earning positive returns in the future. Pet projects championed by influential managers that usually do not go through the normal approval process or are approved based on overly optimistic projections should be avoided.

Step 5 - Monitoring and post-completion audits:

During implementation, a project must be monitored on an ongoing basis to ensure that construction targets are met, there are no cost overruns, and key inputs such as the price of the product do not need to be adjusted. If problems arise, the company has to decide whether to stay the course, alter its plans, or abandon the project. Post-completion audits also occur at the end of a project to help improve a company's capital budgeting system. Benefits include:

- Ascertains why variation between planned and actual performance occurred so any lessons learned can be applied to current and future projects.
- Strengthens a manager's estimating abilities by holding them accountable for their forecasts and project selections.
- Detects biases by managers who consistently over estimate benefits or underestimate costs.
- Discourages pet projects by influential managers.
- Provides an excellent training opportunity for new managers and can be part of their performance review.
- Provides an excellent source of new project ideas.

Monitoring and post-completion audits should be conducted by individuals who are not involved in the project selection process to ensure their objectivity and help eliminate the psychological and internal political barriers to cancelling a project. Once a manager or business unit receives approval for a project, they are very hesitant to admit that they might have made a mistake and relinquish resources. Losses will continue longer than necessary especially if these managers are able to use their connections within the organization to gather support.

Project Evaluation Methods:

1. **Net present value (NPV):** This is the present value of a project's future cash flows minus the initial investment or its profitability in dollar terms. The discount rate used to determine the present value of future cash flows is the RRR that investors require to be fairly compensated for a project's risk. A project with a positive NPV is generating a higher return than the RRR or what economists call excess profits. In competitive markets, there should be few excess profits due to the entry of new competitors. The advantages of this method are the NPV is in dollars so it can be added directly to the company's market value to determine the effect on share price. Also,

the RRR can be adjusted to reflect the varying risk levels of different projects or specific cash flows within project. In order to maximize a company's share price, all positive NPV projects should be accepted. Excel provides a function to calculate a project's NPV.

2. **Internal rate of return (IRR):** This a project's rate of return that equates its initial investment with its future cash flows. If the IRR was used as the RRR, a project's NPV would be zero. The difference between the IRR and RRR is the project's excess profits expressed as a percentage. Some company's prefer IRR because it is easier to communicate than NPV which is in dollars. IRR can also be used if a company cannot accurately estimate its RRR. Its disadvantages are IRR cannot be adjusted for the risk of specific projects or cash flows like the RRR. Also, IRR has a number of mathematical problems that may result in the wrong project being selected.

3. **Discounted payback period:** This is the time it takes to recover a project's initial investment from its discounted future cash flows. The advantages and disadvantage of this method are similar to the payback period method except present value is used and the discount rate can be adjusted to reflect varying levels of risk. If a project pays back its investment on a discounted basis it will make a profit, but it still may be rejected if the arbitrary cut-off point is not reached.

5.9 QUESTIONS

Q.1 Explain the meaning and importance of funds flow statement.

Q.2 Define income statement. Give the importance of income statement.

Q.3 What are the types of Ratio analysis.

Q.4 Discuss the scope of investment decision.

Q.5 Explain the meaning and types of capital Budgeting of a firm.

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6

FINANCIAL ANALYSIS - II

Unit Structure

6.0 Objectives
6.1 Introduction
6.2 Meaning and Importance of Cost of Capital
6.3 Capital Asset Pricing Model (CAPM)
6.4 Weighted Average Cost of Capital (WACC)
6.5 Capital Structure
6.6 Modigliani - Miller Theorem
6.7 Questions
6.8 References

6.0 OBJECTIVES

After going through this unit, you must be able to understand:

- Meaning and Importance of Cost of Capital
- Model of Capital Asset Pricing
- Model of Weighted Average Cost of Capital
- Srtucture of the Capital
- Modigliani - Miller Theorem

6.1 INTRODUCTION

Cost of capital is an integral part of investment decision as it is used to measure the worth of investment proposal provided by the business concern. It is used as a discount rate in determining the present value of future cash flows associated with capital projects. Cost of capital is also called as cut-off rate, target rate, hurdle rate and required rate of return. When the firms are using different sources of finance, the finance manager must take careful decision with regard to the cost of capital; because it is closely associated with the value of the firm and the earning capacity of the firm.

6.2 MEANING AND IMPORTANCE OF COST OF CAPITAL

Meaning of Cost of Capital:

Cost of capital is the rate of return that a firm must earn on its project investments to maintain its market value and attract funds.

Cost of capital is the required rate of return on its investments which belongs to equity, debt and retained earnings. If a firm fails to earn return at the expected rate, the market value of the shares will fall and it will result in the reduction of overall wealth of the shareholders.

Definitions:

The following important definitions are commonly used to understand the meaning and concept of the cost of capital.

According to the definition of John J. Hampton "Cost of capital is the rate of return the firm required from investment in order to increase the value of the firm in the market place".

According to the definition of Solomon Ezra, "Cost of capital is the minimum required rate of earnings or the cut-off rate of capital expenditure".

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

According to the definition of William and Donaldson, "Cost of capital may be defined as the rate that must be earned on the net proceeds to provide the cost elements of the burden at the time they are due".

Importance:

The determination of the firm's cost of capital is important from the point of view of the following:

i) It is the basis of appraising new capital expenditure proposals. This gives the acceptance / rejection criterion for capital expenditure projects.

ii) The finance manager must raise capital from different sources in a way that it optimizes the risk and cost factors. The source of funds which have less cost involve high risk. Cost of capital helps the managers in determining the optimal capital structure.

iii) It is the basis for evaluating the financial performance of top management.

iv) It helps in formulating appropriate dividend policy.

v) It also helps the organization in developing an appropriate working capital policy.

6.3 CAPITAL ASSET PRICING MODEL (CAPM)

The Capital Asset Pricing Model (CAPM) describes the relationship between systematic risk, or the general perils of investing, and expected return for assets, particularly stocks. CAPM evolved as a way to measure

this systematic risk. It is widely used throughout finance for pricing risky securities and generating expected returns for assets, given the risk of those assets and cost of capital.

Understanding the Capital Asset Pricing Model (CAPM):

The formula for calculating the expected return of an asset, given its risk, is as follows:

$$ER_i = R_f + \beta_i(ER_m - R_f)$$

where:

ER_i = expected return of investment

R_f = risk-free rate

β_i = beta of the investment

$(ER_m - R_f)$ = market risk premium

Investors expect to be compensated for risk and the time value of money. The risk-free rate in the CAPM formula accounts for the time value of money. The other components of the CAPM formula account for the investor taking on additional risk.

The beta of a potential investment is a measure of how much risk the investment will add to a portfolio that looks like the market. If a stock is riskier than the market, it will have a beta greater than one. If a stock has a beta of less than one, the formula assumes it will reduce the risk of a portfolio.

A stock's beta is then multiplied by the market risk premium, which is the return expected from the market above the risk-free rate. The risk-free rate is then added to the product of the stock's beta and the market risk premium. The result should give an investor the required return or discount rate that they can use to find the value of an asset.

The goal of the CAPM formula is to evaluate whether a stock is fairly valued when its risk and the time value of money are compared with its expected return. In other words, by knowing the individual parts of the CAPM, it is possible to gauge whether the current price of a stock is consistent with its likely return.

For example, imagine an investor is contemplating a stock valued at $100 per share today that pays a 3% annual dividend. The stock has a beta compared with the market of 1.3, which means it is riskier than a market portfolio. Also, assume that the risk-free rate is 3% and this investor expects the market to rise in value by 8% per year.

The expected return of the stock based on the CAPM formula is 9.5%:

9.5% = 3% + 1.3 × (8% − 3%)

The expected return of the CAPM formula is used to discount the expected dividends and capital appreciation of the stock over the expected holding period. If the discounted value of those future cash flows is equal to $100, then the CAPM formula indicates the stock is fairly valued relative to risk.

Problems with the CAPM:

Several assumptions behind the CAPM formula have been shown not to hold up in reality. Modern financial theory rests on two assumptions:

1. Securities markets are very competitive and efficient (that is, relevant information about the companies is quickly and universally distributed and absorbed).

2. These markets are dominated by rational, risk-averse investors, who seek to maximize satisfaction from returns on their investments.

As a result, it's not entirely clear whether CAPM works. The big sticking point is beta. When professors Eugene Fama and Kenneth French looked at share returns on the New York Stock Exchange, the American Stock Exchange, and Nasdaq, they found that differences in betas over a lengthy period did not explain the performance of different stocks. The linear relationship between beta and individual stock returns also breaks down over shorter periods of time. These findings seem to suggest that CAPM may be wrong.

Despite these issues, the CAPM formula is still widely used because it is simple and allows for easy comparisons of investment alternatives.

Including beta in the formula assumes that risk can be measured by a stock's price volatility. However, price movements in both directions are not equally risky. The look-back period to determine a stock's volatility is not standard because stock returns (and risk) are not normally distributed.

The CAPM also assumes that the risk-free rate will remain constant over the discounting period. Assume in the previous example that the interest rate on U.S. Treasury bonds rose to 5% or 6% during the 10-year holding period. An increase in the risk-free rate also increases the cost of the capital used in the investment and could make the stock look overvalued.

The market portfolio used to find the market risk premium is only a theoretical value and is not an asset that can be purchased or invested in as an alternative to the stock. Most of the time, investors will use a major stock index, like the S&P 500, to substitute for the market, which is an imperfect comparison.

The most serious critique of the CAPM is the assumption that future cash flows can be estimated for the discounting process. If an investor could estimate the future return of a stock with a high level of accuracy, then the CAPM would not be necessary.

Practical Value of the CAPM:

Considering the critiques of the CAPM and the assumptions behind its use in portfolio construction, it might be difficult to see how it could be useful. However, using the CAPM as a tool to evaluate the reasonableness of future expectations or to conduct comparisons can still have some value.

Assume in this example that the peer group's performance over the last few years was a little better than 10% while this stock had consistently underperformed, with 9% returns. The investment manager shouldn't take the advisor's recommendation without some justification for the increased expected return.

An investor also can use the concepts from the CAPM and the efficient frontier to evaluate their portfolio or individual stock performance vs. the rest of the market. For example, assume that an investor's portfolio has returned 10% per year for the last three years with a standard deviation of returns (risk) of 10%. However, the market averages have returned 10% for the last three years with a risk of 8%.

The investor could use this observation to reevaluate how their portfolio is constructed and which holdings may not be on the SML. This could explain why the investor's portfolio is to the right of the CML. If the holdings that are either dragging on returns or have increased the portfolio's risk disproportionately can be identified, then the investor can make changes to improve returns. Not surprisingly, the CAPM contributed to the rise in the use of indexing, or assembling a portfolio of shares to mimic a particular market or asset class, by risk-averse investors. This is largely due to the CAPM message that it is only possible to earn higher returns than those of the market as a whole by taking on higher risk (beta).

6.4 WEIGHTED AVERAGE COST OF CAPITAL (WACC)

Weighted average cost of capital (WACC) represents a firm's average after-tax cost of capital from all sources, including common stock, preferred stock, bonds, and other forms of debt. WACC is the average rate that a company expects to pay to finance its assets.

WACC is a common way to determine required rate of return (RRR) because it expresses, in a single number, the return that both bondholders and shareholders demand 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 require greater returns.

WACC and its formula are useful for analysts, investors, and company management—all of whom use it for different purposes. In corporate finance, determining a company's cost of capital is vital for a couple of reasons. For instance, WACC is the discount rate that a company uses to estimate its net present value.

WACC is also important when analyzing the potential benefits of taking on projects or acquiring another business. For example, if the company believes that a merger will generate a return higher than its cost of capital, then it's likely a good choice for the company. If its management anticipates a return lower than what their own investors are expecting, then they'll want to put their capital to better use.

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. WACC measures a company's cost to borrow money. The WACC formula uses both the company's debt and equity in its calculation.

In most cases, a lower WACC indicates a healthy business that's able to attract investors at a lower cost. By contrast, a higher WACC usually coincides with businesses that are seen as riskier and need to compensate investors with higher returns.

If a company only obtains financing through one source—say, common stock—then calculating its cost of capital would be relatively simple. If investors expected a rate of return of 10% to purchase shares, the firm's cost of capital would be the same as its cost of equity: 10%.

The same would be true if the company only used debt financing. For example, if the company paid an average yield of 5% on its outstanding bonds, its cost of debt would be 5%. This is also its cost of capital.

WACC Formula and Calculation

$$\text{WACC} = \left(\frac{E}{V} \times Re\right) + \left(\frac{D}{V} \times Rd \times (1 - Tc)\right)$$

where:

$E = \text{Market value of the firm's equity}$

$D = \text{Market value of the firm's debt}$

$V = E + D$

$Re = \text{Cost of equity}$

$Rd = \text{Cost of debt}$

$Tc = \text{Corporate tax rate}$

WACC is calculated by multiplying the cost of each capital source (debt and equity) by its relevant weight and then adding the products together. In the above formula, E/V represents the proportion of equity-based financing, while D/V represents the proportion of debt-based financing.

The WACC formula thus involves the summation of two terms:

The former represents the weighted value of equity capital, while the latter represents the weighted value of debt capital.

$$\left(\frac{E}{V} \times Re\right)$$

$$\left(\frac{D}{V} \times Rd \times (1 - Tc)\right)$$

Cost of equity can be a bit tricky to calculate because share capital does not technically have an explicit value. When companies reimburse bondholders, the amount they pay has a predetermined interest rate. On the other hand, equity has no concrete price that the company must pay. As a result, companies have to estimate cost of equity—in other words, the rate of return that investors demand based on the expected volatility of the stock.

Because shareholders will expect to receive a certain return on their investments in a company, the equity holders' required rate of return is a cost from the company's perspective; if the company fails to deliver this expected return, shareholders will simply sell off their shares, which leads to a decrease in both share price and the company's value. The cost of equity, then, is essentially the total return that a company must generate to maintain a share price that will satisfy its investors.

Companies typically use the Capital Asset Pricing Model (CAPM) to arrive at the cost of equity (in CAPM, it's called the expected return of investment). Again, this is not an exact calculation because firms have to lean on historical data, which can never accurately predict future growth.

Determining cost of debt (Rd), on the other hand, is a more straightforward process. This is often done by averaging the yield to maturity for a company's outstanding debt. This method is easier if you're looking at a publicly traded company that has to report its debt obligations.

For privately owned companies, one can look at the company's credit rating from firms such as Moody's and S&P and then add a relevant spread over risk-free assets (for example, Treasury notes of the same maturity) to approximate the return that investors would demand.

Businesses are able to deduct interest expenses from their taxes. Because of this, the net cost of a company's debt is the amount of interest it is paying minus the amount it has saved in taxes. This is why Rd (1 - the corporate tax rate) is used to calculate the after-tax cost of debt.

Limitations of WACC:

The WACC formula seems easier to calculate than it really is. Because certain elements of the formula, such as the cost of equity, are not consistent values, various parties may report them differently for different reasons. As such, although WACC can often help lend valuable insight into a company, one should always use it along with other metrics when determining whether to invest in a company.

The WACC can be difficult to calculate if you're not familiar with all the inputs. Higher debt levels mean that the investor or company will require higher WACCs. More complex balance sheets, such as varying types of debt with various interest rates, make it more difficult to calculate WACC. There are many inputs to calculating WACC—such as interest rates and tax rates—all of which can be affected by market and economic conditions.

Also, WACC is not suitable for accessing risky projects because to reflect the higher risk, the cost of capital will be higher. Instead, investors may opt to use adjusted present value (APV), which does not use WACC.

6.5 CAPITAL STRUCTURE

Capital structure is the particular combination of debt and equity used by a company to finance its overall operations and growth.

Equity capital arises from ownership shares in a company and claims to its future cash flows and profits. Debt comes in the form of bond issues or loans, while equity may come in the form of common stock, preferred stock, or retained earnings. Short-term debt is also considered to be part of the capital structure.

Understanding Capital Structure:

Both debt and equity can be found on the balance sheet. Company assets, also listed on the balance sheet, are purchased with debt or equity. Capital structure can be a mixture of a company's long-term debt, short-term debt, common stock, and preferred stock. A company's proportion of short-term debt versus long-term debt is considered when analyzing its capital structure.

When analysts refer to capital structure, they are most likely referring to a firm's debt-to-equity (D/E) ratio, which provides insight into how risky a company's borrowing practices are. Usually, a company that is heavily financed by debt has a more aggressive capital structure and therefore poses a greater risk to investors. This risk, however, may be the primary source of the firm's growth.

Debt is one of the two main ways a company can raise money in the capital markets. Companies benefit from debt because of its tax advantages; interest payments made as a result of borrowing funds may be tax-deductible. Debt also allows a company or business to retain ownership, unlike equity. Additionally, in times of low-interest rates, debt is abundant and easy to access.

Equity allows outside investors to take partial ownership of the company. Equity is more expensive than debt, especially when interest rates are low. However, unlike debt, equity does not need to be paid back. This is a benefit to the company in the case of declining earnings. On the other hand, equity represents a claim by the owner on the future earnings of the company.

Companies that use more debt than equity to finance their assets and fund operating activities have a high leverage ratio and an aggressive capital structure. A company that pays for assets with more equity than debt has a low leverage ratio and a conservative capital structure. That said, a high leverage ratio and an aggressive capital structure can also lead to higher growth rates, whereas a conservative capital structure can lead to lower growth rates.

Analysts use the D/E ratio to compare capital structure. It is calculated by dividing total liabilities by total equity. Savvy companies have learned to incorporate both debt and equity into their corporate strategies. At times, however, companies may rely too heavily on external funding and debt in particular. Investors can monitor a firm's capital structure by tracking the D/E ratio and comparing it against the company's industry peers.

Firms in different industries will use capital structures better suited to their type of business. Capital-intensive industries like auto manufacturing may utilize more debt, while labor-intensive or service-oriented firms like software companies may prioritize equity.

Assuming that a company has access to capital (e.g. investors and lenders), they will want to minimize their cost of capital. This can be done using a weighted average cost of capital (WACC) calculation. To calculate WACC the manager or analyst will multiply the cost of each capital component by its proportional weight.

6.6 MODIGLIANI - MILLER THEOREM

Introduction:

According to many research of corporation finance, the capital structure decision is one of the most fundamental issues facing to the executives and management level. The corporate finance is a specific area of finance dealing with the financial decisions corporations make and the tools as well as analysis used to make these decisions. The discipline as a whole may be divided among long-term and short-term decisions and techniques with the primary goal being maximizing corporate value while managing the firm’s financial risks. Capital investment decisions are long-term choices that investment with equity or debt, and the short-term decisions deals with the balance of current assets and current liabilities which is managing cash, inventories, and short-term borrowing and lending. Corporate finance can be defined as the theory, process and techniques that corporations use to make the investing, financing and dividend decisions that ultimately contribute to maximizing corporate value.Thus, a corporation will first decide in which projects to invest, then it will figure out how to finance them, and finally, it will decide how much money, if any, to give back to the owners. All these three dimensions which are investing, financing and distributing dividends are interrelated and mutually dependent.

The capital structure of a company refers to a combination of debt, preferred stock, and common stock of finance that it uses to fund its long-term financing. Equity and debt capital are the two major sources of long-term funds for a firm. The theory of capital structure is closely related to the firm's cost of capital. As the enterprises to obtain funds need to pay some costs, the cost of capital in the investment activities is also the main consideration of rate of return. The weighted average cost of capital (WACC) is the expected rate of return on the market value of all of the firm's securities. WACC depends on the mix of different securities in the capital structure; a change in the mix of different securities in the capital structure will cause a change in the WACC. Thus, there will be a mix of different securities in the capital structure at which WACC will be the least. The decision regarding the capital structure is based on the objective of achieving the maximization of shareholders wealth.

With regard to the capital structure of the theoretical basis, most well-known theory is Modigliani-Miller theorem of Franco Modigliani and Merton H.Miller (1958 and 1963). Yet the seeming simple question as to how firms should best finance their fixed assets remains a contentious issue.

Modigliani-Miller Proposition I:

The Modigliani-Miller Proposition I Theory (MM I) states that under a certain market price process, in the absence of taxes, no transaction costs, no asymmetric information and in an perfect market, the cost of capital and the value of the firm are not affected by the changed in capital structure. The firm's value is determined by its real assets, not by the securities it issues. In other words, capital structure decisions are irrelevant as long as the firm's investment decisions are taken as given.

The Modigliani and Miller (1958) explained the theorem was originally proven under the assumption of no taxes. It is made up of two propositions that are (i) the overall cost of capital and the value of the firm are independent of the capital structure. The total market value of the firm is given by capitalizing the expected net operating income by the rate appropriate for that risk class. (ii) The financial risk increase with more debt content in the capital structure. As a result, cost of equity increases in a manner to offset exactly the low cost advantage of debt. Hence, overall cost of capital remains the same.

The assumptions of the MM theory are:

1. There is a perfect capital market. Capital markets are perfect when

- investors are free to buy and sell securities
- investors can trade without restrictions and can borrow or lend funds on the same terms as the firms do
- investors behave rationally
- investors have an equal access to all relevant information

- capital markets are efficient
- no costs of financial distress and liquidation
- there are no taxes

2. Firms can be classified into homogeneous business risk classes. All the firms in the same risk class will have the same degree of financial risk.

3. All investors have the same view for the investment, profits and dividends in the future; they have the same expectation of a firm's net operating income.

4. The dividend payout ration is 100%, which means there are no retained earnings.

In the absence of tax world, base on MM Proposition I, the value of the firm is unaffected by its capital structure. In other words, regardless of whether a company has liabilities, the total risk of its securities holders will not change even the capital structure is changed. As the weighted average cost of capital unchanged, so must the same as the total value of the company. That is VL = VU = EBIT/ requity where VL is the value of a levered firm = price of buying a firm that is composed of some mix of debt and equity, VU is the value of an unlevered firm = price of buying a firm composed only of equity and EBIT is earnings before interest and tax. Whether or not the company has loans or the loans for high or low, investors are all accessible through the following two kinds of investment on their own to create the desired type of earning.

1. direct invested in the company's stock borrowing

2. if shares of levered firms are priced too high, investors will try to take advantage of borrowing on their own and use the money to buy shares in unlevered firms. The use of debt by the investors is known as homemade leverage.

The investors of homemade leverage can obtain the same return as the levered firms, therefore, for investors; the value of the firm is not affected by debt-equity mix.

The MM Proposition I assumptions are quite unrealistic, there have some implications, (i) Capital structure is irrelevant to shareholder wealth maximization. (ii) The value of the firm is determined by the firm's capital budgeting decisions. (iii) Increasing the extent to which a firm relies on debt increases both the risk and the expected return to equity – but not the price per share. (iv) Milton Harris and Artur Raviv (1991) illustrated the asymmetric information that firm managers or insiders are assumed to possess private information about the characteristics of the firm's return stream or investment opportunities. They will know more about their companies' prospects, risks and values than do outside investors. Then it cannot fulfill the assumption of perfect market.

Based on the inadequate of MM Proposition I, Franco Modigliani and Merton H.Miller revised their theory in 1963, which is MM Proposition II.

Modigliani-Miller Proposition II:

The Modigliani-Miller Proposition II Theory (MM II) defines cost of equity is a linear function of the firm's debt/equity-ratio. According to them, for any firm in a given risk class, the cost of equity is equal to the constant average cost of capital plus a premium for the financial risk, which is equal to debt/equity ratio times the spread between average cost and cost of debt. Also Modigliani and Miller (1963) recognized the importance of the existence of corporate taxes. Accordingly, they agreed that the value of the firm will increase or the cost of capital will decrease with the use of debt due to tax deductibility of interest charges. Thus, the value of corporation can be achieved by maximizing debt component in the capital structure.

This theory of capital structure for the study provided an important and analytical framework. According to this approach, value of a firm is VL = VU = EBIT (1-T) / requity + TD where TD is tax savings. MM Proposition II is assuming that the tax shield effect of each is the same, and continued in sight. Leverage firms are increased in interest expense due to reduced tax liability, has also increased the allocation to the shareholders and creditors of the cash flow. The above formula can be deduced from the company debt the more the greater the tax saving benefits, the greater the value of the company. The revised capital structure of the MM Proposition II, pointed out that the existence of tax shield in a perfect capital market conditions cannot be reached, in an imperfect financial market, the capital structure changes will affect the company's value. Therefore, the value and cost of capital of corporation with the capital structure changes in different leverage, the value of the levered firm will exceed the value of the unlevered firm.

MM Proposition theory suggests that the higher the debt ratio is more favorable to corporate, but though borrowing adds an interest tax shield it may lead to costs of financial distress. Financial distress occurs when promises to creditors are broken or honored with difficulty. Financial distress may lead to bankruptcy. The trade-off theory of capital structure theory in MM based on the added risk of bankruptcy and further improves the capital structure theory, to make it more practical significance.

Conclusion:

The capital structure decision is one of the most fundamental issues in corporate finance. Regardless of which kind of capital structure, to achieve one of the most optimal capital structures, the company should be mixture of equity and debt and it cannot only focus on equity or debt. Equity is a cushion and debt is a sword, debt is always cheaper than equity, partly because lenders bear less risk and partly because of the tax advantage associated with debt. In general, there are differences in the capital structures of different industries; they are having their own characteristic. The most important thing is the company's liquidity is sufficient or not. In

making the decision of how to allocate the fund in which type of assets, the company has to consider and compare the different factors such as NPV, IRR and payback period. In evaluating the NPV, IRR and payback period, cash inflow is fund of the vital element. Therefore the company should know how to obtain the financing and how to invest it. They should carefully to allocate their resources to maximize the firm value.

6.7 QUESTIONS

1. Write the Meaning and Importance of Cost of Capital.
2. What are the Determining components of Cost of Capital?
3. Explain the Model of Capital Asset Pricing.
4. Explain Model of Weighted Average Cost of Capital.
5. Write a note on Srtucture of the Capital.
6. Analyse the Modigliani - Miller Theorem.

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MODULE - IV

7

INDIAN INDUSTRY - I

Unit Structure

7.0 Objectives
7.1 Introduction to Industrial Growth
7.2 Trends in Industrial Growth in India
7.3 Industrial Location (Factors) and Location Policy in India
7.3.1 Industrial Location (Factors)
7.3.2 Industrial Policy in India
7.4 Questions

7.0 OBJECTIVES

The main objectives behind the study of this unit are as follows:

- To study the concept of industrial growth.
- To see the trends in industrial growth in India.
- To study industrial factors in India.
- To study the location policy in India.

7.1 INTRODUCTION TO INDUSTRIAL GROWTH

- Industry or the secondary sector of the economy is another important area of economic activity. After independence, the government of India emphasized the role of industrialization in the country's economic development in the long run. Accordingly, the blue print for industrial development was made through the Industrial Policy Resolution (IPR) in 1956.
- The 1956 policy emphasized on establishment of heavy industries with public sector taking the lead in this area. Adoption of heavy or basic industries strategy was justified on the ground that it will reduce the burden on agriculture, enable growth in the production of consumer goods industries as well as small industries that are helpful for employment generation and achieving self reliance.
- After the adoption of the IPR, 1956 there was tremendous growth in industrialization during the second and third plan periods i.e. 1956-61 and 1961-66. Public sector contributed maximum to this growth.
- But towards the end of 1960s, investment in industries was reduced which adversely affected its growth rate.

- In the 1980s, this trend was reversed and investment in industries was increased by making the infrastructure base such as power, coal, rail much stronger.
- In early 1990s it was found that the public sector undertakings were not performing upto expectation. There has been reports of mismanagement in these under takings resulting in loss. So in 1991 the government of Indian decided to encourage the role of private sector in industrial development, remove the rigid licence system which is known as liberalization and allow international players to compete in the domestic country as well as domestic players to explore foreign territories.
- The aim of taking all these steps was to strengthen the process of industrialization in the country. Such a model of industrial development is called Liberalization, Privatization and Globalization (LPG) model. After the adoption of this new policy in 1991, there has been phases of growth followed by slowdown in the industrial development process.
- In the early years of 1990s there was significant growth in industrialization due to increase in investment in infrastructure, reduction in excise duty, availability of finance etc.
- But towards the end of 1990s the growth rate slowed down due to stiff competition from international companies, inadequate infrastructure support etc. However, in the beginning of the new millennium, between 2002-08 there was again some recovery due to increase in saving rate from 23.5 percent in 2001-2 to 37.4 percent in 2007- 08.
- Even the competition from the foreign companies helped during this phase as the domestic companies could create enough internal strength in term of quality control, finance and customer care etc. to withstand the competition. However after 2008-09 there was some slow down in industrial growth due to rise in petroleum price, interest rate and borrowings from abroad which has created lot of liabilities for the domestic companies.

7.2 TRENDS IN INDUSTRIAL GROWTH IN INDIA

- Industry or the secondary sector of the economy is another important area of economic activity. After independence, the government of India emphasized the role of industrialization in the country's economic development in the long run. Accordingly, the blue print for industrial development was made through the Industrial Policy Resolution (IPR) in 1956.
- The 1956 policy emphasized on establishment of heavy industries with public sector taking the lead in this area. Adoption of heavy or basic industries strategy was justified on the ground that it will reduce the burden on agriculture, enable growth in the production of consumer goods industries as well as

small industries that are helpful for employment generation and achieving self reliance.

- After the adoption of the IPR, 1956 there was tremendous growth in industrialization during the second and third plan periods i.e. 1956-61 and 1961-66. Public sector contributed maximum to this growth.
- But towards the end of 1960s, investment in industries was reduced which adversely affected its growth rate.
- In the 1980s, this trend was reversed and investment in industries was increased by making the infrastructure base such as power, coal, rail much stronger.
- In early 1990s it was found that the public sector undertakings were not performing upto expectation. There has been reports of mismanagement in these under takings resulting in loss. So in 1991 the government of Indian decided to encourage the role of private sector in industrial development, remove the rigid licence system which is known as liberalization and allow international players to compete in the domestic country as well as domestic players to explore foreign territories.
- The aim of taking all these steps was to strengthen the process of industrialization in the country. Such a model of industrial development is called Liberalization, Privatization and Globalization (LPG) model. After the adoption of this new policy in 1991, there has been phases of growth followed by slowdown in the industrial development process.
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The structure of industries is dynamic and keep changing from time to time. The change in Industrial structure or Industrial development or

growth during the planning era can be divided into four phases discussed as follows

1. First Phase of High Growth
2. Second Phase of Industrial Retrogression
3. Third Phase of Industrial Recovery
4. Fourth phase of Industrial Reforms

1. First Phase of High Growth:

The **first phase** was of high growth between beginning of first plan to end of third plan i.e. 1950-51 to 1965-66. During this period, the central government led by Nehru laid great emphasis on industrialisation; particularly since the Second five year plan. Under the Industrial Policy of 1948 and 1956, huge public investment in heavy industries was done because such investment was thought to be out of capital-raising capacity of the private sector. During this phase, average industrial growth was nearly 9%.

2. Second Phase of Industrial Retrogression:

Second Phase between 1966 to 1980 is called Low Growth Phase or phase of Industrial Deceleration in India or "Industrial retrogression" during fourth and fifth plan. During this phase, the average Industrial growth rate remained 4.1%. However, the capital goods industries registered a high growth during this period. There are several explanations of this phenomenon of Industrial retrogression between 1966-1980.

- As per the government, the wars of 1965 and 1971, back-to-back drought conditions, infrastructural bottlenecks were responsible.
- Some scholars held low farm growth responsible for slowdown, because it restricted the supply of raw materials.
- Others blamed the small size of market for industrial goods. Their argument was that such goods were not in the reach of the people beyond top 10% of the population (by income) because of huge inequalities of income and wealth. Once that market got saturated, there was no further expansion among the other strata of the population.
- Few more other blamed the wrong industrial / other government policies that led to complex licensing system, inefficient control and infrastructure bottlenecks.

3. Third Phase of Industrial Recovery:

The third phase from 1980s to 1991 can be called phase of Industrial Recovery. During this phase, Industrial growth was between 6.4 to 8.3%.

- The main cause of this revival was gradual liberalization of the industrial licensing.
- The green revolution resulted in increased prosperity of the large farmers in some parts of the country, that led to increased demand of farm mechanization.
- Further, the government had taken several other budgetary / fiscal measures aimed at infrastructure investment. These measures included maintenance of heavy budgetary deficit and huge public borrowing (to invest in infra).
- This period saw a changed consumption pattern in favour of Consumer durables. People started having Radio sets, TVs, VCRs, Refrigerators, Bikes, Scooters etc. in their homes. This was the reason that the consumer durable were called the "forefront of growth" during this phase.

4. Fourth phase of Industrial Reforms:

The manufacturing growth was in negative zone in 1991-92 with a dismal overall industrial growth of 0.8%. After that, the PV Narsimharao government announced New Industrial Policy 1991 and growth started taking pace. However, there was no sustainable economic growth initially. As the Indian economy integrated with the rest of the global economy, it started responding to global slowdowns and recovery.

7.3 INDUSTRIAL LOCATION (FACTORS) AND POLICY IN INDIA

7.3.1 Industrial Location (Factors):

The location of the industry at a particular place is the result of a number of decisions taken at various levels. There are certain geographical factors that facilitate this decision-making. There are other factors that fall outside the subject matter of geography. The validity or importance of a factor also changes with time and space.

Many important geographical factors involved in the location of individual industries are of relative significance, e.g., availability of raw materials, power resources, water, labour, markets, and transport facilities.

But besides such purely geographical factors influencing industrial location, there are factors of historical, human, political, and economic nature which are now tending to surpass the force of geographical advantages. Consequently, the factors influencing the location of the industry can be divided into two broad categories i.e.

- Geographical factors, and
- Non-geographical factors

Geographical Factors:

Following are the important geographical factors influencing the location of industries.

1. Raw Materials:

The significance of raw materials in the manufacturing industry is so fundamental that it needs no emphasizing. Indeed, the location of industrial enterprises is sometimes determined simply by the location of the raw materials. Modern industry is so complex that a wide range of raw materials is necessary for its growth.

Further, we should bear in mind that the finished product of one industry may well be the raw material of another. For example, pig iron, produced by the smelting industry, serves as the raw material for steel making industry. Industries that use heavy and bulky raw materials in their primary stage in large quantities are usually located near the supply of the raw materials.

It is true in the case of raw materials which lose weight in the process of manufacture or which cannot bear high transport costs or cannot be transported over long distances because of their perishable nature. This has been recognized since 1909 when Alfred Weber published his theory of location of industry.

The jute mills in West Bengal, sugar mills in Uttar Pradesh, cotton textile mills in Maharashtra, and Gujarat are concentrated close to the sources of raw materials for this very reason. Industries like iron and steel, which use very large quantities of coal and iron ore, losing a lot of weight in the process of manufacture, are generally located near the sources of coal and iron ore.

Some of the industries, like watch and electronics industries use a very wide range of light raw materials, and the attractive influence of each separate material diminishes. The result is that such industries are often located with no reference to raw materials and are sometimes referred to as ‘footloose industries’ because a wide range of locations is possible within an area of sufficient population density.

2. Power:

Regular supply of power is a prerequisite for the localization of industries. Coal, mineral oil, and hydroelectricity are the three important conventional sources of power. Most of the industries tend to concentrate on the source of power.

The iron and steel industry which mainly depends on large quantities of coking coal as source of power are frequently tied to coal fields. Others like the electro-metallurgical and electrochemical industries, which are great users of cheap hydroelectric power, are generally found in the areas of hydropower production, for instance, the aluminum industry.

As petroleum can be easily piped and electricity can be transmitted over long distances by wires, it is possible to disperse the industry over a larger area. Industries moved to southern states only when hydro-power could be developed in these coal-deficient areas.

Thus, more than all other factors affecting the location of large and heavy industries, quite often they are established at a point that has the best economic advantage in obtaining power and raw materials.

Tata Iron and Steel Plant at Jamshedpur, the new aluminum producing units at Korba (Chhattisgarh) and Renukoot (Uttar Pradesh), the copper smelting plant at Khetri (Rajasthan), and the fertilizer factory at Nangal (Punjab) are near the sources of power and raw material deposits, although other factors have also played their role.

3. Labour:

No one can deny that the prior existence of a labour force is attractive to industry unless there are strong reasons to the contrary. Labour supply is important in two respects

(a) workers in large numbers are often required;

(b) people with skill or technical expertise are needed.

Estall and Buchanan showed in 1961 that labour costs can vary between 62 percent in clothing and related industries to 29 percent in the chemical industry; in the fabricated metal products industries they work out at 43 percent.

In our country, modern industry still requires a large number of workers in spite of increasing mechanisation. There is no problem in securing unskilled labour by locating such industries in large urban centres. Although, the location of any industrial unit is determined after a careful balancing of all relevant factors, yet the light consumer goods and agro-based industries generally require a plentiful of labour supply.

4. Transport:

Transport by land or water is necessary for the assembly of raw materials and for the marketing of the finished products. The development of railways in India, connecting the port towns with hinterland determined the location of many industries around Kolkata, Mumbai and Chennai. As industrial development also furthers the improvement of transport facilities, it is difficult to estimate how much a particular industry owes to original transport facilities available in a particular area.

5. Market:

The entire process of manufacturing is useless until the finished goods reach the market. Nearness to market is essential for quick disposal of manufactured goods. It helps in reducing the transport cost and enables the consumer to get things at cheaper rates.

It is becoming more and more true that industries are seeking locations as near as possible to their markets; it has been remarked that market attractions are now so great that a market location is being increasingly regarded as the normal one, and that a location elsewhere needs very strong justification.

The ready market is most essential for perishable and heavy commodities. Sometimes, there is a considerable material increase in weight, bulk or fragility during the process of manufacture and in such cases industry tends to be market-oriented.

6. Water:

Water is another important require-ment for industries. Many industries are established near rivers, canals and lakes, because of this reason. The iron and steel industry, textile industries and chemical industries require large quantities of water, for their proper functioning.

7. Site:

Site requirements for industrial development are of considerable significance. Sites, generally, should be flat and well served by adequate transport facilities. Large areas are required to build factories. Now, there is a tendency to set up industries in rural areas because the cost of land has shot up in urban centres.

8. Climate:

Climate plays an important role in the establishment of industries at a place. A harsh climate is not much suitable for the establishment of industries. There can be no industrial development in extremely hot, humid, dry, or cold climates.

The extreme type of climate of northwest India hinders the development of industries. In contrast to this, the moderate climate of west coastal area is quite congenial to the development of industries. Because of this reason, about 24 percent of India's modem industries and 30 percent of India's industrial labour is concentrated in the Maharashtra-Gujarat region alone.

Cotton textile industry requires a humid climate because thread breaks in dry climate. Consequently, the majority of cotton textile mills are concentrated in Maharashtra and Gujarat. Artificial humidifiers are used in dry areas these days, but it increases the cost of production.

Non-Geographical Factors:

Nowadays alternative raw materials are also being used because of modern scientific and technological developments. Availability of electric power supply over wider areas and the increasing mobility of labour have reduced the influence of geographical factors on the location of industries.

The non-geographical factors are those including economic, political, historical, and social factors. These factors influence our modern

industries to a great extent. Following are some of the important non-geographical factors influencing the location of industries.

1. Capital:

Capital or huge investment is needed for the establishment of industries.

Modern industries are capital-intensive and require huge investments. Capitalists are available in urban centres. Big cities like Mumbai, Kolkata, Delhi, and Chennai are big industrial centres, because the big capitalists live in these cities.

2. Government Policies:

Government activity in planning the future distribution of industries, for reducing regional disparities, elimination of pollution of air and water and for avoiding their heavy clustering in big cities, has become no less an important locational factor.

There is an increasing trend to set up all types of industries in an area, where they derive common advantage of water and power and supply to each other the products they turn out. The latest example in our country is the establishment of a large number of industrial estates all over India even in the small-scale industrial sector.

It is of relevance to examine the influence of India's Five Year plans on industrial location in the country. The emergence of suitable industries in south India around new nuclei of public sector plants and their dispersal to backward potential areas has taken place due to Government policies.

The state policy of industrial location has a greater hand in the establishment of a number of fertiliser factories, iron and steel plants, engineering works and machine tool factories including railway, shipping, aircraft and defense installations, and oil refineries in various parts in the new planning era in free India.

We may conclude by noting that the traditional explanation of a location of the industry at a geographically favorable point is no longer true. Location of the oil refinery at Mathura, coach factory at Kapurthala, and fertilizer plant at Jagdishpur are some of the results of government policies.

3. Industrial Inertia:

Industrial inertia is the predisposition of industries or companies to avoid relocating facilities even in the face of changing economic circumstances that would otherwise induce them to leave.

Industries tend to develop at the place of their original establishment, though the original cause may have disappeared. This phenomenon is referred to as inertia, sometimes as geographical inertia, and sometimes as industrial inertia. The lock industry at Aligarh is such an example.

Often the costs associated with relocating fixed capital assets and labour far outweigh the costs of adapting to the changing conditions of an existing location.

4. Efficient Organisation:

Efficient and enterprising organization and management is essential for running modern industry successfully. Bad management sometimes squanders away the capital and puts the industry in financial trouble leading to industrial ruin.

Bad management does not handle the labour force efficiently and tactfully, resulting in labour unrest. It is detrimental to the interest of the industry. Strikes and lock-outs lead to the closure of industries. Hence, there is an imperative need of effective management and organization to run the industries.

5. Banking Facilities:

The location that has better banking facilities and Insurance are best suited for the establishment of industries.

The establishment of industries involves the daily exchange of crores of rupees which is possible through banking facilities only. So the areas with better banking facilities are better suited to the establishment of industries.

6. Insurance:

In the face of changing economic circumstances and local conditions, Insurance facilities are mandatory to avoid any circumstance which would jeopardize the industrial setup.

There is a constant fear of damage to machines and men in industries for which insurance facilities are badly needed.

7.3.2 Industrial Policy in India:

Industrial Policy is the set of standards and measures set by the Government to evaluate the progress of the manufacturing sector that ultimately enhances economic growth and development of the country.

The government takes measures to encourage and improve the competitiveness and capabilities of various firms.

Objectives of Industrial Policy:

1. To maintain steady growth in productivity.
2. To create more employment opportunities.
3. Utilize the available human resources better
4. To accelerate the progress of the country through different means
5. To match the level of international standards and competitiveness

Industrial Policy in India:

The various industrial policy introduced by the Indian government are as follows:

Industrial Policy Resolution, 1948:

- It declared the Indian economy as Mixed Economy
- Small scale and cottage industries were given the importance
- The government restricted foreign investments
- Industries were divided into 4 categories
- Exclusive monopoly of central government(arms and ammunitions, production of atomic energy and management of railways)
- New undertaking undertaken only by state(coal, iron and steel, aircraft manufacturing, ship building, telegraph, telephone etc.)
- Industries to be regulated by the government(Industries of basic importance)
- Open to private enterprise, individuals and cooperatives(remaining)

Industrial Policy Resolution, 1956 (IPR 1956):

- This policy laid down the basic framework of Industrial Policy
- This policy is also known as the Economic Constitution of India
- It is classified into three sectors
- Schedule A – which covers Public Sector (17 Industries)
- Schedule B – covering Mixed Sector (i.e. Public & Private) (12 Industries)
- Schedule C – only Private Industries

This has provisions for Public Sector, Small Scale Industry, Foreign Investment. To meet new challenges, from time to time, it was modified through statements in 1973, 1977, and 1980.

Industrial Policy Statement, 1977:

- This policy was an extension of the 1956 policy.
- The main was employment to the poor and reduction in the concentration of wealth.
- This policy majorly focused on Decentralisation
- It gave priority to small scale Industries

- It created a new unit called “Tiny Unit”
- This policy imposed restrictions on Multinational Companies (MNC).

Industrial Policy Statement, 1980:

- The Industrial Policy Statement of 1980 addressed the need for promoting competition in the domestic market, modernization, selective Liberalization, and technological up-gradation.
- It liberalised licensing and provided for the automatic expansion of capacity.
- Due to this policy, the MRTP Act (Monopolies Restrictive Trade Practices) and FERA Act (Foreign Exchange Regulation Act, 1973) were introduced.
- The objective was to liberalize the industrial sector to increase industrial productivity and competitiveness of the industrial sector.
- The policy laid the foundation for an increasingly competitive export-based and for encouraging foreign investment in high-technology areas.

New Industrial Policy, 1991:

The New Industrial Policy, 1991 had the main objective of providing facilities to market forces and to increase efficiency.

Larger roles were provided by

- L – Liberalization (Reduction of government control)
- P – Privatization (Increasing the role & scope of the private sector)
- G – Globalisation (Integration of the Indian economy with the world economy)

Because of LPG, old domestic firms have to compete with New Domestic firms, MNC’s and imported items

The government allowed Domestic firms to import better technology to improve efficiency and to have access to better technology. The Foreign Direct Investment ceiling was increased from 40% to 51% in selected sectors.

The maximum FDI limit is 100% in selected sectors like infrastructure sectors. Foreign Investment promotion board was established. It is a single-window FDI clearance agency. The technology transfer agreement was allowed under the automatic route.

Phased Manufacturing Programme was a condition on foreign firms to reduce imported inputs and use domestic inputs, it was abolished in 1991.

Under the Mandatory convertibility clause, while giving loans to firms, part of the loan will/can be converted to equity of the company if the banks want the loan in a specified time. This was also abolished.

Industrial licensing was abolished except for 18 industries.

Monopolies and Restrictive Trade Practices Act – Under his MRTP commission was established. MRTP Act was introduced to check monopolies. The MRTP Act was relaxed in 1991.

On the recommendation of the SVS Raghavan committee, Competition Act 2000 was passed. Its objectives were to promote competition by creating an enabling environment.

To know more about the Competition Commission of India, check the linked article.

Review of the Public sector under this New Industrial Policy, 1991 are:

- Public sector investments (Disinvestment of Public sector)
- De-reservations –Industries reserved exclusively for the public sector were reduced
- Professionalization of Management of PSUs
- Sick PSUs to be referred to the Board for Industrial and financial restructuring (BIFR).
- The scope of MoUs was strengthened (MoU is an agreement between a PSU and concerned ministry).

7.4 QUESTIONS

Q1. What are the influencing factors of industrial location?

Q2. Elaborate the trends in industrial growth in India.

Q3. Explain the industrial policy in India.

Q4. What are the factors of industrial location?

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8

INDIAN INDUSTRY - II

Unit Structure

8.0 Objectives
8.1 Small-Scale Industries
  8.1.1 Definition of Small-Scale Industries
  8.1.2 Role of Small-Scale Industries
  8.1.3 Policy Issues of Small-Scale Industries
  8.1.4 Performance of Small-Scale Industries
8.2 Public Enterprises in India
  8.2.1 Performance
  8.2.2 Constraints
8.3 Competitiveness of Indian Industries
  8.3.1 Competition Policy
  8.3.2 Foreign Direct Investment
8.4 Questions
8.5 References

8.0 OBJECTIVES

The main objectives behind the study of this unit are as follows:

- To know the role, policy issues and performance of the small scale industries.
- To study the performance and constraints of public enterprises in India.
- To acquire the knowledge of competition policy.
- To study the foreign direct investment (FDI).

8.1 SMALL-SCALE INDUSTRIES

8.1.1 Definition of Small-Scale Industries:

To define a small-scale industry effectively, it is imperative to first learn about the meaning of industry. The term industry refers to a group of companies that are related to each other, based on the primary business activities they undertake. Small scale industries, thus, refer to those partnerships, corporations, or sole proprietorships that function on a lower scale, employing a smaller workforce and generating less revenue than that by normal-sized industries or businesses.

Small scale enterprises can also refer to those businesses that apply for government support or avail preferential tax policies, depending on their area of operation.

Small Scale Industries (SSI): These are those industries in which the manufacturing, production and rendering of services are done on a small or micro scale. These industries make a one-time investment in machinery, plant, and equipment, but it does not exceed Rs. 10 crore and annual turnover does not exceed Rs. 50 crores. These industries work on a medium resource platform. They have limited labour, capital, as well as machinery. Small Scale Industry are those industries in which start business on a small scale or micro scale as a manufacturing, providing, servicing etc.

Small Scale Industries play an important role in social and economic development of India. They are a very important sector of the economy from a financial and social point of view.

These are generally labor-intensive industries, so they create much employment.

Examples and Ideas of Small-Scale Industries:

- Bakeries
- School stationery
- Water bottles
- Leather belt
- Small toys
- Paper Bags
- Photography
- Beauty parlors

8.1.2 Role of Small-Scale Industries:

Small scale industries play an important role for the development of Indian economy in many ways. About 60 to 70 percent of the total innovations in India comes from the SSIs. Many of the big businesses today were all started small and then nurtured into big businesses. The roles of SSIs in economic development of the country are briefly explained below.

1. Small Scale Industries Provides Employment:

- SSI uses labour intensive techniques. Hence, it provides employment opportunities to a large number of people. Thus, it reduces the unemployment problem to a great extent.

- SSI provides employment to artisans, technically qualified persons and professionals. It also provides employment opportunities to people engaged in traditional arts in India.
- SSI accounts for employment of people in rural sector and unorganized sector.
- It provides employment to skilled and unskilled people in India.
- The employment capital ratio is high for the SSI.

2. SSI Facilitates Women Growth:

- It provides employment opportunities to women in India.
- It promotes entrepreneurial skills among women as special incentives are given to women entrepreneurs.

3. SSI Brings Balanced Regional Development:

- SSI promotes decentralized development of industries as most of the small scale industries are set up in backward and rural areas.
- It removes regional disparities by industrializing rural and backward areas and brings balanced regional development.
- It promotes urban and rural growth in India.
- It helps to reduce the problems of congestion, slums, sanitation and pollution in cities by providing employment and income to people living in rural areas. It plays an important role by initiating the government to build the infrastructural facilities in rural areas.
- It helps in improving the standard of living of people residing in suburban and rural areas in India.
- The entrepreneurial talent is tapped in different regions and the income is also distributed instead of being concentrated in the hands of a few individuals or business families.

4. SSI Helps in Mobilization of Local Resources:

- It helps to mobilize and utilize local resources like small savings, entrepreneurial talent, etc., of the entrepreneurs, which might otherwise remain idle and unutilized. Thus it helps in effective utilization of resources.
- It paves way for promoting traditional family skills and handicrafts. There is a great demand for handicraft goods in foreign countries.
- It helps to improve the growth of local entrepreneurs and self-employed professionals in small towns and villages in India.

5. SSI Paves for Optimization of Capital:

- SSI requires less capital per unit of output. It provides quick return on investment due to shorter gestation period. The pay back period is quite short in small scale industries.
- SSI functions as a stabilizing force by providing high output capital ratio as well as high employment capital ratio.
- It encourages the people living in rural areas and small towns to mobilize savings and channelize them into industrial activities.

6. SSI Promotes Exports:

- SSI does not require sophisticated machinery. Hence, it is not necessary to import the machines from abroad. On the other hand, there is a great demand for goods produced by small scale sector. Thus it reduces the pressure on the country's balance of payments.
- SSI earns valuable foreign exchange through exports from India.

7. SSI Complements Large Scale Industries:

- SSI plays a complementary role to large scale sector and supports the large scale industries.
- SSI provides parts, components, accessories to large scale industries and meets the requirements of large scale industries through setting up units near the large scale units.
- It serves as ancillaries to large Scale units.

8. SSI Meets Consumer Demands:

- SSI produces wide range of products required by consumers in India.
- SSI meets the demand of the consumers without creating a shortage for goods. Hence, it serves as an anti-inflationary force by providing goods of daily use.

9. SSI Ensures Social Advantage:

- SSI helps in the development of the society by reducing concentration of income and wealth in few hands.
- SSI provides employment to people and pave for independent living.
- SSI helps the people living in rural and backward sector to participate in the process of development.
- It encourages democracy and self-governance.

10. Develops Entrepreneurship:

- It helps to develop a class of entrepreneurs in the society. It helps the job seekers to turn out as job givers.
- It promotes self-employment and spirit of self-reliance in the society.
- Development of small scale industries helps to increase the per capita income of India in various ways.
- It facilitates development of backward areas and weaker sections of the society.
- Small Scale Industries are adept in distributing national income in more efficient and equitable manner among the various participants of the society.

8.1.3 Policies of Small-Scale Industries:

In India, Small-scale enterprises have been given an important place for both ideological and economic reasons. It is well documented that the small scale industries have an important role in the development of the country. It contributes almost 40% of the gross industrial value added in the Indian economy. Government's approach and intention towards industries in general and SSIs in particular are revealed in Industrial policy Resolutions. There are many Government Policies for development and promotion of Small-Scale Industries in India. These are mentioned as below:

- Industrial Policy Resolution (IPR) 1948
- Industrial Policy Resolution (IPR) 1956
- Industrial Policy Resolution (IPR) 1977
- Industrial Policy Resolution (IPR) 1980
- Industrial Policy Resolution (IPR) 1990

1. Industrial Policy Resolution (IPR) 1948:

The IPR, 1948 acknowledged the importance of small-scale industries in the overall industrial development of the country. It was well understood that small-scale industries are mainly suited for the utilization of local resources and for creation of employment opportunities. However, they have to face severe problems of raw materials, capital, skilled labour, marketing since a long period of time (B.narayan, 1999). Therefore, government put more emphasis on the IPR, 1948 so that these problems of small-scale enterprises should be solved by the Central Government with the cooperation of the State Governments. It can be established that the main drive of IPR 1948, as far as small-scale enterprises were concerned, was 'safeguard'. The IPR of 1948 indicated that "Cottage and small scale industries have a very important role in the national economy. Offering as

they do scope for individual, village or cooperative enterprise, and means for the rehabilitation of displaced persons. These industries are particularly suited for the better utilization of local resources and for the achievement of the local self-sufficiency in respect of certain types of essential consumer goods like food, cloth and agricultural implements" (Industrial Policy Resolution, 1948).

The IPR of 1948 revealed the emergence of a dualistic approach in government policy i.e. emphasis on both traditional and modern small scale sector. This approach has continued to form the basis of industrial policy towards the small scale sector ever since. The industrial Development and Regulation Act, 1951 which was transmitted in order to provide the organizational support to IPR of 1948 provide scope for a synchronized development of cottage and small scale industries within the general framework of large scale development programmes.

2. Industrial Policy Resolution (IPR) 1956:

This policy was first comprehensive statement on industrial development of India. The 1956 policy continued to constitute the basic economic policy for a long time. This fact has been confirmed in all the Five-Year Plans of India (B.narayan, 1999). According to this Resolution, the objective of the social and economic policy in India was the establishment of a socialistic pattern of civilization. It provided more powers to the governmental mechanism. It laid down three categories of industries which are mentioned below:

I. **Schedule A:** Those industries which were to be an exclusive responsibility of the state.

II. **Schedule B:** Those which were to be progressively state-owned and in which the state would generally set up new enterprises, but in which private enterprise would be expected only to supplement the effort of the state.

III. **Schedule C:** All the remaining industries and their future development would, in general be left to the initiative and enterprise of the private sector.

The main contribution of the IPR 1948 was that it set in the nature and pattern of industrial development in the country. The post-IPR 1948 period was marked by substantial developments taken place in the country. For example, planning has proceeded on an organised manner and the First Five Year Plan 1951-56 had been completed. Industries (Development and Regulation) Act, 1951 was also announced to legalise and control industries in the country. The parliament had also acknowledged 'the socialist pattern of society' as the basic objective of social and economic policy during this period. It was this background that the declaration of a new industrial policy resolution appeared essential. This came in the form of IPR 1956. The IPR has aim to guarantee that decentralised sector acquires sufficient vitality to self-supporting and its

development is incorporated with that of large- scale industry in the country.

Besides, the Small-Scale Industries Board (SSIB) established a working group in 1959 to scrutinize and formulate a development plan for small-scale industries during the, Third Five Year Plan, 1961-66. In the Third Five Year Plan period, specific developmental projects like 'Rural Industries Projects' and 'Industrial Estates Projects' were started to support the small-scale sector in the nation. The IPR 1956 for small-scale industries intended at 'Protection plus Development.' In a way, the IPR 1956 started the modern SSI in India.

It was documented that in 1955, Planning Commission setup a Committee on village and small scale industries popularly known as Karve Committee. The Committee suggested some important measures like:

I. Reservation of certain items only for village and small scale industries.

II. Restriction of capacity expansion of large industry.

III. Management of supply of raw materials.

IV. A scheme of concessions and benefits to small producers.

The IPR of 1956 advocated the policy of protection as endorsed by Karve Committee to improve economic feasibility and competitive power of small scale industries. This policy stated that "The State has been following a policy of supporting cottage and village and small scale industries by restricting the volume of production in the large scale sector by differential taxation or by direct subsidies. While such measures will continue to be taken, whenever necessary, the aim of the State Policy is to ensure that the decentralised sector acquires sufficient vitality to be self-supporting and its development is integrated with that of large-scale industry. The State, therefore, concentrates on measures designed to improve the competitive strength of the small scale producer. For this it is essential that the technique of production should be constantly improved and the pace of transformation being regulated so as to avoid as far as possible, technological unemployment. Lack of technical and financial assistance, of suitable working accommodation and inadequacy of facilities for repair and maintenance are among the serious handicaps of small scale producers. A start has been made with the establishment of industrial estates and rural community workshops to make good to these deficiencies. The extension of rural electrification, and the availability of power at prices, which the workers can afford, will also be of considerable help. Many of the activities relating to small scale production will be greatly helped by the organisation of industrial cooperatives. Such cooperatives should be encouraged in every way and the State should give constant attention to the development of cottage and village and small scale industry" (Industrial Policy Resolution, 1956). Main emphasis of this policy is to support to cottage, village and small industries by differential

taxation or direct grants in the form of financial assistance to improve and modernize the techniques of production and competitive strength of SSIs.

3. Industrial Policy Resolution (IPR) 1977:

This policy was announced by Janata Dal in 1977. During the two decades after the IPR 1956, the economy countersigned uneven industrial development skewed in favour of large and medium sector, on the one hand, and increase in joblessness, on the other. This situation led to a transformed emphasis on industrial policy. This gave advent to IPR 1977. This policy supported the development of small scale and cottage industries as a remedy to common problem of unemployment and regional dissimilarities in industrial development (B.narayan, 1999). This policy proclaimed that "The main thrust of the new Industrial Policy will be on effective promotion of cottage and small industries widely dispersed in rural areas and small towns. It is the policy of the Government that whatever can be produced by small and cottage industries must only be so produced" (Industrial Policy Resolution, 1977).

The important attributes of the IPR were:

1. 504 items were reserved for exclusive production in the small-scale industries.

2. The concept of District Industries Centres (DICs) was introduced so that in each district a single agency could meet all the requirements of SSIs under one roof.

3. Technological up gradation was emphasized in traditional sector. 4. Special marketing arrangements through the provision of services, such as, product standardization, quality control, market survey, were laid down.

The IPR 1977 grouped small sector into three broad categories:

1. Cottage and Household Industries which provide self-employment on a large scale.

2. Tiny sector incorporating investment in industrial units in plant and machinery up to Rs.one lakh and situated in towns with a population of less than 50,000 according to 1971 Census.

3. Small-scale industries comprising of industrial units with an investment of up to Rs.10 lakhs and in case of ancillary units with an investment up to Rs.15 lakhs. The measures suggested for the promotion of small-scale and cottage industries included:

I. Reservation of 504 items for exclusive production in small-scale sector.

II. Proposal to set up in each district an agency called "District Industry Centre" (DIC) to serve as a focal point of development for small-scale and cottage industries. The scheme of DIC was introduced in May

1978. The main goal of setting up DICs was to promote under a single roof all the services and support required by small and village businesspersons.

4. Industrial Policy Resolution (IPR) 1980:

The Industrial Policy of 1980 marked a major breakthrough in the policy of development of small scale industries in India. The Government of India accepted a new Industrial Policy Resolution (IPR) on July 23, 1980. The IPR wanted to synchronise the development in small scale industries with the large and medium scale industries. Industrially backward districts were identified for faster growth of existing network of SSIs. The main purpose of IPR 1980 was defined as assisting an increase in industrial production through optimum utilization of installed capacity and expansion of industries. This policy statement focused on the need for promoting competition in domestic market, technological up gradation and modernization (Sangram Keshari Mohanty, 2005).

As to the small sector, the resolution visualized following measures:

I. Increase in investment ceilings from Rs.1 lakh to Rs.2 lakhs in case of tiny units, from Rs.10 lakhs to Rs.20 lakhs in case of small-scale units and from Rs.15 lakhs to Rs.25 lakhs in case of ancillaries.

II. Introduction of the concept of nucleus plants to replace the earlier scheme of the District Industry Centres in each industrially backward district to promote the maximum small-scale industries there.

III. Promotion of village and rural industries to generate economic feasibility in the villages well compatible with the environment.

IV. Reservation of items and marketing support for small industries was to continue.

V. Availability of credit to growing SSI units was continued.

VI. Buffer stocks of critical inputs were to continue.

VII. Agricultural base was to strengthen by providing preferential treatment to agro based industries.

VIII. An early warning system was to establish to avoid sickness and take appropriate remedial measures.

Thus, the IPR 1980 reemphasized the spirit of the IPR 1956. The small-scale sector still continued the best sector to create employment and self-employment based opportunities in the country.

5. Industrial Policy Resolution (IPR) 1990:

The IPR 1990 was declared during June 1990. As to the small-scale sector, the resolution continued to give significance to small-scale enterprises to serve the objective of employment generation. This policy emphasized on

the need of modernization and technology up gradation to meet the objectives of employment generation and dispersal of industry in rural areas, and to enhance the contribution of small scale industries to exports.

The important elements included in the resolution to increase the development of small-scale sector were as follows:

I. The investment ceiling in plant and machinery for small-scale industries (fixed in 1985) was raised from Rs.35 lakhs to Rs.60 lakhs and correspondingly, for ancillary units from Rs.45 lakhs to Rs.75 lakhs.

II. Investment ceiling for small units had been increased from Rs.2 lakhs to Rs.5 lakhs provided the unit is located in an area having a population of 50,000 as per 1981 Census.

III. As many as 836 items were reserved for exclusive manufacture in small- scale sector.

IV. A new scheme of Central Investment Subsidy entirely for small-scale sector in rural and backward areas capable of generating more employment at lower cost of capital had been mooted and implemented.

IV. In order to improve the competitiveness of the products manufactured in the small-scale sector; programmes of technology up gradation will be executed under the umbrella of an apex Technology Development Centre in Small Industries Development Organisation (SIDO).

V. To guarantee both satisfactory and timely flow of credit services for the small- scale industries, a new apex bank known as "Small Industries Development Bank of India (SIDBI)" was established in 1990.

VI. There is more emphasis on training of women and youth under Entrepreneurship Development Programme (EDP) and to establish a special cell in SIDO for this purpose.

Other industrial policies: Industrial Policy Resolution of 1991: In the year of 1991, the Government lunched "Structural Adjustment Programme" which has resulted in radical change in the policies governing the different facets of Indian economy. In order to impart more vitality and growth to small scale sector, the Government of India declared a separate policy statement for small, tiny and village enterprises. The basic drive of this resolution was to make simpler regulations and procedures by delicensing, deregulating, and decontrolling.

Important features of this policy are as under:

I. SSIs were exempted from licensing for all articles of manufacture.

II. The investment limit for tiny enterprises was raised to Rs.5 lakh irrespective of location.

III. Equity participation by other industrial undertakings was permitted up to a limit of 24 percent of shareholding in SSIs.

IV. Factoring services were to launch to solve the problem of delayed payments to SSIs.

V. Priority was accorded to small and tiny units in allocation of indigenous and raw materials.

VI. Market promotion of products was highlighted through co-operatives, public institutions and other marketing agencies and corporations.

Basically, the Industrial Policy Resolution of 1991 delineated developmental, deregulatory and de-bureaucratic measures and underscored the need to shift from subsidized and cheap credit to a system which would ensure acceptable flow of credit on timely and normative basis to the small scale industrial sector.

Contemporary policy measures for small scale and cottage Industries:

1. Comprehensive Policy Package for small scale and tiny sector, 2000:

This policy was declared by the Government of India for the development and promotion of small scale and tiny sector which has major objective to increase the competitiveness of the sector.

The main focus of the policy package was:

I. The exemption for excise duty limit raised from Rs.50 lakh to Rs.1 crore.

II. The limit of investment was increased in industry related service and business enterprises from Rs.5 lakh to Rs.10 lakh.

III. The coverage of ongoing Integrated Infrastructure Development (IID) was enhanced to cover all areas in the country with 50 percent reservation for rural areas and 50 percent earmarking of plots for tiny sector.

IV. The family income eligibility limit of Rs.24000 was enhanced to Rs.40000 per annum under the Prime Minister Rozgar Yojana (PMRY).

V. The scheme of granting Rs.75000 to each small scale enterprise for obtaining ISO 9000 certification was continued till the end of 10th plan.

2. Industrial Policy Packages for small scale industries, 2001-02:

This policy underlines the following measures:

I. The investment limit was enhanced from Rs.1 crore to Rs.5 crore for units in hosiery and hand tool sub sectors.

II. The corpus fund set up under the Credit Guarantee Fund Scheme was increased from Rs.125 crore to Rs.200 crore.

III. Credit Guarantee cover was provided against an aggregate credit of Rs.23 crore till December 2001.

IV. Fourteen items were de-reserved in June 2001 related to leather goods, shoes and toys.

V. Market Development Assistant Scheme was launched exclusively for SSI sector.

VI. Four UNIDO assisted projects were commissioned during the year under the Cluster Development Programme.

3. Policy Package for small and medium enterprises, 2005-06:

In 2005-06, the Government declared a policy package for small and medium enterprises. The main attributes of this policy package were:

I. The Ministry of Small Scale Industries has identified 180 items for de-reservation.

II. Small and Medium Enterprises were recognized in the services sector, and were treated at par with SSIs in the manufacturing sector.

III. Insurance cover was extended to approximately 30,000 borrowers, identified as chief promoters in the small scale sector.

VI. Emphasis was placed on Cluster Development model not only to promote manufacturing but also to renew industrial towns and build new industrial townships. The model is currently being implemented, in nine sectors including khadi and village industries, handlooms, handicrafts, textiles, agricultural products and medicinal plants.

4. Enactment of Micro, Small and Medium Enterprises Development Act, 2006:

In May' 2006, the President has modified the Government of India (Allocation of Business) Rules, 1961; Ministry of Agro and Rural Industries and Ministry of Small Scale Industries have been merged into a single Ministry, namely, "Ministry of Micro, Small and Medium Enterprises. As a result, the Micro, Small and Medium enterprises Development (MSMED) Act was endorsed, which offers the first ever legal framework for recognition of the concept 'enterprises' against 'industries' and integrating the three tiers of these enterprises viz. micro, small and medium and clearly fixed the investment limits for both manufacturing and service enterprises. It also provides for a statutory consultative tool at the national level with wide representation of all sections of stakeholders, particularly the three classes of enterprises.

5. North east industrial and investment promotion policy (NEIIPP), 2007:

Due to backwardness of the North Eastern region, the Government of India broadcasted a new industrial policy for the NER including Sikkim. The policy termed as 'North East Industrial and Investment Promotion Policy (NEIIPP), 2007'. Its major objective is to encourage investment in the industrial sector by announcing fiscal and other incentives for the purpose of overall economic growth of this region. The policy with its package of incentives is intended to encourage development of industries so that the region overcomes its continuous backwardness. To summarize, Small scale and cottage industrial sector has developed rapidly in several developing and industrialised economies of the world. In India, they have emerged as a dynamic sector of Indian economy through their important contribution to GDP, industrial production and export. The advancement of small scale industries has been one of the major objectives of economic planning in India. The policies have undergone change from time to time. The six Industrial Policy Resolutions and eleven Five Year Plans sustained a continuous flow of incentives, both protective and promotional in nature, as an element of development strategy to meet socioeconomic objectives such as employment generation, removal of poverty and regional disparities, and optimum utilization of local resources.

8.2.4 Issues of Small Scale Industries:

The following are the problems faced by Small Scale Industries

1. Poor capacity utilization:

In many of the Small Scale Industries, the capacity utilization is not even 50% of the installed capacity. Nearly half of the machinery remains idle. Capital is unnecessarily locked up and idle machinery also occupies space and n8eeds to be serviced resulting in increased costs.

2. Incompetent management:

Many Small Scale Industries are run in an incompetent manner by poorly qualified entrepreneurs without much skill or experience. Very little thought has gone into matters such as demand, production level and techniques, financial availability, plant location, future prospects etc. According to one official study, the major reason for SSI sickness is deficiency in project Management i.e., inexperience of promoters in the basic processes of production, cash flow etc.

3. Inadequate Finance:

Many Small-Scale Industries face the problem of scarcity of funds. They are not able to access the domestic capital market to raise resources. They are also not able to tap foreign markets by issuing ADR‟s (American Depository Receipts) GDR‟s (Global Depository Receipts) etc because of their small capital base. Banks and financial institutions require various

procedures and formalities to be completed. Even after a long delay, the funds allocated are inadequate.

Bank credit to the small-scale sector as a percentage of total credit has been declining. It fell from 16% in 1999 to 12.5% in 2002. Small Scale Industries are not able to get funds immediately for their needs. They have to depend on private money lenders who charge high interest. Finance, as a whole, both long and short term, accounts for as large as 43% of the sectors sickness.

4. Raw material shortages:

Raw materials are not available at the required quantity and quality. Since demand for raw materials is more than the supply, the prices of raw materials are quite high which pushes up the cost. Scarcity of raw materials results in idle capacity, low production, inability to meet demand and loss of customers.

5. Lack of marketing support:

Small Scale Industries lack market knowledge with regard to competitors, consumer preferences, market trends. Since their production volume is small and cannot meet demand for large quantities their market is very restricted. Now with the process of liberalization and globalization they are facing competition from local industries as well as foreign competitors who sell better quality products at lower prices. For e.g. heavily subsidized but better quality imports from China has made most of the Indian SSI units producing toys, electronic goods, machine tools, chemicals, locks and paper etc., unviable.

6. Problem of working capital:

Many Small-Scale Industries face the problem of inadequate working capital. Due to lack of market knowledge their production exceeds demand, and capital gets locked in unsold stock. They do not have enough funds to meet operational expenses and run the business.

7. Problems in Export:

They lack knowledge about the export procedures, demand patterns, product preferences, international currency rates and foreign buyer behavior. Small Scale Industries are not able to penetrate foreign markets because of their poor quality and lack of cost competitiveness. In countries like Taiwan, Japan etc. products produced by Small Scale Industries are exported to many foreign countries. But in India not much thought and focus has gone into improving the export competitiveness of Small-Scale Industries.

8. Lack of technology up-gradation:

Many Small-Scale Industries still use primitive, outdated technology leading to poor quality and low productivity. They do not have adequate funds, skills or resources to engage in research and development to

develop new technologies. Acquiring technology from other firms is costly. Therefore, Small Scale Industries are left with no choice but to continue with their old techniques.

9. Multiplicity of labour laws:

One of the merits of Small Scale Industries are that they are labour intensive and can provide employment to a large number of people. But the multiplicity of labour laws, need to maintain several records (PF, ESI, Muster Rolls etc.), fines and penalties for minor violations etc. place Small Scale Industries at a great disadvantage.

10. Inability to meet environmental standards:

The government lays down strict environmental standards and Courts have ordered closure of polluting industries. Small Scale Industries which are already facing shortage of funds to carry out their business are not able to spend huge sums on erecting chimneys, setting up effluent treatment plants etc.

11. Delayed payments:

Small Scale Industries buy raw materials on cash but due to the intense competition have to sell their products on credit. Buying on cash and selling on credit itself places a great strain on finances. The greater problem is payments are delayed, sometimes even by 6 months to one year. It is not only the private sector but even government departments are equally guilty. Delayed payments severely impact the survival of many Small-Scale Industries.

12. Poor industrial relations:

Many Small-Scale Industries are not able to match the pay and benefits offered by large enterprises, because their revenues and profitability are low and also uncertain. This leads to labor problems. Employees fight for higher wages and benefits which the SSI is not able to provide. This may lead to strikes, resulting in damage to property in case of violence by employees, production losses etc.

13. Strain on government finances:

Marketing of products manufactured by Small Scale Industries is a problem area. The government has to provide high subsidies to promote sales of products produced by Khadi and Village Industries. This places a great strain on government finances.

14. Concentration of industrial units:

There is high concentration of small-scale industrial units in a few states. Of the estimated 1.37 million registered units as on 2020-21, nearly 35% were located in three states. Uttar Pradesh, Tamil Nadu and Kerala alone account for 35% of Small-Scale Industries. Due to concentration, there is high competition among them to procure raw materials and other

industrial inputs. This leads to high costs and scarcity of raw materials and other inputs affecting their production and increasing costs.

15. Inadequate dispersal:

One of the objectives of the government in promoting Small Scale Industries was to increase industrial development and employment opportunities throughout the country. Since nearly 60% of the Small-Scale Industries are concentrated in few states, the objective of balanced regional development and promotion of backward areas has not been achieved. Further majority of Small-Scale Industries are located in urban areas and the aim of industrial development in rural areas has also been defeated.

16. Widespread sickness:

Sickness among Small Scale Industries is widespread. Sickness is not detected in the initial stages and large amount of funds are locked in them. Due to these new entrepreneurs are not able to get loans, workers in the sick units lose their jobs and industrial and economic development is affected.

17. Lack of awareness:

The government has set up many organizations to support and provide assistance to Small Scale Industries. But, many of the entrepreneurs running Small Scale Industries are not aware of the various support services.

18. Government interference:

Small Scale Industries have to maintain a number of records and there are endless government inspections. A lot of time, money and effort is wasted in complying with various inspections and records verification. This prevents Small Scale Industries from fully concentrating on their business activities.

8.2.5 Performance of Small-Scale Industries:

The Micro, Small & Medium Enterprises (MSMEs) have been contributing to the expansion of the entrepreneurial endeavours through business innovations significantly. The Micro, Small & Medium Enterprises are widening their domain across sectors of the economy, producing diverse range of products and services to meet demands of domestic as well as the global markets. According to the data available with Central Statistics Office (CSO), M/o Statistics & Programme Implementation, the contribution of MSME sector in Country's Gross Value Added (GVA) and Gross Domestic Product (GDP) at current prices from 2014-15 to 2018-19 is as below:

Table No. 8.1

Share of Gross Value Added (GVA) of MSME in all India GDP

Figures in Rs. Crores adjusted for FISIM at current price						
Year	**Total MSME GVA**	**Growth (%)**	**Total GVA**	**Share of MSME in GVA (%)**	**All India GDP**	**Share of MSME in All India GDP (in %)**
2014-15	3658196	-	11504279	31.80	12467959	29.34
2015-16	4059660	10.97	12574499	32.28	13771874	29.48
2016-17	4502129	10.90	13965200	32.24	15391669	29.25
2017-18	5086493	12.98	15513122	32.79	17098304	29.75
2018-19	5741765	12.88	17139962	33.50	18971237	30.27

(**Source:** Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation)

8.3 PUBLIC ENTERPRISES IN INDIA

8.3.1 Performance:

The Public Enterprises Survey 2021-22 presents a summary of the financial performance of Central Public Sector Enterprises for the Financial Year 2021-22. The Section 2 (45) of Companies Act, 2013 defines Government Company to mean – any company in which not less than 51 percent of the paid-up share capital is held by Central Government, or by any State Government or Governments, or partly by the Central Government and partly by one or more State Governments and includes a company which is a subsidiary company of such a Government Company.

The survey provides essential statistical data for all CPSEs from various perspectives by segregating these enterprises into various sectors such as Agriculture, Mining & Exploration, Manufacturing, Processing & Generation and Services. The key highlights of the survey outcomes in terms of certain important parameters is depicted in the below Figure.

Figure 8.1: CPSEs Performance Highlights (lakh crores)

- Total Paid-up Capital of all CPSEs was 3.69 lakh crore as on March 31, 2022 as against 284 lakh crore on March 31, 2021 showing an increase of 29.82%.
- Total Financial Investments in all CPSEs was 22.81 lakh crore as on March 31, 2022 against 21.58 lakh crore as on March 31, 2021, recording a growth of 5.71%.
- Among the sectors, Services sector had the highest investments accounting for 68.07% of outstanding financial investments in CPSEs,

followed by Manufacturing, Processing & Generation with 23.92%, and Mining & Exploration with 4.86%. The share of Agriculture was negligible.

- Among the cognate groups, Financial Services accounted for 53.65% of the outstanding Financial Investments followed by Power Generation with 15.01%, Petroleum (Refinery & Marketing) with 6.19% and Power Transmission with 5.88%. The share of other cognate groups was comparatively lower.

- Top five CPSEs having highest financial investments are Indian Railway Finance Corporation Ltd, Power Finance Corporation Ltd, REC Ltd, NTPC Ltd & Power Grid Corporation of India.

- Capital Employed by all CPSEs was ₹ 35.21 lakh crore as on March 31, 2022 against ₹ 32.93 lakh crore as on March 31, 2021, showing a growth of 6.93%.

- Total Gross Revenue from the operations of operating CPSEs during FY 2021-22 was ₹ 31.95 lakh crore as against ₹ 24.08 lakh crore in FY 2020-21, showing an increase of 32.65%.

- This increase in FY 2021-22 was largely due to increase in the Petroleum (Refinery & Marketing), Crude oil & Transport and logistics Cognate Group.

- Among the sectors, Manufacturing, Processing & Generation sector continues to command the highest share followed by Services, and Mining & Exploration. Three Cognate Groups Petroleum (Refinery & Marketing), Trading & marketing and Power Generation together contributed 69.08 % to the Gross Revenue in FY 2021-22.

- Top five CPSEs having highest Revenue during FY 2021-22 are Indian Oil Corporation Ltd, Bharat Petroleum Corporation Ltd, Hindustan Petroleum Corporation Ltd, Food Corporation of India and NTPC Ltd.

- Net Profit of profit-making CPSEs stood at ₹ 2.64 lakh crore in FY 2021-22 against ₹ 1.89 lakh crore in FY 2020-21 showing an increase of 39.85%. Top five CPSEs with highest Net profits are ONGC Ltd, Indian Oil Corporation Ltd, Power Grid Corporation of India, NTPC Ltd & Steel Authority of India Ltd.

- Net Loss of loss-incurring CPSEs was ₹ 0.15 lakh crore in FY 2021-22 as against ₹ 0.23 lakh crore in FY 2020-21 showing a decrease of 37.82%. Major loss making CPSEs are Bharat Sanchar Nigam Ltd, Mahanagar Telecom Nigam Ltd, Air India Assets Holding Ltd, Eastern Coalfields Ltd & Alliance Air Aviation Ltd.

- Overall Net Profit of operating CPSEs during FY 2021-22 stood at ₹ 2.49 lakh crore as against ₹ 1.65 lakh crore during FY 2020-21 showing an increase of 50.87%.

- Amajor proportion of the profit is contributed by Crude oil cognate group, where it increased from □ 0.13 lakh crore in FY 2020-21 to □ 0.46 lakh crore in FY 2021-22. Within the crude oil cognate group, the major contribution towards increase in Overall Net Profit is contributed by ONGC Ltd. (by □ 0.29 lakh crore.)

  - Reserves and Surplus of all CPSEs stood at □ 1240 lakh crore as on March 31, 2022 as against □ 11.35lakh crore as on March 31, 2021, showing an increase of 9.25%.

  - Net Worth of all CPSEs increased from □ 13.81 lakh crore as on March 31, 2021 to □ 15.58 lakh crore as on March 31, 2022, showing an increase of 12.81%.

Figure 8.2: CPSEs Performance Highlights (□ lakh crore)

- Dividend declared by operating CPSEs (112) in FY 2021-22 stood at □ 1.15 lakh crore against □ 0.73 lakh crore in FY 2020-21, showing an increase of 57.58%.

- Contribution of all CPSEs to Central Exchequer by way of excise duty, custom duty, GST, corporate tax, interest on Central Government loans, dividend, and other duties and taxes stood at □ 5.07 lakh crore in FY 2021-22 as against □ 4.97 lakh crore in FY 2020-21, showing an increase of 2.14%. The collection has increased due to an increase in GST collection from □ 0.38 lakh crore (in FY 2020-21) to □ 0.58 lakh crore (in FY 2021- 22). Top five CPSEs contributing to Central Exchequer are Indian Oil Corporation Ltd, Bharat Petroleum Corporation Ltd, Hindustan Petroleum Corporation Ltd, Bharat Oman Refineries Ltd & Chennai Petroleum Corporation Ltd.

- Foreign Exchange Earnings of operating CPSEs through the export of goods and services stood at □ 1.50 lakh crore in FY 2021-22 against □ 0.87 lakh crore in FY 2020-21, showing an increase of 72.16%. Top Five CPSEs under this category are Mangalore Refinery & Petrochemicals Ltd, Indian Oil Corporation Ltd, GAIL (India) Ltd, ONGC Videsh Ltd & Bharat Petroleum Corporation Ltd.

Figure 8.3: CPSEs Performance Highlights-CSR and R&D expenditure (□ crore)

- CSR Expenditure of all CSR eligible CPSEs (160) stood at □ 4,600 crore in FY 2021-22 against □ 4,483 crore in FY 2020- 21 showing an increase of 2.61%. Top five CPSEs contributing highest under CSR are ONGC Ltd, NTPC Ltd, Indian Oil Corporation Ltd, NMDC Ltd and Power Grid Corporation Ltd.

- R&D Expenditure of all CPSEs stood at □ 6,894 crore in FY 2021-22 against □ 4,892 crore in FY 2020-21 showing an increase of 40.95%. Top five CPSEs contributing highest under this head are Hindustan

Aeronautics Ltd., Indian Oil Corporation Ltd, Steel Authority of India Ltd, Bharat Heavy Electricals Ltd and ONGC Ltd

8.3.2 Constraints:

(i) Endowment Constraints:

Some of the public sector enterprises, particularly some of the loss-incurring enterprises are suffering from endowment constraints as the selection of sites of these enterprises were done on political considerations rather than on rational considerations.

(ii) Under-Utilization of Capacity:

Under - utilization of the production capacities are one of the common constraints from which almost all public sector enterprises are suffering. In 1986-87, out of the 175 public sector units 90 units had been able to utilize over 75 per cent of its capacities, 56 units achieved utilization of capacities between 50 and 75 per cent and the rest 29 units could somehow managed to utilize under 50 per cent of its capacities. This had been mainly due to the reasons such as long gestation periods, huge in-built capacities, ambitious scales of planning based on inadequate economic (particularly market) data, inadequate motivation, lack of initiatives and obsolescence of the product mix.

(iii) Absence of Rational Pricing:

Public sector enterprises in India are suffering from absent of rational pricing as the prices of their products are determined by such a price policy which has three considerations like:

(a) Profit as the basis of price fixation,

(b) No-profit basis of public utility approach, and

(c) Import-parity price.

Thus, formal and informal regulations of prices by the Government in the interest of the economy and consumers, in general, and of price stabilization are also responsible for huge losses incurred by some of these enterprises of our country. Moreover, subsidization of the prices of some of the produce by these public enterprises had added a new dimension to the problems.

(iv) Technological Gap:

Some of the public sector enterprises in India are suffering from technological gap as these enterprises could not adopt up-to-date technologies in their production system leading to high unit cost and lower yield. Enterprises like I.I.S.C.O., E.C.L. etc. are suffering from this constraint.

(v) Government Interference:

Much government interference in the day to day activities of the public sector enterprises has reduced the degree of autonomy of the managements in respect of employment, pricing, purchase etc.

(vi) Heavy Social Costs:

Public sector enterprises are suffering from heavy social costs such as the outlays on townships and allied provision of amenities to its employees.

(vii) Operational and Managerial Inadequacies:

The public sector enterprises in India are also suffering from operational and managerial inadequacies and inefficiencies leading to huge wastages and leakages of funds in their day-to-day activities.

(viii) Evil Competition and Sabotage:

Between the public sector and private sector units within the same industry sometimes there exists evil competition which leads to sabotaging of public sector units at a large scale.

(ix) Marketing Constraint:

Some public sector units are even faced with marketing constraints where due to repetitive type of production mix they could not collect a good market for some of their products where the market is already captured by some big private industrial houses leading to a constant increase in inventories.

(x) Surplus Manpower:

In some of the public sector units there is the problem of surplus manpower which is creating drainage of resources unnecessarily leading to increase in the unit cost of production. Political considerations have also contributed towards overstaffing of unskilled workers in these units.

(xi) External Factors:

Workers engaged in the public sector enterprises are lacking sincerity and devotion to their job leading to wastage of working hours which finally affects productive capacities of these enterprises. Moreover, external factors like too much trade unionism, union rivalries and labour troubles are also disrupting the smooth functioning of the production system of these public sector enterprises in the country.

Considering the problems of sickness faced by the Public enterprises, the Standing Conference on Public Enterprises (SCOPE) had recently constituted a committee to study various aspects of sickness of public enterprises.

In its recently submitted report (in December, 1995) on its analysis of PSU problems, the committee felt that too much interference by the

Government in areas like autonomy and accountability, constitution of board of directors, continuity to top management and little discretionary powers to management for investment, employment, pricing and wages affected the PSU performance.

Bad financial planning was another cause of PSU sickness and many sick companies had over- borrowed.

The SCOPE Committee further regretted that the Government as a promoter, was charging one per cent fee from its own sick companies for providing guarantees to bank loans and that too for a limited period of one year at a time whereas private sector promoters were not charging any fee for such guarantee.

Various other problems such as allocation of resources, delays in filling up top-level posts, tight regulations and procedures for investment and restrictions on functional autonomy of the enterprises, e.g., in respect of labour and wage policy etc. have been creating serious constraints on the operational efficiency of public sector enterprises of the country.

8.4 COMPETITIVENESS OF INDIAN INDUSTRIES

8.4.1 Competition Policy:

National Competition Policy is formulated by the Government of India with a view to achieve highest sustainable levels of economic growth, entrepreneurship, employment, higher standards of living for citizens, protect economic rights for just, equitable, inclusive and sustainable economic and social development, promote economic democracy and support good governance by restricting rent-seeking practices. Dhanendra Kumar was the Chairman of the committee which was entrusted the task of formulating India's National Competition Policy.

Objectives:

The policy is aimed at ushering in a second wave of financial reforms. The salient features of the policy are stated below:

1. To guarantee consumer welfare by encouraging optimal allocation of resources and granting economic agents appropriate incentives to pursue productive efficiency, quality and innovation.

2. To remove anti-competition outcome of existing acts, harmonize laws and policies of Centre and State and proactively promote competition principles.

3. Strive for single national market.

4. Establish a level playing field by providing competitive neutrality'.

Competition Commission of India:

The Competition Commission of India (CCI) is the chief national competition regulator in India. It is a statutory body within the Ministry of Corporate Affairs and is responsible for enforcing the Competition Act, 2002 to promote competition and prevent activities that have an appreciable adverse effect on competition in India. The CCI looks into cases and investigates them if the same has a negative impact on competition.

CCI also approves combination under the act so that two merging entities do not overtake the market.

The commission was established on 14 October 2003. It became fully functional in May 2009 with Dhanendra Kumar as its first chairman. The current Chairperson of the CCI is Sangeeta Verma, who was appointed to the role in October 2022.

The Competition Act, 2002:

The Competition Act, 2002 was enacted by the Parliament of India and governs Indian competition law. It replaced the archaic The Monopolies and Restrictive Trade Practices Act, 1969. Under this legislation, the Competition Commission of India was established to prevent the activities that have an adverse effect on competition in India. This act extends to whole of India.

It is a tool to implement and enforce competition policy and to prevent and punish anti-competitive business practices by firms and unnecessary Government interference in the market. Competition law is equally applicable on written as well as oral agreement, arrangements between the enterprises or persons.

The Competition Act, 2002 was amended by the Competition (Amendment) Act, 2007 and again by the Competition (Amendment) Act, 2009.

The Act establishes a Commission which is duty bound to protect the interests of free and fair competition (including the process of competition), and as a consequence, protect the interests of consumers. Broadly, the commission's duty is:

- To prohibit the agreements or practices that have or are likely to have an appreciable adverse effect on competition in a market in India, (horizontal and vertical agreements / conduct);
- To prohibit the abuse of dominance in a market;
- To prohibit acquisitions, mergers, amalgamations etc. between enterprises which have or are likely to have an appreciable adverse effect on competition in market(s) in India.

In addition to this, the Competition Act envisages its enforcement with the aid of mutual international support and enforcement network across the world.

8.4.2 Foreign Direct Investment (FDI):

Foreign direct investment (FDI) is when a company takes controlling ownership in a business entity in another country. With FDI, foreign companies are directly involved with day-to-day operations in the other country. This means they aren't just bringing money with them, but also knowledge, skills and technology.

Generally, FDI takes place when an investor establishes foreign business operations or acquires foreign business assets, including establishing ownership or controlling interest in a foreign company.

Where is FDI made?

Foreign Direct Investments are commonly made in open economies that have skilled workforce and growth prospect. FDIs not only bring money with them but also skills, technology and knowledge.

FDI in India:

FDI is an important monetary source for India's economic development. Economic liberalisation started in India in the wake of the 1991 crisis and since then, FDI has steadily increased in the country. India, today is a part of top 100-club on Ease of Doing Business (EoDB) and globally ranks number 1 in the greenfield FDI ranking.

- This is primarily attributed to ease in FDI rules in India. India, today is a part of the top 100 clubs on Ease of Doing Business (EoDB).FDI inflows in India stood at $45.15 bn in 2014-15 and have consistently increased since then. Moreover, total FDI inflow grew by 65.3%, i.e. from $266.21 bn in 2007-14 to $440.01bn in 2014-21 and FDI equity inflow also increased by 68.6% from $185.03 bn during 2007-14 to $312.05 bn (2014-21).

- India has attracted a total FDI inflow of $27.37 bn during the first four months of F.Y. 2021-22 which is 62% higher as compared to the corresponding period of F.Y. 2020-21 ($ 16.92 bn).

- India received the highest annual FDI inflows of $84,835 mn in FY 21-22 overtaking last year's FDI by $2.87 bn. Also, FDI equity inflow in FY 2021-22 were $ 59,825 mn.

- FDI Equity inflow in Manufacturing Sectors have increased by 76% in FY 2021-22 ($ 21.34 bn) compared to previous FY 2020-21 ($ 12.09 bn).

- Total FDI inflows in the country in the last 22 years (April 2000 - March 2022) are $ 847 bn while the total FDI inflows received in the

last 8 years (April 2014- March 2022) was $ 523 bn which amounts to nearly 40% of total FDI inflow in last 22 years.

- In FY 2014-15, FDI inflow in India stood at mere $ 45.15 bn, which increased to $ 60.22 bn in 2016-17 and further to the highest ever annual FDI inflow of $ 83.57 bn reported during the FY 2021-22.
- Total FDI inflows in the country in the second quarter of FY 2022 (July - September) is $ 16.6 Bn and total FDI equity inflows stands at $ 10.3 Bn.
- Singapore (27.01%), USA (17.94%), Mauritius (15.98%), Netherland (7.86%) and Switzerland (7.31%) emerge as top 5 countries for FDI equity inflows into India FY 2021-22.
- Top 5 sectors receiving highest FDI Equity Inflow during FY 2021-22 are Computer Software & Hardware (24.60%), Services Sector (Fin., Banking, Insurance, Non Fin/Business, Outsourcing, R&D, Courier, Tech. Testing and Analysis, Other) (12.13%), Automobile Industry (11.89%), Trading 7.72% and Construction (Infrastructure) Activities (5.52%).
- Top 5 States receiving highest FDI Equity Inflow during FY 2021-22 are

1. Karnataka (37.55%),
2. Maharashtra (26.26%),
3. Delhi (13.93%),
4. Tamil Nadu (5.10%) and
5. Haryana (4.76%)

Routes through which India gets FDI:

1. **Automatic route:** The non-resident or Indian company does not require prior nod of the RBI or government of India for FDI.
2. **Govt route:** The government's approval is mandatory. The company will have to file an application through Foreign Investment Facilitation Portal, which facilitates single-window clearance. The application is then forwarded to the respective ministry, which will approve/reject the application in consultation with the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce. DPIIT will issue the Standard Operating Procedure (SOP) for processing of applications under the existing FDI policy.

Sectors which come under the '100% Automatic Route' category are:

Agriculture & Animal Husbandry, Air-Transport Services (non-scheduled and other services under civil aviation sector), Airports (Greenfield + Brownfield), Asset Reconstruction Companies, Auto-components,

Automobiles, Biotechnology (Greenfield), Broadcast Content Services (Up-linking & down-linking of TV channels, Broadcasting Carriage Services, Capital Goods, Cash & Carry Wholesale Trading (including sourcing from MSEs), Chemicals, Coal & Lignite, Construction Development, Construction of Hospitals, Credit Information Companies, Duty Free Shops, E-commerce Activities, Electronic Systems, Food Processing, Gems & Jewellery, Healthcare, Industrial Parks, IT & BPM, Leather, Manufacturing, Mining & Exploration of metals & non-metal ores, Other Financial Services, Services under Civil Aviation Services such as Maintenance & Repair Organizations, Petroleum & Natural gas, Pharmaceuticals, Plantation sector, Ports & Shipping, Railway Infrastructure, Renewable Energy, Roads & Highways, Single Brand Retail Trading, Textiles & Garments, Thermal Power, Tourism & Hospitality and White Label ATM Operations.

Sectors which come under up to 100% Automatic Route' category are:

- Infrastructure Company in the Securities Market: 49%
- Insurance: up to 49%
- Medical Devices:up to 100%
- Pension: 49%
- Petroleum Refining (By PSUs): 49%
- Power Exchanges: 49%

Government route:

Sectors which come under the 'up to 100% Government Route' category are:

- Banking & Public sector: 20%
- Broadcasting Content Services: 49%
- Core Investment Company: 100%
- Food Products Retail Trading: 100%
- Mining & Minerals separations of titanium bearing minerals and ores: 100%
- Multi-Brand Retail Trading: 51%
- Print Media (publications/ printing of scientific and technical magazines/ specialty journals/ periodicals and facsimile edition of foreign newspapers): 100%
- Print Media (publishing of newspaper, periodicals and Indian editions of foreign magazines dealing with news & current affairs): 26%
- Satellite (Establishment and operations): 100%

FDI prohibition:

There are a few industries where FDI is strictly prohibited under any route. These industries are:

- Atomic Energy Generation
- Any Gambling or Betting businesses
- Lotteries (online, private, government, etc)
- Investment in Chit Funds
- Nidhi Company
- Agricultural or Plantation Activities (although there are many exceptions like horticulture, fisheries, tea plantations, Pisciculture, animal husbandry, etc)
- Housing and Real Estate (except townships, commercial projects, etc)
- Trading in TDR's
- Cigars, Cigarettes, or any related tobacco industry

8.5 QUESTIONS

Q1. Discuss the role of Small-Scale Industries.

Q2. What are the policy issues of small scale industries?

Q3. Discuss the performance of small scale industries.

Q4. Discuss the performance and constraints of public enterprises in India.

Q5. Write a detail note on Foreign Direct Investment (FDI).

Q6. Write a note on competition policy.

8.6 REFERENCES

- Annual report 2021-22, GOI, Ministry of MSME
- https://dpe.gov.in/
- https://msme.gov.in/

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